



**American
Association for
Dental Research**

**March 7-10, 2001
Hyatt Regency Hotel
Chicago, IL USA**



Program

**30th Annual Meeting & Exhibition of the AADR
25th Annual Meeting of the CADR**

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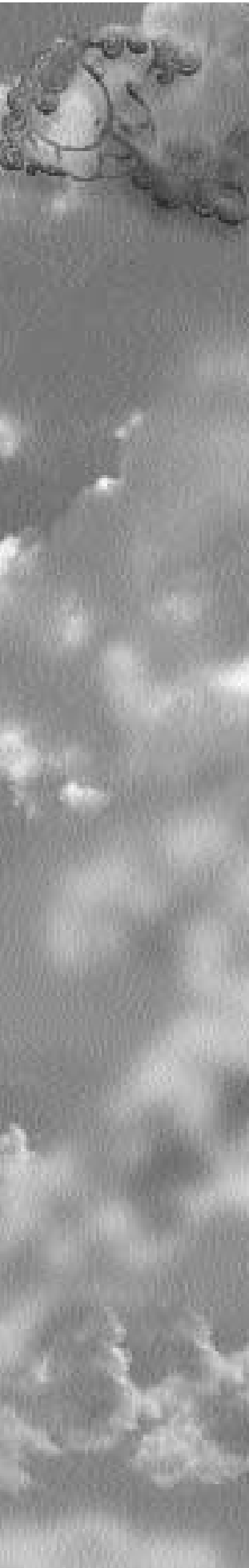


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Institutional Section Members

Corporations

3M Dental Products	Johnson & Johnson
American Academy of Periodontology	Consumer Products, Inc.
American Dental Association	Kerr Corporation
Astrazeneca	Nabisco Foods Groups - Life Savers Division
Block Drug Company	Naval Dental Research Institute
Children's Dental Research Society	Optiva Corporation
Colgate-Palmolive Company	Oral-B Laboratories
Delta Dental Plans Association	Procter & Gamble Company
Den-Mat Corporation	Straumann U.S.A.
Dentsply International	Task Force on Design and Analysis, Inc
Department of Veterans' Affairs	The Forsyth Institute
Eastman Kodak Company	Unilever Dental Research
ESPE America, Inc.	W. R. Grace & Company
GC America, Inc.	Warner-Lambert Company
GlaxoSmithKline	Water Pik Technologies, Inc.
Headquarters USAF/SGD	William Wrigley, Jr. Company
Hill Top Research, Inc.	Wykle Research, Inc.
John O. Butler Company	

Dental Schools

Baylor College of Dentistry	University of Texas Health Science Center at San Antonio
Case Western Reserve University	University of Texas Health Science Center at Houston
Columbia University	University of Alabama
Creighton University	University of California at Los Angeles
Harvard University	University of California at San Francisco
Indiana University	University of Colorado
Loma Linda University	University of Detroit Mercy
Louisiana State University	University of Florida
Medical College of Georgia	University of Kentucky
Medical University of South Carolina	University of Louisville
Meharry Medical College	University of Michigan
New Jersey Dental School	University of Mississippi
New York University	University of Missouri
Nova Southeastern University	University of Nebraska
Ohio State University	University of North Carolina
Oregon Health Sciences University	University of Oklahoma
Southern Illinois University	University of Pennsylvania
State University of New York at Buffalo	University of Pittsburgh
State University of New York at Stony Brook	University of Rochester
Temple University	University of Southern California
Tufts University	University of Tennessee
University of Connecticut	University of the Pacific
University of Illinois	University of Washington
University of Iowa	Virginia Commonwealth University
University of Maryland	West Virginia University
University of Puerto Rico	

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<i>Denture Care</i>	<i>Teeth Whitening & Cosmetics</i>

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SCHEDULE OF EVENTS

All functions will be held at the Hyatt Regency Hotel

Monday, March 5

8:00 am – 8:00 pm	Revolutionizing Dentistry from the Classroom to the Surgeon's Office (Sponsored by DenX)	Stetson Suite
6:00 pm – 7:30 pm	US TAG Officers' Meeting	Hong Kong

Tuesday, March 6

8:00 am – 9:00 am	US Sub-TAG 1 for ISO/TC106: Restorative Materials (Sponsored by ISO/TC106 Dentistry)	Hong Kong
8:00 am – 9:30 am	US Sub-TAG 8 for ISO/TC106: Dental Implants (Sponsored by ISO/TC106 Dentistry)	San Francisco
8:00 am – 10:00 am	ADA SCDP WG 4.28 on Hand Instruments	Sandberg
8:00 am – 8:00 pm	Revolutionizing Dentistry from the Classroom to the Surgeon's Office (Sponsored by DenX)	Stetson Suite
8:30 am – 10:00 am	NIDCR Research Training Program Directors Meeting	Grand Ballroom A
9:00 am – 10:30 am	US Sub-TAG 2 for ISO/TC106: Prosthodontic Materials (Sponsored by ISO/TC106 Dentistry)	Atlanta
10:00 am – 12 Noon	US Sub-TAG 6 for ISO/TC106: Dental Equipment (Sponsored by ISO/TC106 Dentistry)	San Francisco
10:00 am – 12 Noon	New Dental Scientists – Future Leaders of Research and Education	Regency B
10:00 am – 2:30 pm	US Sub-TAG 7 for ISO/TC106: Oral Hygiene Products (Sponsored by ISO/TC106 Dentistry)	New Orleans
12 Noon – 3:00 pm	NIDCR Research Trainees and Project Staff Lunch	Truffles
1:00 pm – 2:30 pm	US Sub-TAG 3 for ISO/TC106: Terminology (Sponsored by ISO/TC106 Dentistry)	San Francisco
1:00 pm – 2:30 pm	US Sub-TAG 4 for ISO/TC106: Dental Instruments (Sponsored by ISO/TC106 Dentistry)	Hong Kong
2:00 pm – 4:00 pm	AAADR & ADEA Boards' Meeting	Acapulco
2:00 pm – 5:00 pm	Registration Open – Pre-registrants only	East Tower, Ballrm Level
3:00 pm – 6:00 pm	US Technical Advisory Group for ISO/TC 106 (Sponsored by ISO/TC106 Dentistry)	Columbus A
6:30 pm – 8:00 pm	US TAG for ISO/TC106 Reception (Sponsored by ISO/TC106)	New Orleans

Wednesday, March 7

7:30 am – 12:30 pm	ADA Standards Committee on Dental Products	Regency A
8:00 am – 12 Noon	AAADR Council Meeting	Regency D
8:00 am – 3:00 pm	AAADR/Warner-Lambert Hatton Awards Competition (poster competition) – Junior Category – Senior Category – Post-doctoral Category	Soldier Field Columbian Picasso
8:00 am – 4:30 pm	Registration Open	East Tower, Ballrm Level
8:00 am – 8:00 pm	Revolutionizing Dentistry from the Classroom to the Surgeon's Office (Sponsored by DenX)	Stetson Suite
9:00 am – 1:00 pm	NIDCR Microbial Sequencing Database Advisory Group (Sponsored by NIDCR)	New Orleans
10:00 am – 12 Noon	AAADR/ADEA Jointly-sponsored Symposia	Grand Ballroom A & B
10:00 am – 4:30 pm	Slide Preview Room Open	Gold Coast
12 Noon – 2:00 pm	ASC MD156 SC1 WG 1.1 Adhesion Test Methods to Tooth Structure	Atlanta
12 Noon – 2:00 pm	ADA SCDP Working Group 6.35 on Dental Units, Chairs, Stools	Field
12:30 pm – 2:00 pm	AAADR Board Meeting	McCormick
1:00 pm – 3:00 pm	ADA SCDP WG 7 on Dental Abrasives	San Francisco
1:00 pm – 3:30 pm	International RDC/TMD Collaborative Research Project	Comiskey
1:00 pm – 3:30 pm	Friends of the NIDCR Board Meeting	Grand Ballroom D
1:00 pm – 4:00 pm	AAADR/ADEA Jointly-sponsored Symposium	Grand Ballroom A
1:00 pm – 5:00 pm	ASC MD156 WG 9.49 on Rubber Dams	Hong Kong
2:00 pm – 4:00 pm	ADEA/AAADR Jointly-sponsored Symposia & Oral Sessions	see Chronological Listing of Sessions

Wednesday, March 7 (continued)

2:00 pm – 4:00 pm	ADA SCDP WG 9.51 on Gloves	Atlanta
2:00 pm – 5:00 pm	ASC MD156 WG 2.18 on Gypsum Products and Investments	Sandburg
2:30 pm – 3:30 pm	Abstract-writing Workshop	Wrigley
3:00 pm – 5:00 pm	Working Group 2.23 on Wear Test Methods	New Orleans
4:15 pm – 5:30 pm	Opening Ceremonies	Grand C-F
4:30 pm – 5:30 pm	ASC MD 156 WG on Dental Ceramics and Metal Ceramic Systems	Atlanta
4:30 pm – 6:30 pm	ADA SCDP WG on Amalgam, Mercury & Amalgamators	Field
5:30 pm – 7:00 pm	Welcome Reception (sponsored by Braun/Oral-B)	Crystal Ballroom
6:00 pm – 8:00 pm	Alumni & Friends of the Univ. of Connecticut Dental School Reception (invitation only)	San Francisco
6:30 pm – 8:00 pm	University of Maryland, Dental School Reception (invitation only)	Wrigley
7:00 pm – 8:30 pm	Indiana University Reception (invitation only)	Comiskey
7:00 pm – 8:30 pm	University at Buffalo Alumni Reception (invitation only) (Sponsored by Univ. at Buffalo School of Dental Medicine)	Regency A
7:00 pm – 8:30 pm	ADHA Dental Hygiene Researcher Networking (Sponsored by Procter & Gamble/Crest)	Truffles
8:00 pm – 11:00 pm	Chicago Jazz Night (sponsored by the Friends of the NIDCR)	Regency B

Thursday, March 8

6:30 am – 8:00 am	Dental Materials Group Executive Committee Meeting	San Francisco
7:00 am – 8:00 am	CADR Executive Committee Breakfast Meeting	Atlanta
7:00 am – 8:00 am	BS/HSR Executive Committee Meeting I	Hong Kong
7:00 am – 8:00 am	Dental Materials Editorial Board Meeting	Addams
7:00 am – 8:00 am	Prosthodontic Executive Committee Breakfast Meeting	New Orleans
7:00 am – 8:00 am	Implantology Executive Committee Meeting	Comiskey
7:00 am – 5:00 pm	Registration Open	East Tower, Ballrm Level
7:00 am – 5:30 pm	Ivoclar Meeting	Burnham
7:30 am – 4:15 pm	Slide Preview Room Open	Gold Coast
8:00 am – 8:45 am	Plenary Session Speaker – Dr. Don Price	Grand Ballroom F
8:00 am – 12 Noon	AADR Caulk/Dentsply Awards Competition – Basic Sciences	Picasso
	– Clinical Sciences	Columbian
	– Judges' Room	Water Tower
8:00 am – 12 Noon	Poster Viewing Open	Exhibit Hall
8:00 am – 8:00 pm	Revolutionizing Dentistry from the Classroom to the Surgeon's Office (Sponsored by DenX)	Stetson Suite
9:00 am – 11:00 am	Symposia & Oral Sessions	see Chronological Listing of Sessions
9:00 am – 11:00 am	NIDCR Hands-on Workshop	Wrigley
10:00 am – 2:30 pm	ADA SCDP Working Group on Orthodontic Materials (Sponsored by Orthodontic Manufacturer's Association)	San Francisco
10:00 am – 5:00 pm	Exhibition Open	Exhibit Hall
11:00 am – 12 Noon	NAC "Town Hall" Meeting	New Orleans
11:00 am – 12:15 pm	Pan American Organizational Meeting	Atlanta
11:00 am – 12:15 pm	Poster Presentations in Exhibition Hall	Exhibit Hall
12:15 pm – 1:45 pm	Lunch Break Lunch & Learning Session #1	Regency A
	AADR Committees' Lunch	Regency B
	Committee on Research Administrators	Hong Kong
	American Association of Oral Biologists' Business Meeting	Truffles
1:00 pm – 5:00 pm	Poster Viewing Open	Exhibit Hall
1:00 pm – 5:30 pm	GC-sponsored Symposium	Regency C
1:45 pm – 3:45 pm	Symposia & Oral Sessions	see Chronological Listing of Sessions
3:45 pm – 5:00 pm	Poster Presentations in the Exhibit Hall	Exhibit Hall
3:45 pm – 5:00 pm	NAC Meeting	San Francisco
5:00 pm – 6:00 pm	Group Business Meetings – Behavioral Sciences & Health Services Research	Columbus C
	– Craniofacial Biology	Columbus G
	– Dental Materials	Regency D
	– Diagnostic Systems	Toronto
	– Educational Research	Columbus A

Thursday, March 8 (continued)

5:00 pm – 6:00 pm	Group Business Meetings (<i>continued</i>)
	– Implantology ResearchColumbus I
	– Microbiology/ImmunologyGrand Ballroom C
	– Mineralized TissueColumbus K
	– NeuroscienceGrand Ballroom A
	– NutritionGrand Ballroom B
	– Oral Health ResearchRegency A
	– Oral Medicine & PathologyColumbus E
	– Pharmacology, Therapeutics & ToxicologyGrand Ballroom D
5:30 pm – 6:30 pm	GC Symposium ReceptionRegency B
6:00 pm –	Group Receptions
	– Behavioral Sciences & Health Services Research andComiskey
	Geriatric Oral Research
	– Craniofacial BiologyColumbus G
	– Diagnostic SystemsHong Kong
	– Educational ResearchSan Francisco
	– Microbiology/ImmunologyAtlanta
	– Mineralized TissueTruffles
	– Oral Health ResearchSoldier Field
	– Oral Medicine & PathologyColumbus E
	– Pharmacology, Therapeutics & ToxicologyGrand Ballroom D
	– Salivary ResearchNew Orleans
6:00 pm – 7:30 pm	The Iowa ReceptionMrs. O’Leary’s
6:00 pm – 7:30 pm	University of North Carolina Reception (invitation only)Acapulco
6:00 pm – 7:30 pm	University of Michigan Alumni Reception (invitation only)Suite
6:30 pm – 8:00 pm	Dentistry at the University of Rochester Reception (invitation only)Wrigley
7:00 pm – 9:00 pm	Dental Materials Group Reception (off site event)Disney Quest

Friday, March 9

6:30 am – 8:00 am	San Antonio Chapter Student BreakfastSan Francisco
7:00 am – 8:00 am	New Member Orientation Breakfast (sponsored by Colgate)Comiskey
7:00 am – 8:00 am	AADR Publication Committee BreakfastPicasso
7:00 am – 8:00 am	<i>Archives of Oral Biology</i> Editorial Board MeetingAtlanta
7:00 am – 8:00 am	Ivoclar MeetingBurnham
7:00 am – 5:00 pm	Registration OpenEast Tower, Ballrm Level
7:30 am – 4:15 pm	Slide Preview Room OpenGold Coast
8:00 am – 8:45 am	Plenary Session – Dr. Eric AnslynGrand Ballroom F
8:00 am – 12 Noon	Poster Viewing OpenExhibit Hall
8:00 am – 8:00 pm	Revolutionizing Dentistry from the Classroom to the Surgeon’s OfficeStetson Suite
	(Sponsored by DenX)
9:00 am – 11:00 am	Symposia & Oral Sessionssee Chronological Listing of Sessions
10:00 am – 5:00 pm	Exhibition OpenExhibit Hall
11:00 am – 12:15 pm	Poster Presentations in the Exhibit HallExhibit Hall
12 Noon – 1:15 pm	P60 Network; Behavioral, Social Science, Health Services, and Outreach ResearchHong Kong
12 Noon – 1:30 pm	Academy of Dental MaterialsColumbian
12:15 pm – 1:45 pm	Lunch Break
	SRG Faculty Advisors’ LuncheonAcapulco
	AADR/CADR Past Presidents’ Luncheon (sponsored by Warner-Lambert)Wrigley
	AADR Institutional Section Luncheon MeetingComiskey
12:30 pm – 1:30 pm	ADA SCDP SC1, Working Group 1.3 on Composite RestorativesSan Francisco
12:30 pm – 5:00 pm	ASC MD156 Subcommittee on ANSI/ADA Document No. 41New Orleans
1:00 pm – 5:00 pm	Poster Viewing Open in the Exhibit HallExhibit Hall
1:45 pm – 3:45 pm	Symposia & Oral Sessionssee Chronological Listing of Sessions
3:45 pm – 4:45 pm	NIDCR ForumToronto
3:45 pm – 5:00 pm	Poster Presentations in the Exhibit HallExhibit Hall
5:00 pm – 6:00 pm	Group Business Meetings
	– Dental Anesthesiology ResearchColumbus K
	– Geriatric Oral ResearchColumbus C
	– Oral & Maxillofacial SurgeryColumbus A
	– ProsthodonticsToronto
	– Pulp BiologyGrand Ballroom D

Friday, March 9 *(continued)*

5:00 pm – 6:00 pm	AADR SRG Business Meeting	Columbus E
5:00 pm – 6:30 pm	Chinese Dental Researchers Group Meeting	Acapulco
5:30 pm – 6:30 pm	Annual General Meeting of the CADR	Columbian
6:00 pm –	Group Receptions	
	– Oral & Maxillofacial Surgery	Columbus A
	– Prosthodontics	Toronto
6:30 pm – 8:00 pm	CADR Reception	Water Tower
6:30 pm – 8:30 pm	Texas Tri-school Reception (invitation only)	Wrigley
6:30 pm – 8:30 pm	University of Illinois at Chicago, College of Dentistry Reception	Hong Kong
8:00 pm – 10:00 pm	Forsyth-Harvard Reception (invitation only)	Grand Ballroom C/D South

Saturday, March 10

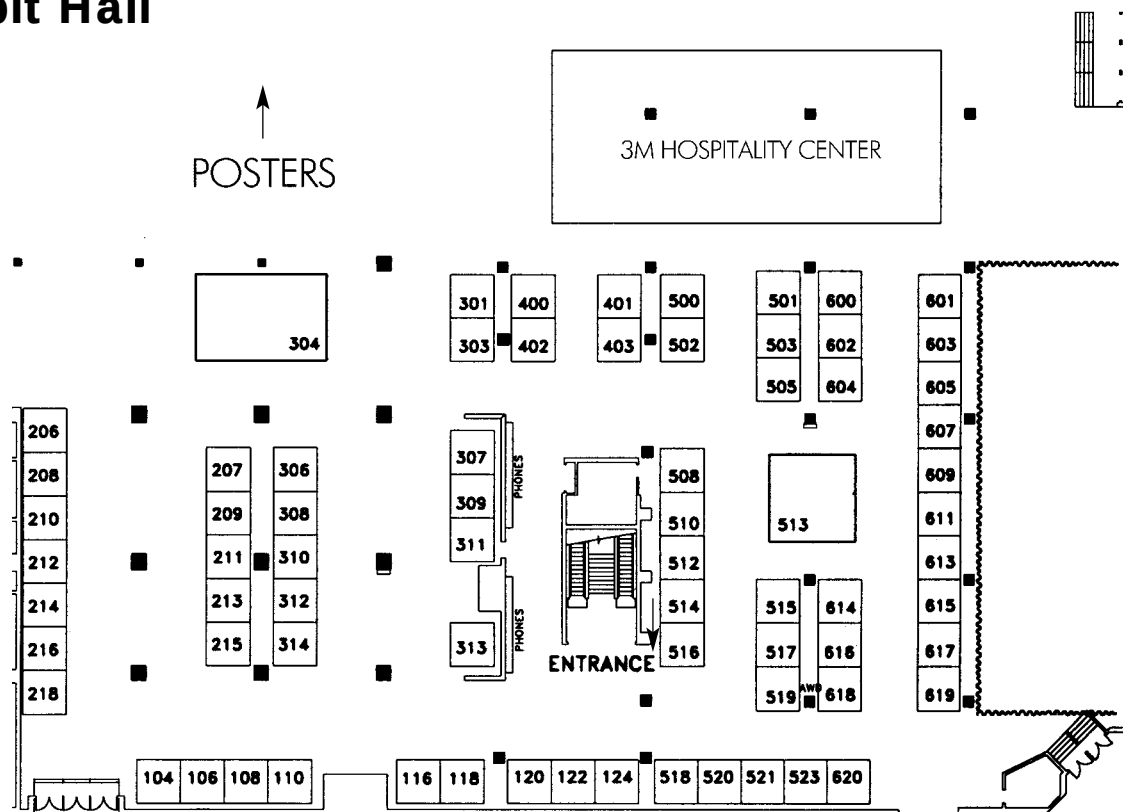
7:00 am – 8:00 am	BS/HSR Executive Committee Meeting II	Hong Kong
7:00 am – 5:00 pm	Ivoclar Meeting	Comiskey
7:30 am – 4:30 pm	Registration Open	East Tower, Ballrm Level
7:30 am – 6:00 pm	Slide Preview Room Open	Gold Coast
8:00 am – 12 Noon	Poster Viewing Open	Exhibit Hall
8:00 am – 8:45 am	Plenary Session – Dr. Caswell Evans	Grand Ballroom F
8:00 am – 12:15 pm	Exhibition Open & Poster Viewing	Exhibit Hall
8:00 am – 8:00 pm	Revolutionizing Dentistry from the Classroom to the Surgeon's Office (Sponsored by DenX)	Stetson Suite
9:00 am – 10:30 am	AADR Board of Directors & Committee Chairs Meeting	Wrigley
9:00 am – 11:00 am	Symposia & Oral Sessions	see Chronological Listing of Sessions
11:00 am – 12:15 pm	Poster Presentations in the Exhibit Hall	Exhibit Hall
12:15 pm – 1:45 pm	Lunch Break	
	Lunch & Learning Session #2	Regency D
	GPC Luncheon Meeting	Acapulco
	Evidence-based Dentistry International Collaborative Group	Water Tower
1:45 pm – 3:45 pm	Symposia & Oral Sessions	see Chronological Listing of Sessions
3:45 pm	Meeting Adjourns	

Hyatt Regency Hotel

	West Tower	East Tower	Meeting Room Locator	
Level 3	Addams Burnham Field Sandburg McCormick		Acapulco	West Tower – Ballroom Level
			Addams	West Tower – Level 3
			Atlanta	West Tower – Ballroom Level
			Burnham	West Tower – Level 3
Level 2	O'Leary's / Truffles	Check-in Bell Stand Big Brasserie & Bar Restaurants	Business Center	East Tower – Concourse Level
			Columbian	West Tower – Concourse Level
			Columbus Hall (A-K)	East Tower – Ballroom Level
Level 1 <i>(Street Level)</i>	Crystal Ballroom		Comiskey	West Tower – Concourse Level
			Crystal Ballroom	West Tower – Level 1 (street level)
			Exhibit Hall	East Tower – Exhibition Level
Concourse Level	Columbian Gold Coast Comiskey Picasso Soldier Field Water Tower Wrigley	Business Center West Tower	Field	West Tower – Level 3
			Gold Coast	West Tower – Concourse Level
			Grand Ballroom	East Tower – Ballroom Level
			Hong Kong	West Tower – Ballroom Level
			McCormick	West Tower – Level 3
			Mrs. O'Leary's	West Tower – Level 2
			Picasso	West Tower – Concourse Level
Ballroom Level	Regency A-D Acapulco Atlanta Hong Kong New Orleans San Francisco Toronto	Grand Ballroom A-F Columbus Hall A-K	Regency Ballroom	West Tower – Ballroom Level
			Sandburg	West Tower – Level 3
			San Francisco	West Tower – Ballroom Level
			Soldier Field	West Tower – Concourse Level
			Toronto	West Tower – Ballroom Level
			Truffles	West Tower – Level 2
Exhibition Level		Exhibit Hall	Water Tower	West Tower – Concourse Level
			Wrigley	West Tower – Concourse Level

FLOOR PLANS

Exhibit Hall



Poster Presentations

Day	P#s	Poster Viewing	Poster Presentations
Thursday	189-431	8:00 am – 12:15 pm	11:00 am – 12:15 pm
	523-758	1:00 pm – 5:00 pm	3:45 pm – 5:00 pm
Friday	866-1144B	8:00 am – 12:15 pm	11:00 am – 12:15 pm
	1249-1538B	1:00 pm – 5:00 pm	3:45 pm – 5:00 pm
Saturday	1629-1850	8:00 am – 12:15 pm	11:00 am – 12:15 pm

Poster Set-up and Tear-down Schedule

Presentation Day	Time	Poster Set-up	Poster Tear-down
Thursday	11:00 am – 12:15 pm	7:30 am – 8:00 am	12:15 pm – 12:30 pm
	3:45 pm – 5:00 pm	12:30 pm – 1:00 pm	5:00 pm – 5:15 pm
Friday	11:00 am – 12:15 pm	7:30 am – 8:00 am	12:15 pm – 12:30 pm
	3:45 pm – 5:00 pm	12:30 pm – 1:00 pm	5:00 pm – 5:15 pm
Saturday	11:00 am – 12:15 pm	7:30 am – 8:00 am	12:15 pm – 12:30 pm

NOTE: You must set up and tear down your poster during the designated times. No exceptions will be allowed.

Poster Supplies

Please bring your own supplies to mount posters (thumbtacks, staples, or pushpins). Limited supplies will be available on site from the AADR staff. *NOTE: Velcro will NOT adhere to the poster boards.*

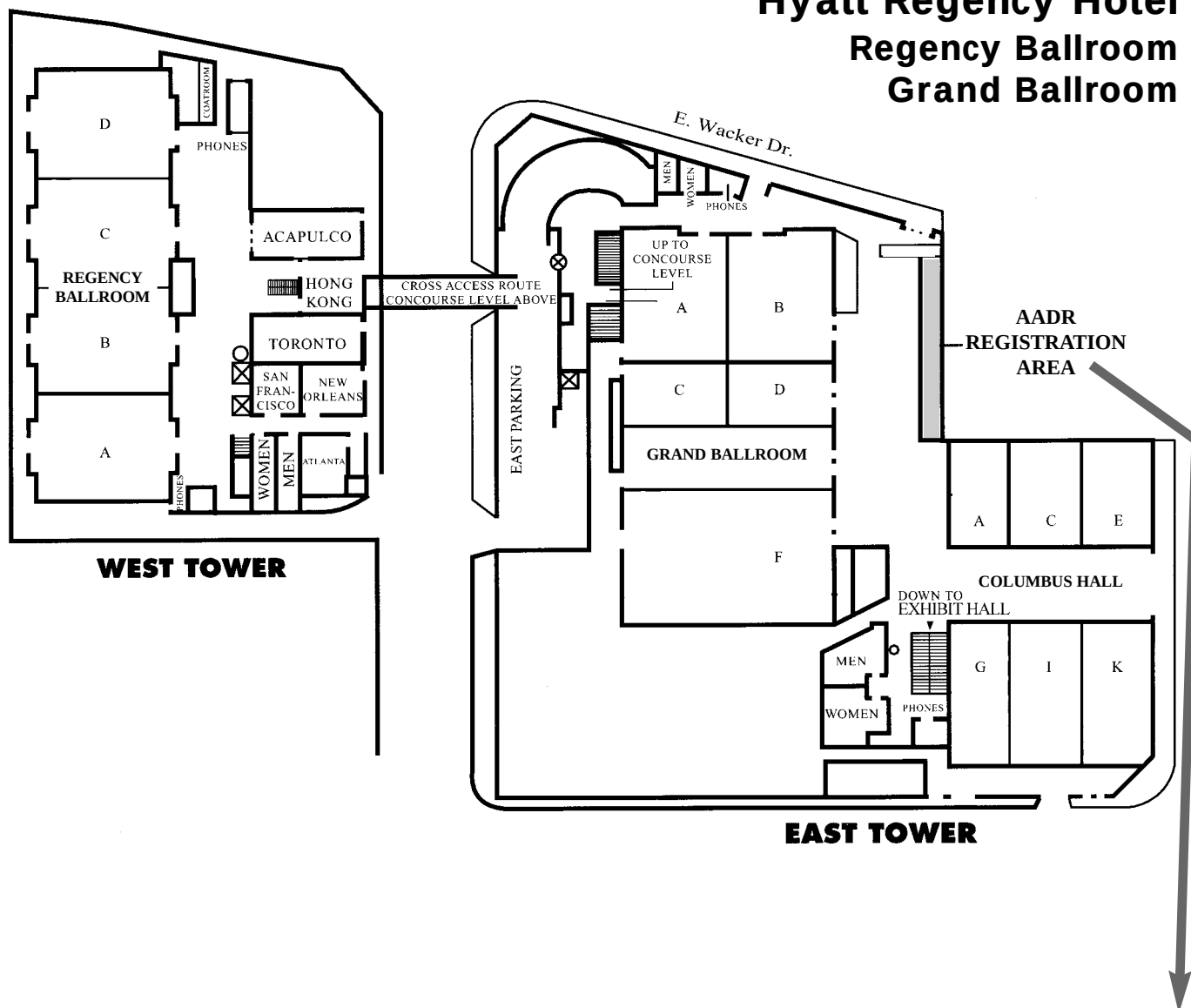
Exhibition Open (East Tower)

Thursday, March 8
10:00 am – 5:00 pm

Friday, March 9
10:00 am – 5:00 pm

Saturday, March 10
8:00 am – 12:15 pm

Hyatt Regency Hotel Regency Ballroom Grand Ballroom



Plenary Sessions (Grand Ballroom F, East Tower)

Thursday, March 8, 8:00 am – 8:45 am
Don Price, University of Florida, Gainesville

Friday, March 9, 8:00 am – 8:45 am
Eric Anslyn, University of Texas, Austin

Saturday, March 10, 8:00 am – 8:45 am
Oral Health Improvement:
Opportunities at the Intersection of Good Intention and Action
Caswell Evans, NIDCR/NIH, Bethesda, MD

**Join us for a donut and cup of coffee
before settling in for the morning plenary sessions.**

AADR Registration Hours

Tuesday, March 6 • 2:00 pm – 5:00 pm

(NOTE: Open for Pre-registrants ONLY)

Wednesday, March 7 • 8:00 am – 4:30 pm

Thursday, March 8 • 7:00 am – 5:00 pm

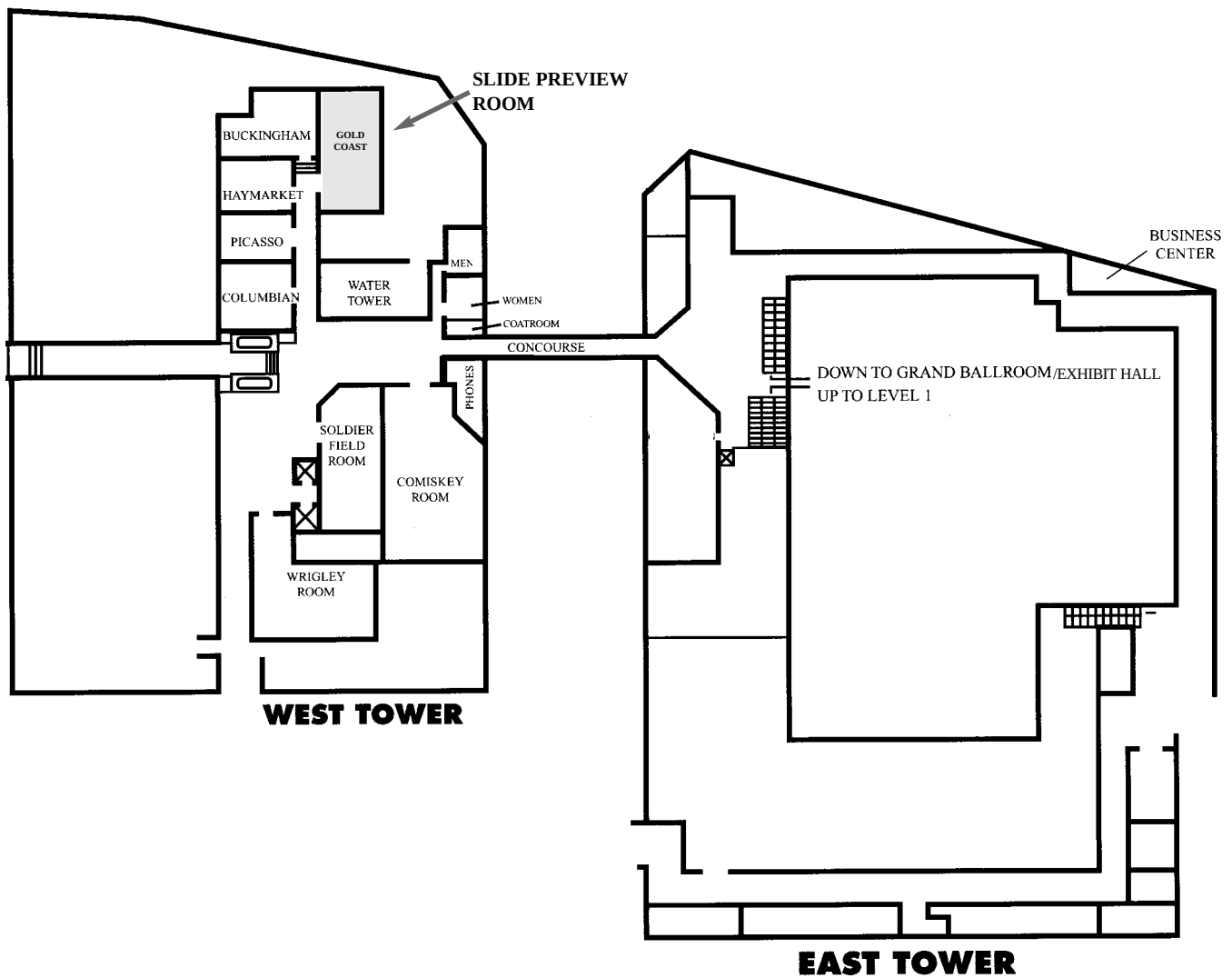
Friday, March 9 • 7:00 am – 5:00 pm

Saturday, March 10 • 7:30 am – 3:00 pm

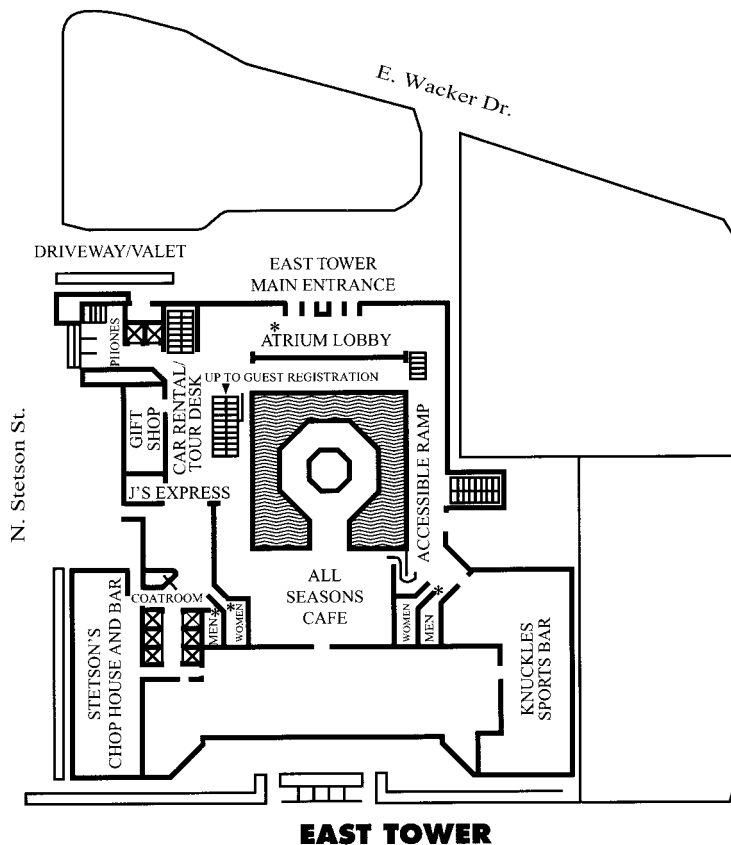
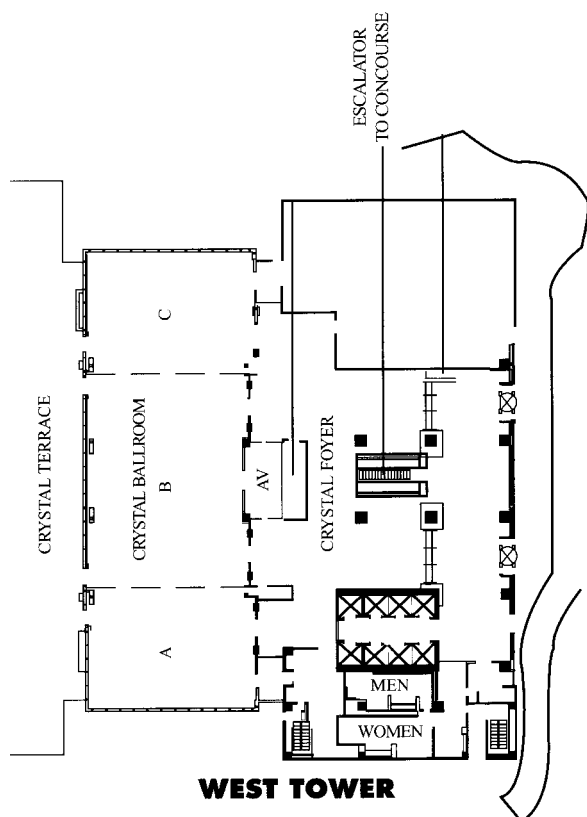
AADR Registration Area Includes:

- Registration Counters
- AADR Logo Store
- SRG Membership Booth
- Future Meetings Booth
- JOBS Board
- Association Travel Concepts (ATC)
- Abstract Submissions On-line
- Test Site

Concourse Level



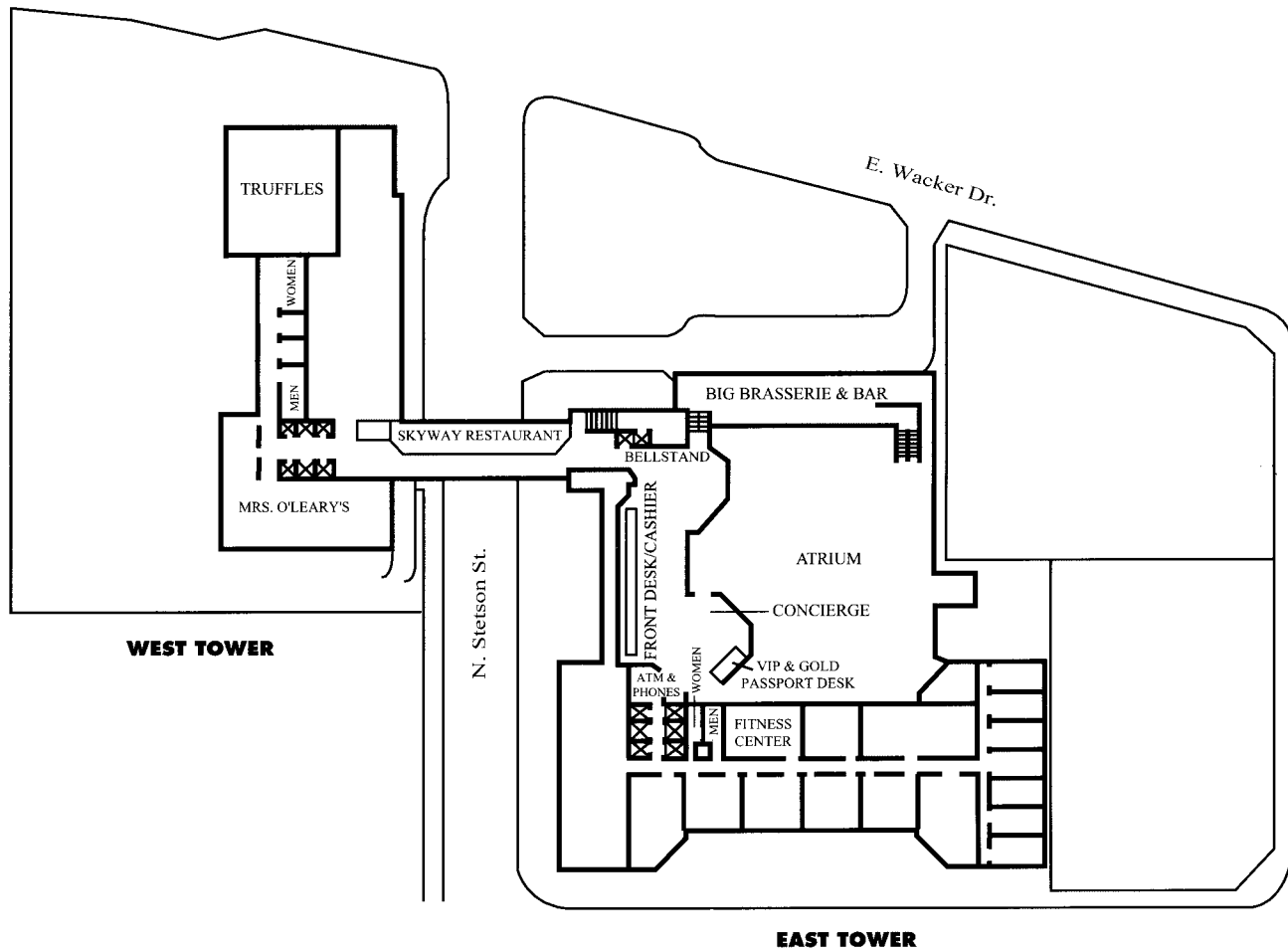
Level 1, Street Level Crystal Ballroom/Restaurants



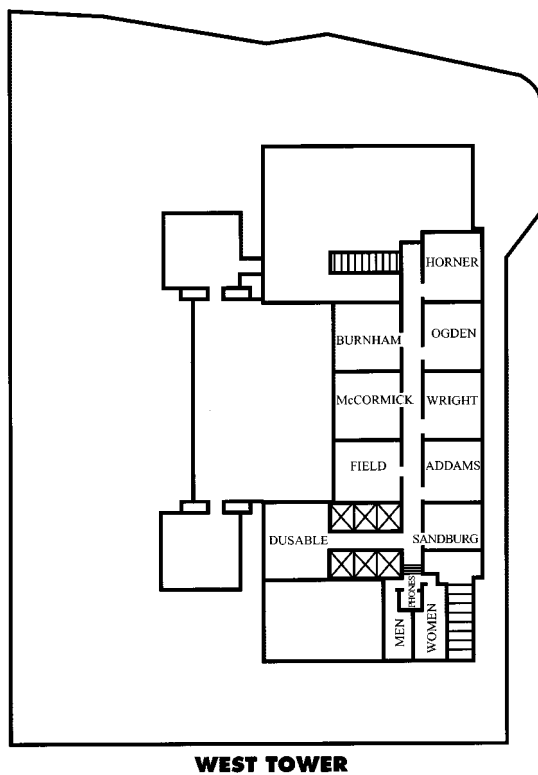
Hyatt Regency Hotel Restaurants & Lounges

All Seasons Cafe	East Tower – Level 1 (street level)
Big Brasserie & Bar	East Tower – Level 2
Knuckles Sports Bar	East Tower – Level 1 (street level)
Stetson's Chop House	East Tower – Level 1 (street level)
J's Express Cafe	East Tower – Level 1 (street level)

Level 2



Level 3



CHRONOLOGICAL LISTING OF SESSIONS

Seq #	Group	Session Title	Room	Presentation #
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Wednesday, March 7

Symposia: 10:00 AM - 12:00 Noon

1	SYM	Behavioral Sciences Curriculum	Grand Ballroom A	1
2	SYM	Evidence-based Clinical Practice: Technology Assessment and Transfer	Grand Ballroom B	2

Symposium: 1:00 PM - 4:00 PM

3	SYM	Enhancing Student Research and Training of Future Academicians: A Solutions-Based Approach	Grand Ballroom A/B	3
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Symposium: 2:00 PM - 4:00 PM

4	SYM	Intra-epithelial Neoplasia: Causes, Detection, Treatment	Regency A	4
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Oral Sessions: 2:00 PM - 4:00 PM

5	BS/HSR	Dental Caries: Prevalence and Diagnosis	Columbus Hall C	5-11
6	CAR	Root Caries, Air Abrasion, Restorations	Columbus Hall E	12-17
7	CRAN	Tooth Development and Eruption	Columbus Hall G	18-25
8	DM	Bonding to Modified/Contaminated Dentin	Regency B	26-33
9	DM	Adhesion: Resin Bonding to Metals and Ceramics	Toronto	34-41
10	DM	Ceramics: Composition, Properties and Fabrication	Regency D	42-49
11	DM	Amalgam	Regency C	50-57
12	GOR	Aging, Oral and Systemic Conditions	Columbus Hall A	58-65
13	MT	Bone/Cartilage Signaling	Columbus Hall K	66-70
14	OMP	Carcinogenesis and Prevention	Acapulco	71-78
15	PERIO	Leukocytes in Periodontitis	Columbus Hall I	79-86

Thursday, March 8

Plenary Session: 8:00 AM - 8:45 AM

16	PS	Mechanisms of Pain Reduction Produced by Hypnosis and Placebo and Their Clinical Significance	Grand Ballroom F	87
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Hands-on Workshop and Symposia: 9:00 AM - 11:00 AM

17	HOW	Grant Writing: Getting Your Message Out	Wrigley	88
18	SYM	Research Issues in Dental Education: What is Important to Study and How to Study It	Grand Ballroom C	89
19	SYM	Suture Biology: Development of Genetic and Non-genetic Animal Models	Grand Ballroom F	90
20	SYM	Complementary and Alternative Medicine Research in Craniofacial Disorders	Grand Ballroom D	91

Oral Sessions: 9:00 AM - 11:00 AM

21	BS/HSR	Fluorides and Fluorosis	Columbus Hall C	92-98
22	CAR	Prevention, Bacterial Inhibition, Fluoride, S. mutans	Columbus Hall E	99-104
23	DAR	Local Anesthesia, Sedation, and General Anesthesia	Acapulco	105-111
24	DM	Adhesion: General	Regency A	112-118
25	DM	Low-viscosity Monomers, Cure Shrinkage, and Biological Aspects	Regency C	119-126
26	DM	Physical and Mechanical Properties of Dental Alloys	Regency D	127-134
27	M/I	Bacterial Interactions with the Host and the Environment	Grand Ballroom B	135-141
28	MT	Amelogenesis/Enamel Proteins	Columbus Hall K	142-149
29	NEU	Lab and Human Studies; Surveys	Columbus Hall G	150-156
30	PERIO	Maintenance, Rinses	Grand Ballroom A	157-164
31	PERIO	Tissue Regeneration, Grafts	Columbus Hall I	165-172
32	PROS	Ceramics: Strength, Fracture Analysis, Surface Characteristics	Toronto	173-180
33	PB	Gene Expression	Columbus Hall A	181-188

Poster Session: 11:00 AM - 12:15 PM

Seq #	Group	Session Title	Room	Presentation #
34	PROS	Clinical Studies with Fiber-reinforced FPDs, Endodontically Treated Teeth Porcelain Veneers, Study Biases; Ocular Prostheses	Exhibition Hall	189-197
35	DM	Bonding with One-component and Self-etching Primer Systems		198-213
36	DM	Adhesion: Bonding to Ceramics and Metals		214-227
37	DM	Primers and Adhesives		228-240

Seq #	Group	Session Title	Room	Presentation #
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Thursday, March 8 (continued)

Poster Session: 11:00 AM - 12:15 PM (continued)

			Exhibition Hall	
38	DM	Low-viscosity Monomers, Polymerization Shrinkage, and Other Physical Properties		241-252
39	DM	Polymer Materials: Physical Properties and Wear		253-267
40	DIA	Radiography		268-276
41	GOR	Oral Health Status: Impact on Utilization and Quality of Life		277-286
42	BS/HSR	Knowledge, Attitudes, and Behaviors: The Patient's Perspective		287-295
43	BS/HSR	Oral Health and Quality of Life		296-300
44	NUT	Nutrition, Development, and Oral Health		301-309
45	CAR	Prevention and Treatment of Primary and Secondary Coronal and Root Caries		310-323
46	IMP	Calcium Phosphates		324-332
47	MT	Amelogenesis/Enamel Proteins		333-335
48	SAL	Salivary Proteins		336-343
49	M/I	Biofilms, Disease, and Antimicrobials		344-358
50	M/I	Genetics of Periodontopathogens		359-368
51	PERIO	Tissue Regeneration		369-380
52	PERIO	Periodontal Medicine		381-389
53	NEU	Sleep and Hormones in TMD and AFP		390-404
54	OMP	Tissue and Cell Biology		407-419
55	CRAN	Developmental Biology: Cartilage and Sutures		420-431

Lunch & Learning: 12:15 PM - 1:45 PM

LL	Lunch & Learning Session #1 (Tables #1-12)	Regency A
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Symposium: 1:00 PM - 5:30 PM

SYM	GC-sponsored Symposium: Assessment and Management of Carious Lesions	Regency C
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Symposia: 1:45 PM - 3:45 PM

56	SYM	Adhesion Molecules and Disease Progression	Grand Ballroom B	432
57	SYM	Benefits of Academic/Research Careers	Grand Ballroom F	433

Oral and Poster Discussion* Sessions: 1:45 PM - 3:45 PM

58	CRAN	Malocclusion: Craniofacial Characteristics, Treatment Outcome and Need	Columbus Hall G	434-441
59	DM	Composite and Posterior Restorations	Columbus Hall C	442-448
60	DM	Polymer Materials: Mechanical Properties and Wear	Regency D	449-456
61	DIA	3D Bone and Radiography	Toronto	457-463
62	EDUC	Educational Methodology	Columbus Hall A	464-470
63	IMP	Tissue Engineering	Columbus Hall I	471-476
64	M/I*	Streptococcal Genetics	Grand Ballroom C	477-484
65	MT	Dentin/Cementum Development	Columbus Hall K	485-491
66	OHR	Oral Health Services, Health Promotion, Periodontitis Implications, Gingivitis, and Toothbrush Bristles	Acapulco	492-499
67	OMP	Mucosal Homeostasis and Transformation	Columbus Hall E	500-506
68	PERIO	Microbial Virulence	Grand Ballroom A	507-514
69	SAL	Salivary Proteins	Grand Ballroom D	515-522

Poster Sessions: 3:45 PM - 5:45 PM

			Exhibition Hall	
70	PROS	Implant-supported Restorations, Ceramics, Composites, Provisional Resins, Disinfection		523-537
71	DM	Resin Bonding - Effects of Application Technique and Testing Method		538-553
72	DM	Microleakage: Restorative, Adhesive		554-569
73	DM	Ceramics: General		570-586
74	DM	General		587-594
75	DM	Polymer Materials: Photopolymerization I		595-609
76	DM	Polymer Materials: Characteristics and Properties		610-616
77	DM	Polymer Materials: Properties of Impression Materials and Prosthetic Polymers		617-631
78	DM	Amalgam Filtration, Root Canal Instrumentation, and Dental Alloy Investments		632-638
79	DIA	Caries/Virtual Patient		639-644
80	BS/HSR	Oral Cancer and Tobacco Use		645-653
81	CAR	Diagnostic Methods		654-662
82	CAR	Natural Fluoride		663-664
83	CAR	Cariogenicity		665-666
84	OHR	Manual and Powered Toothbrushes		667-675
85	MT	Bone/Cartilage Regulation		676-688
86	M/I	Host:Pathogen Interactions		689-702

Seq #	Group	Session Title	Room	Presentation #
87	M/I	Modulation of Immune Function and Immunity		703–716
88	PERIO	Animal Models, Systemic Diseases		717–730
89	PERIO	Bone Grafts		731–735
90	DAR	Local Anesthesia and Pain Control		736–740
91	OMP	Tissue Permeability; Animal Models of Disease		741–748
92	CRAN	Craniofacial Morphology and Development		749–758

Friday, March 9

Plenary Session: 8:00 AM - 8:45 AM

93	PS		Grand Ballroom F	759
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Symposia: 9:00 AM - 11:00 AM

94	SYM	Functional Foods for Oral Health	Grand Ballroom B	760
95	SYM	Nanostructured, Molecular, and Self-assembled Materials: From Inspiration to Application	Grand Ballroom F	761

Oral and Poster Discussion* Sessions: 9:00 AM - 11:00 AM

96	BS/HSR	Access to Care and Utilization of Services	Columbus Hall C	762–769
97	BS/HSR*	Methods in Health Services Research	Grand Ballroom C	770–774
98	CRAN	Craniofacial Development	Columbus Hall G	775–781
99	DM	Resin Systems, Models, and Related Topics	Regency C	782–789
100	DM	Polymer Materials: Photopolymerization II	Regency B	790–795
101	DM	Corrosion of Dental and Orthodontic Alloys	Regency A	796–803
102	DIA	Radiography II	Columbus Hall I	804–811
103	GOR	Diagnosis and Symptoms of Oral Conditions in Older Adults	Columbus Hall A	812–818
104	M/I	Periodontal Infections—Local and Systemic Factors	Columbus Hall K	819–826
105	OMP	Molecular Oncology	Regency D	827–834
106	PERIO	Antimicrobial Therapy	Grand Ballroom A	835–842
107	PTT	Therapeutics and Oral Tissues	Columbus Hall E	843–850
108	PROS	Reinforced Composite Restorations, Provisional Resin Fracture Resistance and Color Change, Resin Bond Strength to Ceramic	Toronto	851–858
109	SAL	Cell Signaling/Salivary Function	Grand Ballroom D	859–865

Poster Sessions: 11:00 AM - 12:15 PM

			Exhibition Hall	
110	PB	Dentin/Pulp Complex		866–879
111	PROS	General		880–895
112	DM	Bonding to Glass Ionomers, Metal, Enamel, and Other Substrates		896–910
113	DM	Adhesive Surface Analysis, Sealants		911–917
114	DM	Tooth Whitening I		918–926
115	DM	Release Kinetics, Degradation, Biological and Other Related Aspects		927–941
116	DM	Polymer Materials: Mechanical Properties		942–956
117	DM	Corrosion, in vitro and in vivo Evaluation of Dental Alloys		957–968
118	DM	Impression Materials, Gypsum, Investments		969–978
119	DIA	Occlusion/Ortho/TMJ		979–985
120	GOR	Salivary Response to Disease, Iatrogenic Effects, and Impact of Treatment		986–993
121	BS/HSR	Assessing Oral Health Risk		994–997
122	BS/HSR	Pain Management, Fear, Anxiety		998–1003
123	EDUC	Educational Methodology		1004–1009
124	CAR	Caries Risk, Turners Teeth		1010–1020
125	IMP	Guided Tissue Regeneration/Clinical Biomechanics		1021–1026
126	OHR	Dentifrices, Gums, Rinses, Lozenges, Floss, and Calculus		1027–1034
127	MT	Odontogenesis/Cementogenesis		1035–1041
128	SAL	Cell Signaling/Apoptosis		1042–1048
129	M/I	Oral Bacteria: Phylogenetic Diversity		1049–1062
130	M/I	Control of Microbial Contamination		1063–1074
131	PERIO	Cytokines, Integrins, Immunoglobulins		1075–1085
132	PERIO	Laser and Mechanical Therapy		1086–1091
133	PTT	Oral Health and Therapeutics		1092–1105
134	NEU	Sensory, Pain, and Inflammation Studies		1106–1115
135	OMP	Cell Culture Models of Oral Carcinogenesis		1116–1126
136	CRAN	Orthodontic Treatment of Sagittal and Transverse Occlusion Problems		1127–1137
137	CRAN	Stability of Orthodontic Treatment; Considerations of Esthetics		1138–1144B

Symposia: 1:45 PM - 3:45 PM

138	SYM	Topics in Functional Genomics and Proteins	Grand Ballroom F	1145
139	SYM	Dental Materials: Meeting the Standards	Grand Ballroom B	1146

Seq #	Group	Session Title	Room	Presentation #
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Friday, March 9 *(continued)*

Oral and Poster Discussion* Sessions: 1:45 PM - 3:45 PM

140	BS/HSR*	Outcome Measures and Evidence-based Dentistry	Grand Ballroom C	1147-1153
141	CRAN	Orthodontic Treatment Outcome	Columbus Hall G	1154-1161
142	DM	Adhesion: Microstructure and Microleakage	Regency C	1162-1169
143	DM	Tooth Whitening	Regency A	1170-1177
144	DM	Glass Ionomers: Storage Effects and Properties	Regency B	1178-1184
145	IMP	Surface Science/Cell-Surface Interactions	Regency D	1185-1190
146	MT	BMPs, Tissue Engineering, Regeneration	Columbus Hall K	1191-1197
147	NEU	Clinical Measurements; Treatment Outcomes	Columbus Hall E	1198-1205
148	OMS	Orthognathic Surgery/OMFS Training	Columbus Hall A	1206-1213
149	OMP	Viral Disease: Other Clinical Pathology	Columbus Hall C	1214-1221
150	PERIO	Periodontal Infection and Systemic Health	Grand Ballroom A	1222-1228
151	PERIO	Structural Cells in Inflammation	Columbus Hall I	1229-1233
152	PROS	Implants: Guides, Prosthetic Screw Stability, Screw Properties, Lab Analogs; Tooth Preparation, Preparation Cleansing	Toronto	1234-1240
153	PB	Permeability, Hypersensitivity	Grand Ballroom D	1241-1248

Poster Sessions: 3:45 PM - 5:00 PM

Exhibition Hall

154	PROS	Color, Shade Selection, Dowel and Core, Enamel and Restorative Material Wear		1249-1263
155	DM	Resin Bond – New Formulations and General		1264-1281
156	DM	Microleakage: Cements, Sealants		1282-1288
157	DM	Microleakage: Test Method, Polymerization Technique		1289-1296
158	DM	Cements: General		1297-1311
159	DM	Resins/Sealants/Luting Cements		1312-1324
160	DM	Polymer Materials: Surface Morphology		1325-1339
161	DM	Polymer Materials: Property Testing		1340-1354
162	DM	Bleaching Agents, Color Stability		1355-1363
163	DIA	Clinical and Lab Measurements		1364-1375
164	BS/HSR	Provider Practice Patterns		1376-1388
165	CAR	Effect of Bleaching on Mineralized Tissue		1389-1391
166	CAR	Dentifrices		1392-1402
167	IMP	Clinical Performance		1403-1412
168	IMP	Surface and Cell-Surface Analyses		1413-1420
169	OHR	Oral Health Services, Tobacco Use, Gingival Contours, Oral Cancer and Tooth Eruption		1421-1429
170	MT	Tissue Engineering/BMPs/Calcified Tissue Analysis		1430-1434
171	MT	Genetic Disorders of Bones and Teeth/Bone Density		1435-1442
172	MI	Antimicrobials: Mechanisms and Resistance		1443-1454
173	PERIO	Periodontal Disease Measures and Markers		1455-1465
174	PERIO	Microbial Virulence, Fibroblasts, Bone		1466-1480
175	PERIO	Antimicrobial and Anti-inflammatory Drugs, Root Conditioning		1481-1487
176	OMS	Dento-alveolar, Craniofacial, and Orthognathic Surgery		1488-1498
177	PTT	Oral Health and Therapeutics		1499-1510
178	OMP	Human Oral Cancer/Precancer; Clinical Oral Medicine		1511-1519
179	CRAN	Orthodontic Diagnosis and Treatment Outcome: Predictors, Methods of Evaluation		1520-1529
180	CRAN	Tooth Movement: Biology, Mechanical Factors		1530-1538B

Saturday, March 10

Plenary Session: 8:00 AM - 8:45 AM

181	PS	Oral Health Improvement: Opportunities at the Intersection of Good Intention and Action	Grand Ballroom F	1539
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Symposia: 9:00 AM - 11:00 AM

182	SYM	Clinical Significance for Non-surgical Periodontal Therapy: An Evidence-based Perspective	Grand Ballroom B	1540
183	SYM	Opportunity: Creating a National Oral Health Plan	Grand Ballroom F	1541
184	SYM	Tooth- and Implant-supported Prostheses and Biomechanics	Regency B	1542

Oral and Poster Discussion* Sessions: 9:00 AM - 11:00 AM

185	CAR	Caries Diagnosis, Soft Drinks, Radiation, and Caries	Columbus Hall C	1543-1548
186	CRAN	Sutures and Craniofacial Defects	Columbus Hall G	1549-1556
187	CRAN*	Dental Morphology and Development	Grand Ballroom C	1557-1564
188	DM	Resin Composite Bonding to Enamel, Dentin, and Metal Substrates	Regency A	1565-1572
189	DM*	Adhesives: Bond Strength and Microleakage Studies	Grand Ballroom D	1573-1580

Seq #	Group	Session Title	Room	Presentation #
Saturday, March 10 (continued)				
190	DM	Fluoride Release, Biocompatibility, Resin Curing	Regency C	1581–1588
191	MT	Dentin Matrix Proteins/Regulation	Columbus Hall K	1589–1596
192	OMS	Implants, Dento-alveolar Surgery, and Trauma	Columbus Hall A	1597–1604
193	PERIO	Genetics and Systemic Disease Interactions	Grand Ballroom A	1605–1612
194	PTT	Oral Prevention and Heavy Metal Exposures	Columbus Hall E	1613–1620
195	PROS	Removable Prosthodontics: Overdentures, Soft Liners, Impressions, Processing Error, Denture Tooth Retention, Enamel Finishing and Polishing	Toronto	1621–1628
Poster Sessions: 11:00 AM - 12:15 PM			Exhibition Hall	
196	HATTON	Junior Category Presentations		1629–1640
197	HATTON	Senior Category Presentations		1641–1652
198	HATTON	Post-doctoral Category Presentations		1653–1658
199	CAULK	Basic Sciences Category Presentations		1659–1665
200	CAULK	Clinical Sciences Category Presentations		1666–1672
201	PROS	Crown Margin Adaptation, Impression Materials, Bleaching		1673–1686
202	DM	Resin Bonding: Effect of Dentin Substrate		1687–1702
203	DM	Adhesive Microstructure Analysis		1703–1717
204	DM	Mechanical and Physical Properties of Copolymers and Composites		1718–1731
205	DM	Polymer Materials: Photoactivation and Depth of Cure		1732–1746
206	DM	Mechanical and Frictional Properties of Dental Alloys		1747–1758
207	DM	Silanation, Surface Roughness, Air Abrasion, Biocompatibility		1759–1771
208	DM	Endodontic Materials		1772–1781
209	GOR	Aging and Oral Health in Special Populations		1782–1787
210	BS/HSR	Knowledge, Attitudes, and Behaviors: The Practitioner's Perspective		1788–1799
211	CAR	Forensics and Ancient Teeth		1800–1801
212	MT	Tooth Movement		1802–1803
213	MT	Mineralization/Physical-Chemical Aspects		1804–1814
214	SAL	Salivary Molecules		1815–1821
215	M/I	Viruses		1822–1829
216	OMS	Surgical Wound Healing/Surgical Pathology		1830–1839
217	CRAN	Developmental Biology – Morphogenesis		1840–1846B
218	CRAN	Biological Mechanisms of Tooth Movement and Cellular Adaptation		1847–1850
Lunch & Learning: 12:15 PM - 1:45 PM				
	LL	Lunch & Learning Session #2 (Tables #13-24)	Regency D	
Symposium: 1:45 PM - 3:45 PM				
219	SYM	Protection in the Oral Cavity by the Mucosal Immune System	Grand Ballroom B	1851
Oral and Poster Discussion* Sessions: 1:45 PM - 3:45 PM				
220	BS/HSR*	Methods in Health Services Research	Grand Ballroom C	1852–1857
221	BS/HSR	Racial Disparities in Oral Health	Grand Ballroom F	1858–1865
222	CRAN	Developmental Biology	Columbus Hall I	1866–1872
223	CRAN	Orthodontics: Bonding Materials, Imaging Methods	Columbus Hall G	1873–1879
224	DM	Tooth-colored Indirect Restorations	Columbus Hall C	1880–1884
225	DM	Polymer Materials: Mechanical and Physical Testing	Columbus Hall E	1885–1892
226	DM	Endodontic Materials	Columbus Hall A	1893–1897
227	IMP*	Biomechanics/Bone Remodeling/Animal Studies	Grand Ballroom D	1898–1905
228	MT	Mineralization, Physical—Chemical Aspects	Columbus Hall K	1906–1912
229	PERIO	Periodontal Disease, Risk Factors and Indicators	Grand Ballroom A	1913–1920

		Legend			
BS/HSR	Behavioral Sciences & Health Services Research			OHR	Oral Health Research
CAR	Cariology	HATTON	AADR/Warner-Lambert Hatton Competition	OMS	Oral & Maxillofacial Surgery
CAULK	Caulk/Dentsply Competition			OMP	Oral Medicine & Pathology
CRAN	Craniofacial Biology	HOW	Hands-on Workshop	PERIO	Periodontal Research
DAR	Dental Anesthesiology Research	IMP	Implantology Research	PTT	Pharmacology, Therapeutics, & Toxicology
DM	Dental Materials	LL	Lunch & Learning	PS	Plenary Session
DIA	Diagnostic Systems	M/I	Microbiology/Immunology	PROS	Prosthodontics
EDUC	Educational Research	MT	Mineralized Tissue	PB	Pulp Biology
GOR	Geriatric Oral Research	NEU	Neuroscience/TMJ	SAL	Salivary Research
		NUT	Nutrition	SYM	Symposium

GENERAL INFORMATION

Meeting Site

The scientific sessions, registration, and the commercial exhibition will be held at the Hyatt Regency Hotel. The address for the hotel is as follows:

151 E. Wacker Dr.
Chicago, IL 60601
Tel: 312-565-1234
FAX: 312-616-6838

Registration

The AADR Registration Area will be located in the Hyatt Regency Hotel (East Tower, Ballroom Level). Registration will be open during the following hours:

Tuesday, March 6

2:00 pm – 5:00 pm (*NOTE: Open for Pre-registrants ONLY*)

Wednesday, March 7

8:00 am - 4:30 pm

Thursday, March 8

7:00 am - 5:00 pm

Friday, March 9

7:00 am - 5:00 pm

Saturday, March 10

7:30 am - 3:00 pm

Please note that the American Dental Education Association (ADEA) will also have its registration in the same area prior to the AADR meeting.

Accompanying Person(s) (Guests)

Accompanying persons are adult non-dentists, non-researchers, non-IADR/AADR members who may be traveling to Chicago with a meeting delegate and have no scientific interest in the meeting. Meeting participants' students, lab technicians, colleagues, etc., do not qualify as accompanying persons and should pay the appropriate registration fee if they wish to attend the meeting.

If your accompanying person wishes to hear your presentation, he or she must go to the sales booth in the registration area on site, purchase a badge for \$25.00, and receive a special color-coded badge holder. The badge will admit an accompanying person to **one session only** (morning or afternoon) and will not be honored at any other session during the meeting. Anyone who wishes to attend more than one session will be required to pay the appropriate fee. All accompanying persons may attend the Opening Ceremonies on Wednesday and the Plenary Sessions each morning.

Badges

Admission to all sessions and all other events during the Meeting will be by badge only. Please wear your badge at all times. Guest badges and special color codes for specific sessions will be available at the sales booth in the registration area, and guest badges are required for all social functions. If you lose your badge, you will be required to show your receipt to obtain a replacement badge.

Photographs & Tape Recordings

Individuals desiring to take photographs or make tape recordings during the session must obtain prior permission from the speakers, as well as from the session chair.

Program and Abstracts

Program

Registrants and Presenters: distributed on site only

Replacement/Extra Copies: \$20.00 each

Abstracts

Members: copies mailed in January

NOTE: Duplicates will NOT be issued on site.

Non-members: copy given on site

On-site Registrants: copy given on site

Replacement/Extra Copies: \$20.00 each

Members who DO NOT ATTEND the meeting WILL NOT RECEIVE the Program. All members (other than students who do not regularly receive the JDR) will receive the meeting Abstracts.

Listing of Presenters and Authors

The Program will list the primary presenter's name, co-author's name(s), and their institutions. Abstract numbers of presenters are listed in the Author/Co-author Index in bold-face type. In cases of multiple authorship, the speaker is identified in the abstract by an asterisk (*) following his or her name in both the Program and Abstracts.

The number of each abstract printed in the Abstracts is the same as the corresponding paper in this book. The abstracts are printed exactly as submitted by the authors, without subsequent editing.

Child Access to Sessions

Children are allowed access to the exhibition hall only during poster presentation/exhibition hours. Children are NOT allowed access to the oral session meeting rooms.

Smoking Policy

The AADR meeting is a non-smoking meeting. Ashtrays will be available in the public areas of the hotels only. No smoking is permitted in the meeting rooms.

Participants with Disabilities or Special Needs

If you have a disability or special need that may have an impact on your participation in the Annual Meeting, please contact the AADR Meetings Department either prior to the meeting or on site to discuss your requirements.

Continuing Education Credits

The IADR is an ADA CERP recognized provider. Delegates are eligible to receive continuing education credits for attending the scientific oral and poster sessions throughout the meeting. One hour of program time is equivalent to one credit hour. Forms will be available at the meeting, and delegates are responsible for completing the forms accurately and keeping their forms for auditing purposes. (Do NOT return the forms to the IADR.)



HYATT REGENCY HOTEL

Meeting Rooms

All scientific sessions will be held in the Hyatt Regency Hotel. Please check the Schedule of Events for the location of specific meetings and functions. You are encouraged to find rooms in which you plan to present or hear presentations well in advance of the times of the functions.

Coat Check/Luggage Storage

Facilities for coat check and luggage storage will be available at the Hyatt for the duration of the meeting. Please do not bring your luggage to the meeting rooms.

Job Opportunity Bulletin Service (JOBS)

A Job Opportunity Bulletin Service, located convenient to the sessions, is available to all registrants. Bulletin boards will be available to job recruiters to post job vacancies. If you would like to post an opening available at your university, private organization, and/or within the Government, please make sure a contact name and address are listed on your sheet so that prospective candidates can contact you both on site and/or after the meeting. Please refer to page 13 for the specific location of this service.

Membership Information

The IADR/AADR Membership booth will be open throughout the meeting. IADR/AADR staff and members will be on hand to answer your questions about membership services, benefits, and functions. Please refer to page 13 for the specific location of this service.



CHECK OUT THE IADR/AADR STORE!

The IADR/AADR Store has great items now available for immediate purchase—pens, mugs, clothing, bags, and more! And members receive discounts on all purchases. Be sure to stop by during the meeting and bring home something that shows you are a part of the dental research community. The store will be located in the AADR registration area and open during registration hours.

PRESENTER'S NOTE

Slide Preview Room

The Slide Preview Room is located in the Gold Coast Room (West Tower, Concourse Level) at the Hyatt Regency Hotel. The Preview Room will be open during the following hours:

Wednesday, March 7

9:00 am - 4:30 pm

Thursday - Friday, March 8-9

7:30 am - 4:15 pm

Saturday, March 10

7:30 am - 4:15 pm

Presenters should load their slides into a carousel tray prior to presenting and either return the tray to the Preview Room or leave it on the projector cart. The session chairperson will assist presenters with loading carousels. All scientific session rooms will be equipped with **one** 35-mm slide projector with remote control, a screen, lectern microphone, aisle microphone (if necessary), and a lighted pointer. **If you require additional equipment for your presentation, you will be responsible for the costs involved.**

Presenter's Obligation

AADR regulations state that submission of an abstract carries with it the obligation of the author to present the paper in person. Requests to withdraw papers must have been made in writing BY THE PRESENTER (requests from anyone other than the presenter will not be honored) and submitted to the Central Office prior to the meeting. If a presenter finds it impossible to give the paper, the presenter must send written notification with an explanation and the name of a substitute presenter. The substitute should not already be presenting a paper on the program, and should be a co-author who is listed on the abstract. If an acceptable reason is not given, the presenter will not be allowed to submit a paper for the next Annual Meeting. **NOTE:** Lack of travel funds is not an acceptable reason to withdraw an abstract or delegate a substitute presenter.

PLENARY SESSIONS

The meeting will begin each morning (Thursday through Saturday) with a plenary session designed to interest delegates from all scientific Groups.



Don Price
University of Florida, Gainesville

Thursday, March 8
8:00 am - 8:45 am
Hyatt, Grand Ballroom F

Dr. Price is currently a Professor of Oral and Maxillofacial Surgery at the University of Florida at Gainesville and is the

Associate Editor of the *Journal of Pain*. Most recently, he won the John Bonica Award from the Eastern Pain Society. With the recent advent of brain imaging technology and new experimental approaches for the study of analgesic mechanisms, it is now possible to characterize the different mechanisms by which non-pharmacological treatments reduce pain. This presentation will focus on studies in which general neural mechanisms of acupuncture analgesia, placebo analgesia, and hypnotic analgesia are characterized. These studies include human brain imaging experiments and experiments in which endogenous opioid mechanisms are implicated or ruled out.



Eric Anslyn
University of Texas, Austin

Friday, March 9
8:00 am - 8:45 am
Hyatt, Grand Ballroom F

Dr. Anslyn is a Professor of Chemistry and Biochemistry at the University of Texas at Austin. He is currently the Associate Editor for the *Journal of the American Chemical Society* and a member of the Medicinal Chemistry Study Section for the NIH. His research is concerned with the design and creation of molecules that perform functions and tasks. Catalysis and molecular sensing are the two primary areas of focus. On the sensing front, both single- and multi-analyte sensors are being created. Dr. Anslyn was part of a team of professors who created a new device for multi-analyte sensing, referred to as an "electronic tongue".



**Oral Health Improvement:
Opportunities
at the Intersection
of Good Intention and Action**
Caswell Evans, NIDCR/NIH
Bethesda, MD

Saturday, March 10
8:00 am - 8:45 am
Hyatt, Grand Ballroom F

Dr. Evans is currently the Executive Editor and Project Director of the Surgeon General's Report on Oral Health. He led the project team in developing the report's concepts and tracking its progress while guiding the work of authors, reviewers, and subject editors. Dr. Evans received his Doctor of Dental Surgery degree from Columbia University's School of Dental and Oral Surgery in New York City, and earned his Master of Public Health degree from the University of Michigan, School of Public Health. He has been recognized for his achievements and was awarded the prestigious Champion of Prevention Award from the Centers for Disease Control and Prevention, for his leadership in establishing a National Public Health Week.

Join Us for Breakfast!

A light Continental breakfast will be served prior to the plenary sessions on Thursday through Saturday mornings, from 7:30 am to 8:00 am. Join your colleagues for an early cup of coffee and a donut! Breakfast will be served in the back of Grand Ballroom F.

NAC "Town Hall" Meeting

Thursday, March 8, 11:00 am – 12 Noon
• *New Orleans Room*

The NAC will be hosting a "Town Hall" meeting for AADR members attending the AADR meeting in March in Chicago. This session will allow members to receive a brief update on national affairs from the National Affairs Committee leadership. More importantly, it will permit members to give the NAC feedback on its activities. What are your principal concerns on the national scene? Stem cell research? Animal models? Clinical research? CSR? Adequate funding for new and renewal grants? How would you like AADR and the NAC to represent your interests in these and other matters? Whatever your concerns, let us hear them.

Jointly-sponsored Symposia with ADEA**Wednesday, March 7****10:00 am – 12 Noon****Behavioral Sciences Curriculum: Applying the Applied Sciences**

Sponsors: AADR Behavioral Sciences & Health Services Research Group and the ADEA Behavioral Sciences Section

• Room: Grand Ballroom A

Evidence-based Clinical Practice:**Technology Assessment and Transfer**

Sponsors: AADR Educational Research Group and ADEA Educational Research, Development and Curriculum Section

• Room: Grand Ballroom B

1:00 pm – 4:00 pm**Enhancing Student Research and Training of Future Academicians: A Solutions-based Approach**

Sponsors: AADR NSRG and the Behavioral Sciences & Health Services Research Group; ADEA Council of Deans and Students

• Room: Grand Ballroom A/B

AADR Group-sponsored Symposia**Wednesday, March 7****2:00 pm – 4:00 pm****Intra-epithelial Neoplasia: Causes, Detection, Treatment**

Group Sponsors: Experimental Pathology, Oral & Maxillofacial Surgery, Diagnostic Systems, and Pharmacology, Therapeutics, & Toxicology.

• Room: Regency A

Thursday, March 8**9:00 am – 11:00 am****Complementary and Alternative Medicine Research in Craniofacial Disorders**

Group Sponsor: Behavioral Sciences & Health Services Research

• Room: Grand Ballroom D

Research Issues in Dental Education:**What is Important to Study and How to Study It**

Group Sponsor: Educational Research

• Room: Grand Ballroom C

Suture Biology: Development of Genetic and Non-genetic Animal Models

Group Sponsor: Craniofacial Biology

• Room: Grand Ballroom F

Thursday, March 8**1:45 pm – 3:45 pm****Adhesion Molecules and Disease Progression**

Group Sponsor: Oral Medicine & Pathology

• Room: Grand Ballroom B

Benefits of Academic & Research Careers

Group Sponsor: AADR National Student Research

• Room: Grand Ballroom F

Friday, March 9**9:00 am – 11:00 am****Functional Foods for Oral Health**

Group Sponsors: Nutrition and Cariology

• Room: Grand Ballroom B

Nanostructured, Molecular, and Self-assembled Materials: From Inspiration to Application

Group Sponsors: Mineralized Tissue and Dental Materials

• Room: Grand Ballroom F

1:45 pm – 3:45 pm**Dental Materials Meeting the Standards**

Sponsors: Dental Materials Group and NIST

• Room: Grand Ballroom B

Topics in Functional Genomics

Sponsor: University of Michigan

• Room: Grand Ballroom F

Saturday, March 10**9:00 am – 11:00 am****Opportunity: Creating a National Oral Health Plan**

Group Sponsor: Behavioral Sciences & Health Services Research

• Room: Grand Ballroom F

Clinical Significance for Non-surgical Periodontal Therapy: An Evidence-based Approach

Group Sponsors: Oral Health Research and Periodontal Research

• Room: Grand Ballroom B

Tooth- and Implant-supported Prostheses and Biomechanics

Group Sponsor: Dental Materials and Implantology Research

• Room: Regency B

1:45 pm – 3:45 pm**Protection in the Oral Cavity by the Mucosal Immune System**

Group Sponsor: Salivary Research

• Room: Grand Ballroom B

Group Business Meetings & Receptions

Thursday, March 8

Business Meetings - 5:00 pm - 6:00 pm

Behavioral Sciences & Health Services Research . . .	Columbus C
Craniofacial Biology	Columbus G
Dental Materials	Regency D
Diagnostic Systems	Toronto
Educational Research	Columbus A
Implantology Research	Columbus I
Microbiology/Immunology	Grand Ballroom C
Mineralized Tissue	Columbus K
Neuroscience	Grand Ballroom A
Nutrition	Grand Ballroom B
Oral Health Research	Regency A
Oral Medicine & Pathology	Columbus E
Pharmacology, Therapeutics & Toxicology . .	Grand Ballroom D
Salivary Research	New Orleans

Receptions - 6:00 pm

Behavioral Sciences & Health Services Research . . .	Comiskey and Geriatric Oral Research
Craniofacial Biology	Columbus G
Dental Materials (7:00 pm – 9:00 pm)	Disney Quest
Diagnostic Systems	Hong Kong
Educational Research	San Francisco
Microbiology/Immunology	Atlanta
Mineralized Tissue	Truffles
Oral Health Research	Soldier Field
Oral Medicine & Pathology	Columbus E
Pharmacology, Therapeutics & Toxicology . .	Grand Ballroom D

Friday, March 8

Business Meetings - 5:00 pm - 6:00 pm

Dental Anesthesiology Research	Columbus K
Geriatric Oral Research	Columbus C
Oral & Maxillofacial Surgery	Columbus A
Prosthodontics	Toronto
Pulp Biology	Grand Ballroom D

Receptions - 6:00 pm

Oral & Maxillofacial Surgery	Columbus A
Prosthodontics	Toronto

NOTE: Groups not listed are holding either their business meeting and/or their reception at the IADR General Session in Chiba, Japan.

Special Events

Opening Ceremonies and Welcome Reception

Wednesday, March 7

4:15 pm – 7:00 pm

The Opening Ceremonies will take place in the Grand Ballroom (East Tower) and will include presentations of the various AADR Awards and Fellowships and the President-elect Address by Martha Somerman. In addition, the drawing for the free registration will be announced from among those who registered on-line. After the Opening Ceremonies, all meeting participants are invited to the Welcome Reception in the Crystal Ballroom (West Tower, Level 1). Refreshments are generously sponsored by Braun/Oral-B.

Friends of the NIDCR Social Event

Wednesday, March 7

8:00 pm – 11:00 pm

Hyatt, Regency B

Unwind with friends and treat yourself to the best of jazz with saxophonist Greg Fishman and the *Cool Sounds of Jazz*. Hear the great music of George Gershwin, Cole Porter, and Duke Ellington—an ideal atmosphere for listening and dancing after a long day. Wine, coffee, and dessert will be served. The Friends of the National Institute of Dental and Craniofacial Research (NIDCR), a non-profit group that supports the world's premier dental research institution, hosts the evening. Free for members of the Friends of the NIDCR, \$25 for non-members (which includes membership in the Friends of the NIDCR for 2001). Tickets are still available and can be purchased at the door.

3M Hospitality Center

Exhibit Hall

3M will provide a Hospitality Center located in the Exhibition Hall (see floor plan on page 12 for exact location in Hall). Computer stations will be set with Internet software for delegates to check their e-mail or “surf the Web”. In addition, personnel will be on hand to answer questions about 3M products. Admission is free, and all meeting participants are invited to visit at their convenience and enjoy light refreshments. The Hospitality Center will be open from 10:00 am to 5:00 pm, Thursday and Friday, and from 8:00 am to 12:15 pm on Saturday.

New Member Orientation Breakfast

Friday, March 9, 7:00 am – 8:00 am

Comiskey Room

If you are interested in becoming more involved in the Association or learning more about specific Groups or Divisions within the IADR and/or AADR, please join us for breakfast. Graduate and post-doctoral students are also welcome to attend.

AADR National Student Research Group Business Meeting

Friday, March 9, 5:00 pm – 6:00 pm

Columbus E

The AADR National Student Research Group (NSRG) will hold its business meeting on Friday at 5:00 pm in the Columbus E Room. AADR student members and all student non-members are encouraged to attend, as are NSRG Chapters' faculty advisors. The business meeting will include presentation of the 2001 Caulk/Dentsply Student Research Group Awards for the best student presentations at the 2001 Annual Meeting. A reception on the “Spirit of Chicago” will follow the business meeting. Be sure to attend the business meeting for details.

If you are unable to attend the business meeting, be sure to stop by the NSRG Booth in the AADR Registration Area to obtain information on becoming more involved in the NSRG.

Lunch & Learning

There will be a \$30.00 charge to cover the cost of lunch, and attendance will be limited to nine persons *per* speaker. You cannot attend the program as just a listener if the table should sell out. If you purchased your Lunch & Learning ticket(s) in advance, it will be included in your registration packet. Space permitting, tickets may be sold on site.

SESSION #1

Thursday, March 8, 12:15 pm - 1:45 pm

Hyatt, Regency A Room

(Table 1) *The Guide to Community Preventive Services: An Evidence-based Approach*
Speaker: Barbara Gooch

(Table 2) *Continuous-fiber-reinforced Polymeric Materials for Dentistry*
Speaker: Robert Kusy

(Table 3) *Future Directions for Palladium-based and Other Noble Dental Casting Alloys*
Speaker: William Brantley

(Table 4) *Electrochemical Corrosion of Pd-based Dental Alloys and Allergic Reactions*
Speaker: Nikhil Sarkar

(Table 5) *From Glass Ionomers to Compomers*
Speaker: John Nicholson

(Table 6) *Panoramic X-rays: A Useful Adjunct in Clinical Research*
Speaker: Rigmor Persson

(Table 7) *Peri-implantitis Therapy: Guided Bone Regeneration*
Speaker: Thomas Oates

(Table 8) *Laboratory Assessment of Systemic Inflammation in Periodontal Patients*
Speaker: Catherine Champagne

(Table 9) *Biological Mediators for Periodontal and Bone Regeneration*
Speaker: Richard Oringer

(Table 10) *Cytochemical Properties of Sensory Neurons that Innervate Tooth Pulp*
Speaker: John Naftel

(Table 11) *Flow Rate Measurement, Collection, and Analysis of Saliva from Minor Glands*
Speaker: David Ferguson

(Table 12) *Proteomics and Saliva*
Speaker: Josie Beeley

SESSION #2

Saturday, March 10, 12:15 pm - 1:30 pm

Hyatt, Regency D Room

(Table 13) *Use of the NIH/General Clinical Research Center (GCRC) to Integrate Dental Clinical Research*
Speaker: Susan Reed

(Table 14) *Osteoblast Attachment to Titanium Single Crystals*
Speaker: Francis Mante

(Table 15) *Space Dentistry: A New Frontier for Dental Materials*
Speaker: James Ragain, Jr.

(Table 16) *A New Way to Look at Elastomeric Impression Materials*
Speaker: Jeannie Vickery

(Table 17) *Packable Composites & Evidence-based Dentistry*
Speaker: Bill Browning

(Table 18) *Research Design for Behavioral Studies in a Dental School Environment*
Speaker: Elaine Romberg

(Table 19) *Techniques for Recruiting and Retaining Ethnic Minority Elders for Clinical Dental Research*
Speaker: Asuman Kiyak

(Table 20) *Implant Biomechanics – Relating Mechanical Analyses to Biological Response*
Speaker: David Kohn

(Table 21) *The Stronger Sex: Men, Women, and Oral Health*
Speaker: Angelo Mariotti

(Table 22) *DNA Chip Technology in Periodontal Research*
Speaker: Phoebus Madianos

(Table 23) *Salivary Analyses – Why Quality Control?*
Speaker: Dorte Johnson

(Table 24) *How Can I Win the Harald Løe Scholars Award?*
Speakers: Marc Heft and Paul Moore

GC-SPONSORED SYMPOSIUM

Assessment and Management of Carious Lesions

Date/Time: Thursday, March 8, 1:00 pm – 6:00 pm

• Room: Regency C

PRESENTERS:

John Burgess (Louisiana State University)

Fluoride Release / Fact or Fiction

- Fluoride releasing materials continuum
- Mechanical and physical properties of fluoride releasing materials
- Anti-caries properties of fluoride releasing materials
- Clinical longevity, chemistry, and handling characteristics
- Use in high risk caries patients

Rory Hume (University of California, Los Angeles)

Caries Management, Tooth Restoration, and Biological Effects

- Our present understanding of caries
- Non-caries loss of tooth structure
- Comparisons between restorative systems
- Pulp responses to tooth restoration
- Adverse systemic effects

The program is complimentary to AADR meeting delegates but a fee of \$75 will be charged to individuals not registered for the AADR meeting. Immediately following the program, a wine and cheese reception will take place in Regency B.



Sponsored by the GC Corporation in celebration of their 80th anniversary (1921-2001).

CADR Divisional Events

Members of the CADR should note the following events to be held in Chicago at the Hyatt Regency Hotel:

Thursday, March 8

7:00 am - 8:00 am

Executive Committee Breakfast Meeting

• Room: Atlanta

Friday, March 9

5:30 pm - 6:30 pm

Annual General Meeting

• Room: Columbian

6:30 pm - 8:00 pm

CADR Reception

• Room: Water Tower

NIDCR PROGRAMS

Grant Writing: Getting Your Message Out

Date/Time: Thursday, March 8, 9:00 am – 11:00 am

Organizer: Lorraine Jackson

Sponsor: NIDCR

• Room: Wrigley

This year's NIDCR/NIH grant-writing workshop will focus on specific techniques used to convey to the reviewers the important messages in the application, particularly the Specific Aims section. The session is aimed at all applicants for NIDCR funding, especially post-doctoral students and new investigators. *Attendance is limited to the first 75 participants.*

NIDCR Forum

March 9, 3:45 pm – 4:45 pm

• Toronto Room

This session will provide an update on programs and policies of NIDCR and NIH in FY2001. Senior staff will be available to answer questions.

AADR National Student Research Group Caulk / Dentsply Competition

Thursday, March 8, 8:00 am – 11:30 am

Poster Set-up	7:00 am – 7:45 am
Presentations	8:00 am – 10:40 am
Poster Tear-down	11:00 am – 11:30 am

Basic Sciences Category - Picasso

Time	Name	Board #
8:00 am	Ciminieri	C-1
8:20 am	Kim	C-2
8:40 am	Martin	C-3
9:00 am	Patel	C-4
9:20 am	Break	
9:40 am	Reddi	C-5
10:00 am	To	C-6
10:20 am	Abraham	C-7
10:40 am	Competition ends and deliberations begin.	

Clinical Science Category - Columbian Room

Time	Name	Board #
8:00 am	Dacy	C-1
8:20 am	Halmos	C-2
8:40 am	Hosein	C-3
9:00 am	Malavolti	C-4
9:20 am	Break	
9:40 am	McIntyre	C-5
10:00 am	Rabinovich	C-6
10:20 am	Radcliff	C-7
10:40 am	Competition ends and deliberations begin.	

POSTER COMPETITION

AADR/Warner-Lambert Hatton Awards Competition

Wednesday, March 7

Poster Set-up 5:00 pm – 7:00 pm
(Tuesday, March 6)

Judges Preview Posters 7:00 am – 8:00 am

Presentations 8:00 am – 12:40 pm

Poster Tear-down 1:00 pm – 1:30 pm

Junior Category - Soldier Field Room

Time	Name	Board #
8:00 am	Chasen	H-1
8:20 am	Faber	H-2
8:40 am	Cernansky	H-3
9:00 am	Patrianakos	H-4
9:20 am	Break	
9:40 am	Stasulis	H-5
10:00 am	Knight	H-6
10:20 am	Barnett	H-7
10:40 am	Break	
11:00 am	Sifri	H-8
11:20 am	Glazer	H-9
11:40 am	Kvichak	H-10
12:00 Noon	Green	H-11
12:20 pm	Competition ends and deliberations begin.	

Senior Category - Columbian Room

Time	Name	Board #
8:00 am	Lalla	H-1
8:20 am	Jumlongras	H-2
8:40 am	Han	H-3
9:00 am	Demiralp	H-4
9:20 am	Break	
9:40 am	Fribley	H-5
10:00 am	Ortiz	H-6
10:20 am	Wu	H-7
10:40 am	Kang	H-8
11:00 am	Break	
11:20 am	Black	H-9
11:40 am	Basi	H-10
12:00 Noon	Bannister	H-11
12:20 pm	Zhu	H-12
12:40 pm	Cha	H-13
1:00 pm	Competition ends and deliberations begin.	

Post-doctoral Category - Picasso Room

Time	Name	Board #
8:00 am	Gopalakrishnan	H-1
8:20 am	Tompkins	H-2
8:40 am	Lin	H-3
9:00 am	Payne	H-4
9:20 am	Break	
9:40 am	Szpaderska	H-5
10:00 am	Habelitz	H-6
10:20 am	Competition ends and deliberations begin.	

Corporate Sponsorship

Programs and Activities

The AADR is grateful to the following companies for their support of the AADR Annual Meeting:

3M Dental — in support of the 3M Hospitality Center.

L.D. Caulk Co. — in support of the Caulk/Dentsply Student Research Group Award Competition.

Colgate-Palmolive Co. — in support of the New Member Orientation Breakfast.

Eastman Kodak Co. — in support of the poster boards.

Braun/Oral-B — in support of the Welcome Reception.

Procter & Gamble — in support of the AADR President's Reception and the Student Outreach Program.

Warner Lambert Consumer Healthcare Group, Pfizer Inc. — in support of the AADR Past Presidents' Luncheon, and monetary prizes for the AADR Hatton Awards finalists.



Symposia Sponsors

The AADR acknowledges the following companies and organizations for their support of symposia and workshops for this meeting:

3M Dental — in support of the *Research Issues in Dental Education: What is Important and How to Study It* program.

Affymetrix — in support of the *Topics in Functional Genomics* program.

California Raisin Marketing Board — in support of the *Functional Foods for Oral Health* program.

John O. Butler, Inc. — in support of the *Adhesion Molecules and Disease Progression* program.

Genomic Solutions — in support of the *Topics in Functional Genomics* program.

Hershey Foods — in support of the *Functional Foods for Oral Health* program.

Nabisco Inc. — in support of the *Functional Foods for Oral Health* program.

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Procter & Gamble — in support of the *Functional Foods for Oral Health* program.

University of Michigan — in support of the *Topics in Functional Genomics* program.

Tom's of Maine — in support of the *Functional Foods for Oral Health* program.

Unilever Dental Research — in support of the *Functional Foods for Oral Health* program.

Wm. Wrigley, Jr. Co. — in support of the *Functional Foods for Oral Health* program.

Awards and Fellowships

The Awards and Fellowships of the Association provide recognition and support for individuals who have made significant contributions to dental research.

Student Research Fellowships

The AADR is grateful to the following companies and organizations that provided funding for the 2001 AADR Fellowships (number of fellowships supported appears in parentheses):

ADA Health Foundation (3)
 American Academy of Periodontology (1)
 SmithKline Beecham Consumer Brands (1)
 Block Drug (1)
 John O. Butler (3)
 Dentsply International (2)
 Johnson & Johnson (1)
 Oral B Laboratories, Inc. (1)
 Procter & Gamble (1)
 Procter & Gamble Denture Care (1)
 Warner-Lambert Co. (2)
 Colgate Palmolive (2)
 3M Health Care Group (2)

The following AADR Sections and Group Chapters have donated or pledged money to support a 2001 Fellowship:

Sections:

Boston	Cincinnati	Columbus
Dallas	Florida	Georgia
Kansas City	Louisville	San Antonio
Seattle		

Group Chapters:

Behavioral Sciences & Health Services Research
 Craniofacial Biology
 Dental Materials Group (1 full fellowship)
 Implantology
 Microbiology/Immunology
 Oral & Maxillofacial Surgery
 Oral Medicine & Pathology
 Prosthodontics
 Salivary Research

AADR Awards

AADR/Warner-Lambert Hatton Awards Competition: The winners of the AADR competition will compete in the IADR/Unilever Hatton Awards Competition in Chiba, Japan, on June 27, 2001. The awards are supported annually by a grant from the Warner-Lambert Company.

AADR Distinguished Scientist Award: This award is made to recognize and honor outstanding research of particular significance in any of the fields related to oral science. The award is supported by SmithKline Beecham Consumer Brands and is presented every three years. The next Award will be given in 2004.

AADR William J. Gies Award: This award recognizes the best paper published in the *Journal of Dental Research* for the period of July 1, through June 30, preceding the AADR Annual Meeting.

William B. Clark Fellowship in Clinical Research: This award was established in memory of William B. Clark and is supported by the Procter & Gamble Company. The award recognizes investigators carrying out clinical research in periodontology.

Acknowledgments

We thank the following individuals for their time and energy in finalizing the program for the 2001 Annual Meeting:

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Hands-on Workshop Organizer

Lorrayne Jackson

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Carroll-Ann Trotman	Risto Tuominen
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Charles Widmer	Rebecca Wilder
David Wong	Christine Wu
John Yagiela	

Future Meetings

2001

June 27-30

IADR General Session & Exhibition
Makuhari Messe, Chiba, Japan

2002

March 6-9

IADR/AADR/CADR General Session & Exhibition
San Diego, California

2003

April 7-15

AADR/CADR Annual Meeting & Exhibition
San Antonio, TX

2004

April 5-13

IADR/AADR/CADR General Session & Exhibition
Honolulu, Oahu, Hawaii

2005

March 9-12

IADR/AADR/CADR General Session & Exhibition
Baltimore, MD

AADR Student Fellowship Award Winners Presenters at the 2001 Meeting

2000 Winners

	P#
Samuel Black	1649
Casey Campbell	1188
Scott Dowell	243
Michael Glass	1377
Paul Harris	660
Charlie Hong	1448
Cindy Hsu	324
Rachel Hubbard	1469
Jeong Kim	1843
Cara Knight	1635
Jeffrey Milton	1845
Dominic Morio	325
Michael Payne	1718
Eric Phelps	677
Matthew Savage	1438
Nicole Smith	1590
Sarah Tevis	1436
Damon Watson	1001
Dallin Young	1011

1999 Winners

	P#
Yuval Azulay	368
Melissa Brown	1273
Chang David Han	712
Janet Lee	160
Aliasgar Mogri	242
Cindy Sclater	365
Meredith Scott	751

1998 Winner

	P#
Christina Patrianakos	1632

THE EXHIBITION

The Exhibition will be held in Wacker Hall at the Hyatt Regency Downtown, Chicago. The exhibit hours are as follows:

Thursday, March 8 10:00 am - 5:00 pm
Friday, March 9 10:00 am - 5:00 pm
Saturday, March 10 8:00 am - 12:15 pm

NEW! denotes first-time exhibitors.
(Exhibitor listings are as of December 22, 2000.)

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Tel: 312-440-2510 • FAX: 312-440-7461
E-mail: johnsb@ada.org
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The Health Policy Resources Center of the American Dental Association collects, analyzes, and disseminates data on all aspects of the dental profession. Data are collected through ADA-funded surveys for internal distribution as well as for the dental community and the general public.

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Booth # 517

Booth # 521

Island # 513

Booth # 505

Booth # 313

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Booth # 519**Booth # 306****Booth # 515****Booth # 503****Booth # 400**

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Booth # 309

Booth # 308

Hospitality Area

Booth # 501

Booth # 307

Booths # 122, 124

Booth # 104

Booth # 120

Booths # 523, 620

Booth # 516

Booth # 600

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Booth # 604

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Booth # 500

Booth # 215

Booth # 213

Booth # 614

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Booths # 616, 618

Booths # 301, 303

canceled

Booth # 510

Booth # 512

EDUCATIONAL EXHIBITS

University of Alberta
Department of Dentistry
Edmonton, AB, Canada
Tel: 780-492-3312 • FAX: 780-492-7536
E-mail: wraborn@ualberta.ca
www.dent.ualberta.ca

Booth # 209

This exhibit will focus on the curriculum changes that have been implemented since the Faculty of Dentistry has become a Department of Dentistry in the Faculty of Medicine and Dentistry. A curriculum review with implementation of new programs, modification of existing programs, and the development of a comprehensive patient care clinical teaching unit will be presented. How the Department has survived and continues to expand its educational and research goals since integration with medicine is highlighted.

University of California, San Francisco
San Francisco, CA
Tel: 415-476-1749 • FAX: 415-476-4226
E-mail: Efferenm@dentistry.ucsf.edu
http://itsa.ucsf.edu/%7Egraymar/DSTP1.HTM

Booth # 211

NIH-NIDCR training programs at UCSF include: PhD and post-doctoral programs in oral biology, bioengineering (UCSF-UCB intercampus program), and epidemiology (through the School of Public Health), UCB); the Dentist-Scientist Award program, combining PhD studies with advanced clinical specialty training; the Dental Scientist Training Program, integrating DDS and PhD studies; post-doctoral training in craniofacial anomalies research; and short-term research training for outstanding dental students. Program features: distinguished faculty, leading-edge research, state-of-the-art research facilities, rich and diverse scientific and clinical environments, and collaborative opportunities on campus and throughout the Bay Area scientific community.

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Booth # 216

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Booth # 106

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University of Tennessee, Memphis**College of Dentistry****Memphis, TN****Tel: 901-448-4879 • FAX: 901-448-7860****E-mail: ELThomas@utmem.edu**

The College of Dentistry of the University of Tennessee Center for the Health Sciences will co-sponsor the seventh Hinman Student Research Symposium in October of 2001 at the Peabody Hotel in Memphis, Tennessee. The College of Dentistry provides opportunities for research and advanced training in clinical dentistry and oral biology and at the Center for Oral Cancer Research and Education.

Booth # 218**The Forsyth Institute****Boston, MA****Tel: 617-262-5200 ext.276 • FAX: 617-262-8355****E-mail: dallen@forsyth.org****www.forsyth.org**

The Forsyth Institute is the world's leading independent organization dedicated to research and education in oral and craniofacial biology and related biomedical sciences. Located in Boston, Massachusetts, the Institute also operates the Forsyth School for Dental Hygienists, the oldest continually operating school of its kind in the world.

Booth # 206**University of Toronto****Faculty of Dentistry****Toronto, Ontario, Canada****Tel: 416-979-4901 ext.4482 • FAX: 416-979-4937****E-mail: lori.mockler@utoronto.ca****www.utoronto.ca/dentistry**

Display will promote research and graduate education opportunities available at the Faculty of Dentistry, University of Toronto.

Booth # 212**Naval Dental Research Institute****Great Lakes, IL****Tel: 847-688-5647 • FAX: 847-688-4279****E-mail: mark.stone@ndri.med.navy.mil****www.dentalmercury.com**

The mission of the Naval Dental Research Institute is to research, develop, test, and evaluate new methods and materials that limit oral disease, reduce dental emergencies, maximize operational readiness, and promote dental health for Navy and Marine Corps personnel. NDRI's expertise is in oral biology, epidemiology, and materials science.

Booth # 214**University of Washington****School of Dentistry****Seattle, WA****Tel: 206-543-559 • FAX: 206-685-8024****E-mail: bdale@u.washington.edu****www.dental.washington.edu**

The University of Washington School of Dentistry offers outstanding training opportunities in research and all clinical dental specialties. It also has a unique short-term clinical research training program, a PhD program, and a Dentist Scientist Award program. Post-doctoral opportunities emphasize biological, behavioral, and epidemiological research areas.

Booth # 210**National Institute of Dental****and Craniofacial Research (NIDCR)****Bethesda, MD****Tel: 301-907-8900 ext.340 • FAX: 301-907-8830****www.nidcr.nih.gov**

The National Institute of Dental and Craniofacial Research (NIDCR), one of the National Institutes of Health, is a primary sponsor of fundamental and translational research related to craniofacial-oral-dental diseases and disorders. NIDCR staff will be on hand to answer questions about research funding and training opportunities.

Island # 304**OTHER EXHIBITS****American Academy of Periodontology****Chicago, IL****Tel: 312-787-5518 • FAX: 312-787-3670****E-mail: patti@perio.org****www.perio.org**

The American Academy of Periodontology (AAP) is a 7,400-member association of dental professionals specializing in the prevention, diagnosis, and treatment of diseases affecting the gums and supporting structures of the teeth and in the placement and maintenance of dental implants. Stop by and view the Academy's many resources available to researchers, educators, students, and clinicians, including *Annals of Periodontology*, our new *Glossary of Periodontal Terms*, and patient education brochures.

Booth # 208

The Program

Seq#: 1 Wednesday, March 7, 10:00 am - 12:00 Noon
AAADR/ADEA Jtly. Sponsored Symposia
Grand Ballroom A

AAADR Behavioral Sciences & Health Services Research Group and the ADEA Behavioral Sciences Section – Behavioral Sciences Curriculum: Applying the Applied Sciences

Chairperson: M. Heft

0001 10:00 Behavioral Sciences Curriculum: Applying the Applied Sciences. M.W. HEFT*, M. BRADLEY, J.D. BECK, D. LOCKER, S. REISINE, and S.F. DWORKIN (*University of Florida, University of North Carolina, University of Connecticut, and University of Washington, USA; and University of Toronto, Canada*).

10:05 Multidimensionality of Risk. J. BECK (*University of North Carolina, Chapel Hill, US*).

10:30 The Psychophysiology of Fear: Significance for Dentistry. M. BRADLEY (*University of Florida, Gainesville, US*).

10:55 The Experience of Illness and Its Treatment. D. LOCKER (*University of Toronto, Ontario, Canada*).

11:20 Discussants. S. REISINE and S. DWORKIN (*University of Connecticut, Farmington, and University of Washington, Seattle, US*).

11:40 Discussion

Seq#: 2 Wednesday, March 7, 10:00 am - 12:00 Noon
AAADR/ADEA Jtly. Sponsored Symposia
Grand Ballroom B

AAADR Educational Research Group and the ADEA Educational Research Development and Curriculum Section – Evidence-based Clinical Practice: Technology Assessment and Transfer

Chairperson: I. Stangel

0002 10:00 Symposium: Evidence-based Clinical Practice: Technology Assessment and Transfer. I. STANGEL* (*Faculty of Dentistry, McGill University*).

10:05 Technology Assessment as a Form of Investigation for Policymaking. C. GOODMAN (*The Lewin Group, Falls Church, VA, US*).

10:35 The Agency for Healthcare Research and Quality Experience: The Development of Practice Guidelines. J. SLUTSKY (*Agency for Healthcare Research and Quality, Rockville, MD, US*).

10:55 From Research to Practice – The NIH Perspective. H. SLAVKIN (*University of Southern California, Los Angeles, US*).

11:20 A Framework for the Implementation of an Evidence-based Clinical Practice. A. ISMAIL (*University of Michigan, Ann Arbor, US*).

11:45 Discussion

Seq#: 3 Wednesday, March 7, 1:00 pm - 4:00 pm
AAADR/ADEA Jtly. Sponsored Symposia
Grand Ballroom A

AAADR National Student Research Group – Enhancing Student Research and Training of Future Academicians: A Solutions-based Approach

Chairpersons: A. Iacopino and C. Freeman

0003 1:00 Enhancing Student Research and Training of Future Academicians: A Solutions-based Approach. A.M. IACOPINO* (*Marquette University School of Dentistry, Milwaukee, WI, USA*).

1:20 University of Florida, College of Dentistry: Predental Research Program. F. CATALANOTTO (*University of Florida, Gainesville, US*).

1:35 Marquette University, School of Dentistry: New Dental Curriculum. A.M. IACOPINO (*Marquette University, Milwaukee, WI, US*).

1:50 San Antonio Dental School: A Plan to Increase Participation in Academic Dentistry as a Career. D. THOMAS (*University of Texas HSC, San Antonio, US*).

2:05 Buffalo School of Dental Medicine: Oral Biology Minor. F. SCANNAPIECO (*State University of New York, Buffalo, US*).

2:20 Harvard School of Dental Medicine: Research Curriculum. R. NIEDERMAN (*Harvard School of Dental Medicine, Boston, MA, US*).

2:35 Future Research and Training Opportunities at NIDCR. L. TABAK (*NIH/NIDCR, Bethesda, MD, US*).

3:05 Discussion

Seq#: 4 Wednesday, March 7, 2:00 pm - 4:00 pm
AAADR Group-sponsored Symposia
Regency A

Experimental Pathology Group – Intra-epithelial Neoplasia: Causes, Detection, Treatment

Chairperson: J. Schwartz

0004 2:00 Intra-epithelial Neoplasia: Causes, Detection, Treatment. J.L. SCHWARTZ*, J. GUTTENPLAN, S.W. BEEKEN, J.A. GARLICK, C.W. WEGHORST, and L. ZHANG (*Howard University College of Dentistry, Washington, DC, New York University College of Dentistry, University of Alabama School of Medicine, Birmingham, and Ohio State Univ., Columbus, USA; and Univ. of British Columbia, Vancouver, Canada*).

2:10 Microenvironment Effects on Intra-epithelial Change. J.A. GARLICK (*State University of New York, Stony Brook, US*).

2:30 TGF Signaling in Epithelial Cells. C.M. WEGHORST (*Arthur G. James Cancer Hospital and Richard Solove Research Institute, Columbus, OH, US*).

2:50 Risk Markers for Pre-malignant and Malignant Change. S.W. BEENKEN (*University of Alabama, Birmingham, US*).

3:10 Detection of Tobacco Mutagenesis/Cytogenetic Risk for Intra-epithelial Change. J.B. GUTTENPLAN (*New York University, New York, US*).

3:40 Discussion

Seq#: 5 Wednesday, March 7, 2:00 pm - 4:00 pm
Oral Session, Columbus Hall C

Behavioral Sciences/Health Services Research - Dental Caries: Prevalence and Diagnosis

Chairpersons: R. Badovinac and C. Hayes

0006 2:00 Epidemiology of Early Childhood Caries (ECC) in the Caribbean Island of Anguilla, 2000. A. ADEWAKUN* and E.D. BELTRÁN (*University of West Indies, Trinidad and Tobago; and Centers for Disease Control and Prevention, USA*).

0007 2:15 Sibling Caries: Evidence from Four Geographically Diverse Cross-sectional Studies. R.W. GERLACH*, R.D. BARTIZEK, S.A. JACOBS, and A.R. BIESBROCK (*The Procter & Gamble Co., Cincinnati, OH, USA*).

0008 2:30 Accuracy of Caries Diagnosis in Young Children by Non-dentists. T.K. VONG*, T. KAAKKO, D. CANTRELL, S.E. COLDWELL, and P. DOMOTO (*University of Washington, Seattle, USA*).

0009 2:45 The Cross-sectional Relationship between Deciduous- and Permanent-tooth Caries Experience. R.L. BADOVINAC*, S. WADHAWAN, L.A. MUCCI, and C.W. DOUGLASS (*Harvard School of Dental Medicine, Boston, MA, USA*).

0010 3:00 Caries Prevalence among Head Start Children in Southeastern Milwaukee, WI. C.D. GONZALEZ*, E.D. BELTRÁN, and W.R. LeMAY (*Marquette University, Milwaukee, WI, Centers for Disease Control, GA, and Bureau of Public Health, Madison, WI, USA*).

0011 3:15 Loss of First Permanent Molar in a Hospital in Campeche, Mexico. J. ANDRADE*, J. CASANOVA, A. VALLE-JOS, A. CASANOVA, and S. PÉREZ (*Faculty of Dentistry, Autonomous University of Campeche, México*).

3:30 Discussion

Seq#: 6 **Wednesday, March 7, 2:00 pm - 4:00 pm**
Oral Session, Columbus Hall E

Cariology Research - Root Caries, Air Abrasion, Restorations

Chairpersons: E. Lynch and J. Hicks

0012 2:00 Management of Primary Root Caries Lesions Using Ozone *in vivo*. A. BAYSAN* and E. LYNCH (*Division of Restorative Dentistry, Queen's University, Belfast, Northern Ireland, UK*).

0013 2:15 Oxidation of Root Caries Biomolecules by an Antibacterial Ozone-generating Device. E. LYNCH*, A. BAYSAN, C.J. SILWOOD, B. MILLS, and M. GROOTVELD (*Restorative Dentistry, Queen's University, Belfast, UK*).

0014 2:30 Clinical Evaluation of Air Abrasion for Treating Questionable Caries Lesions. J.C. HAMILTON*, J.B. DENNISON, and K.W. STOFFERS (*School of Dentistry, University of Michigan, Ann Arbor, USA*).

0015 2:45 Factors Affecting the Efficacy of Air Abrasion. C. AUSTIN*, J.C. HAMILTON, and T.L. AUSTIN (*University of Michigan, Ann Arbor, USA*).

0016 3:00 Root Surface Caries Development *in vitro* Adjacent to Glass-ionomer Restorative Material. J. HICKS* and C.M. FLAITSZ (*Texas Children's Hospital, Baylor College of Medicine, and University of Texas-Houston Health Science Center-Dental Branch, USA*).

0017 3:15 Placement/Replacement of Restorations in a Dental School in Ecuador. C. GONZÁLEZ-CABEZAS*, P. ALIAGA, J.M. HERVAS, A. PONCE, F. SANDOVAL, M. FONTANA, and G.K. STOOKEY (*Indiana University, USA; and Universidad San Francisco de Quito (USFQ), Ecuador*).

3:30 Discussion

Seq#: 7 **Wednesday, March 7, 2:00 pm - 4:00 pm**
Oral Session, Columbus Hall G

Craniofacial Biology - Tooth Development and Eruption

Chairpersons: Z. Skobe and S. Frazier-Bowers

0018 2:00 Expression and Function of CTGF during Odontogenesis. T. SHIMO*, C. WU, P. BILLINGS, M. PACIFICI, and E. KOYAMA (*School of Dental Medicine, University of Pennsylvania, Philadelphia, USA*).

0019 2:15 Expression of Insulin-like Binding Protein 3 (IGFBP-3) during Tooth Development is Associated with Apoptosis of the Stellate Reticulum. C. BARRAGAN* and M. ZEICHNER-DAVID (*CCMB, USC School of Dentistry, Los Angeles, USA*).

0020 2:30 The Role of c-Fos in Murine Tooth Development and Eruption. M. FOXWORTHY* and A.E. GRIGORIADIS (*King's College London, Guy's Hospital, England*).

0021 2:45 Defects in Tooth Eruption in *Cbfa1*(+/-) Mice. D. SHERMAN, H. KAPADIA*, A.L.J.J. BRONCKERS, G. WISE, and R. D'SOUZA (*University of Texas Health Science Center-Houston, USA; Vrije University of Amsterdam, The Netherlands; and Louisiana State University, Baton Rouge, USA*).

0022 3:00 APC Localization in Odontogenic Tissues Using Mono- and Polyclonal Antibodies. A. ALDOSARI*, J.M. DOBECK, and Z. SKOBE (*The Forsyth Institute, Harvard School of Dental Medicine, Boston, MA, USA*).

0023 3:15 Pedigree and Mutational Analysis of Families Affected with Molar Oligodontia. S.A. FRAZIER-BOWERS*, M.R. SCOTT, and R. D'SOUZA (*University of Texas Health Science Center-Houston, USA*).

0024 3:30 *In situ* Hybridization of APC mRNA in Rat Incisor and Molar Teeth. A. ALOMRANI*, J.M. DOBECK, B.C. SORKIN, and Z. SKOBE (*The Forsyth Institute, Harvard School of Dental Medicine, Boston, MA, USA*).

0025 3:45 Characterization of Immortomouse-derived Stratum Intermedium Cells Maintained *in vitro*. V. ZAKHARTCHENKO*, J. CATON, P. BRINGAS, and M. ZEICHNER-DAVID (*CCMB, USC School of Dentistry, Los Angeles, USA*).

Seq#: 8 **Wednesday, March 7, 2:00 pm - 4:00 pm**
Oral Session, Regency A

Dental Materials - Bonding to Modified/Contaminated Dentin

Chairpersons: R. Kazemi and H. Roberts

0026 2:00 *In vitro* Bond Strength of Two-step Resin Adhesive System to Caries-affected Dentin. Y. NARA*, S. SUDA, S. SASAO, T. KIMISHIMA, T. MASEKI, H. TANAKA, and I.L. DOGON (*Nippon Dental University, Japan; and The Forsyth Institute, Harvard School of Dental Medicine, USA*).

0027 2:15 Effects of Caries-disclosing Dyes on Composite-to-Dentin Bond Strengths. R.B. KAZEMI*, J.C. MEIERS, and K. PEPPERS (*University of Connecticut School of Dental Medicine, Farmington, USA*).

0028 2:30 Influence of the Use of Carisolv® in Dentin Adhesion. M.C.G. ERHARDT*, C.M. AMARAL, A.K.B. BEDRAN DE CASTRO, and L.A.F. PIMENTA (*Dentistry School of Piracicaba, UNICAMP, São Paulo, Brazil*).

0029 2:45 Bond Strength of a Self-etching Adhesive to Contaminated Dentin. P. SIGSWORTH*, A. RIPPS, X. XU, and J.O. BURGESS (*School of Dentistry, LSUHSC, New Orleans, USA*).

0030 3:00 Effect of Latex Glove Contamination on Bond Strength. H.W. ROBERTS*, J.A. BARTOLONI, and D.G. CHARLTON (*USAF Dental Investigation Service, Great Lakes, IL, USA*).

0031 3:15 Effect of a New Air-abrasive Treatment on Dentin Bond Strength. C. KAWAMOTO*, A. TAKAHASHI, K. KOASE, S. Horiguchi, T. YAMADA, and H. SANO (*Hokkaido University and Toranomon Hospital Dental Clinic, Japan*).

0032 3:30 Effect of Air-powder Polishing Pre-treatment on Dentin Bonding of Self-etching Primer Adhesive System. T. NITTA*, T. MASEKI, Y. NARA, and H. TANAKA (*Department of Operative Dentistry, School of Dentistry at Tokyo, Nippon Dental University, Japan*).

0033 3:45 Influence of NaOCl Treatment of Collagen Fibrils on Resin-impregnated Dentin. M. MIYAZAKI*, K. IWASAKI, H. ONOSE, and B.K. MOORE (*Nihon University, Tokyo, Japan; and Indiana University, Indianapolis, USA*).

Seq#: 9 Wednesday, March 7, 2:00 pm - 4:00 pm
Oral Session, Toronto

Dental Materials - Adhesion: Resin Bonding to Metals and Ceramics

Chairpersons: T. Hilton and A. Lugassy

0034 2:00 Luting Protocol and Bond Strengths for Two Resin Cements. W.P. KELSEY*, M.A. LATTA, and C.M. MURDOCK (*Creighton University School of Dentistry, Omaha, NE, USA*).

0035 2:15 The Effect of Resin Cement Thickness on Retention. D. NATHANSON* and F. BANASR (*Goldman School of Dental Medicine, Boston University, MA, USA*).

0036 2:30 Reinforcement of Large MOD Amalgam Restorations Using Refrigerated Amalgambond Plus/HPA. J.S. LINDMUTH* and M.S. HAGGE (*Travis Air Force Base and University of the Pacific, San Francisco, CA, USA*).

2:45 Discussion

0038 3:00 Fracture Toughness of Resin Composite Bonded to Lithia Disilicate Ceramic. A. DELLA BONA, J. MECHOLSKY, Jr.*, and K.J. ANUSAVICE (*University of Florida, Gainesville, USA*).

0039 3:15 Effect of Silane-coated Ceramic on Work of Adhesion. A. DELLA BONA*, C. SHEN, C. RAINES, and K.J. ANUSAVICE (*University of Florida, Gainesville, USA*).

0040 3:30 Recycling and Mechanical Stress Cycling Effect on Bracket Bond Strength. A.A. LUGASSY* and K.T. KAPUS (*UOP School of Dentistry, San Francisco, CA, USA*).

0041 3:45 Shear Bond Strength of an Ionomer Cement and Ceramic Brackets. D.D. OLIVEIRA*, V.B. DHURU, T.G. BRADLEY, and R.T. KITTLESON (*CADE, Saint Louis University, MO, and Marquette University, Milwaukee, WI, USA*).

Seq#: 10 Wednesday, March 7, 2:00 pm - 4:00 pm
Oral Session, Regency D

Dental Materials - Ceramics: Composition, Properties, and Fabrication

Chairpersons: J. R. Mackert, Jr. and P. Pospiech

0042 2:00 Changes in Porcelain Leucite and Thermal Expansion during Additional Firings. J.R. MACKERT, Jr.*, A.L. WILLIAMS, and S.W. TWIGGS (*Medical College of Georgia, Augusta, USA*).

0043 2:15 Optimized Firing Schedule for Dental Porcelain. S.W. TWIGGS*, J.R. MACKERT, Jr., and A.L. WILLIAMS (*Medical College of Georgia, Augusta, USA*).

0044 2:30 Effect of Potassium Content on the Crystallization Behavior of Fluor amphibole Glass-ceramics. I.L. DENRY*, J.A. HOLLOWAY, G. BARANTA, and P.K. GUPTA (*Ohio State University, Columbus, USA*).

0045 2:45 Hydroxyl Layer "Healing" of a Pre-cracked Ceramic. A.A. BARRETT*, N.J. GRIMAUDO, A.E. CLARK, and K.J. ANUSAVICE (*College of Dentistry, University of Florida, Gainesville, USA*).

0046 3:00 Characterization of a "Self-healing" Ceramic in Solution after Two Years' Exposure. A.A. BARRETT, A.E. CLARK*, N.J. GRIMAUDO, and K.J. ANUSAVICE (*University of Florida, Gainesville, USA*).

0047 3:15 Chemical Effects on Surface Residual Stresses of Low-fusing Ceramics. Y. ALKHIARY*, B. WU, and R.A. GIORDANO, II (*Goldman School of Dental Medicine, Boston University, MA, USA*).

0048 3:30 Finite-element-analysis Studies on 3-unit All-ceramic Resin-bonded Bridges. P. POSPIECH*, W. GERNET, Kh.G. SCHMITT-THOMAS, and J. MITTERMEIER (*Department of Prosthodontics, LMU, and Department of Material Sciences, TU, Munich, Germany*).

0049 3:45 Marginal Fit of CAD/CAM-manufactured All-ceramic Zirconia Prostheses. G. HERTLEIN*, S. HOESCHER, S. FRANK, and D. SUTTOR (*ESPE Dental AG, Seefeld, Germany*).

Seq#: 11 Wednesday, March 7, 2:00 pm - 4:00 pm
Oral Session, Regency C

Dental Materials - Amalgam

Chairpersons: M. Marek and K. Asgar

0050 2:00 Tin Oxide Film Thickness on the γ_1 Phase of Dental Amalgam. M. MAREK* (*Georgia Institute of Technology, Atlanta, USA*).

0051 2:15 Effects of Specimen Dimensions in Galvanic Corrosion of Dental Amalgam. J.A. VON FRAUNHOFER, P.A. SPANGANBERG*, and J.G. WRIGHT (*Dental School, University of Maryland, Baltimore, USA*).

0052 2:30 Inhibition of Galvanic Corrosion of Dental Amalgam by Aqueous Tobacco Extracts. J.A. VON FRAUNHOFER, J.G. WRIGHT*, and P.A. SPANGANBERG (*Dental School, University of Maryland, Baltimore, USA*).

0053 2:45 A Determination of the Effects of Amalgam Bonding Agents on the Diametral Tensile Strength of Amalgam. J. DIBERNARDO* and M.S. WOLFF (*Department of General Dentistry, State University of New York at Stony Brook, USA*).

0054 3:00 Effect of Dimensional Change of the Amalgam on Amalgam Bonding. D.B. MAHLER* and R. BRYANT (*Oregon Health Sciences University, Portland, USA; and University of Sydney, Australia*).

0055 3:15 Properties Affecting the Marginal Fracture of Gamma-two-free Amalgams. K. ASGAR* and W.C. WAGNER (*University of Michigan, Ann Arbor, USA*).

0056 3:30 TCLP Analysis of Disposable Amalgam Capsules. M.E. STONE*, E.D. PEDERSON, M.E. COHEN, J.C. RAGAIN, R.S. KARAWAY, R.A. AUXER, and A.R. SALUTA (*The Naval Dental Research Institute, Great Lakes, IL, USA*).

0057 3:45 Mercury Removal Efficiency of Amalgam Separators. J.L. DRUMMOND*, Y. LIU, T.-U. WU, and M.D. CAILAS (*Department of Restorative Dentistry, Department of Chemical Engineering, and EOHS, University of Illinois at Chicago, USA*).

Seq#: 12 Wednesday, March 7, 2:00 pm - 4:00 pm
Oral Session, Columbus Hall A

Geriatric Oral Research - Aging, Oral and Systemic Conditions

Chairpersons: G. Taylor and E. Ghezzi

0058 2:00 Pain Perception: A Comparison between Young and Elderly Female Subjects. R.P. FRANCE*, M.P. CARR, and J.E. HORTON (*Ohio State University, Columbus, USA*).

0059 2:15 Age- and Stress-induced Suppression of IL-1 β Slows Wound Repair. T.L. GARINO*, C.C. MURRAY, P.A. GUERRA, P.T. MARUCHA, J.F. SHERIDAN, and D.A. PADGETT (*Ohio State University, Columbus, USA*).

0060 2:30 Periodontal Pathogens in Older Adults with Type 2 Diabetes Mellitus. G.J. SOLOF, G.W. TAYLOR*, D.E. LOPATIN, J. STOLL, and W.J. LOESCHE (*University of Michigan, Ann Arbor, USA*).

0061 2:45 Influence of Age on Periodontal Disease and Heart Attack Association. E.M. GHEZZI*, S.J. ARBES, Jr., S. OFFENBACHER, and J.D. BECK (*University of North Carolina, Chapel Hill, USA*).

0062 3:00 Root Canal Calcification in a VA Dental Longitudinal Study. S.P. WOO*, A.J. KAHN, R.I. GARCIA, S. MAJUMDAR, Y. LU, and H.E. GOODIS (*University of California, San Francisco, VA Boston Healthcare System, and Boston University, USA*).

0063 3:15 Associations between Xerostomia and Health Status Indicators in the Elderly. D.W. MATEAR*, D. LOCKER, M. STEPHENS, and H.P. LAWRENCE (*University of Toronto, Canada*).

0064 3:30 Salivary IgA, Nutritional Status, and Functional Dependence in the Elderly. H.P. LAWRENCE*, E. FILLERY, D.W. MATEAR, L. PATERSON, R.J. HAWKINS, and D. LOCKER (University of Toronto, ON, Canada).

0065 3:45 Incidence of Tooth Loss among the Very Old. J.J. WARREN*, H.J. COWEN, C.A. WATKINS, J.S. HAND, R.A. KUTHY, and S.M. LEVY (University of Iowa, Iowa City, USA).

Seq#: 13 **Wednesday, March 7, 2:00 pm - 4:00 pm**
Oral Session, Columbus Hall K

Mineralized Tissue - Bone/Cartilag Signaling

Chairpersons: L. McCauley and S.Tetradis

0066 2:00 Parathyroid-hormone-induced Primary Response Genes in Osteoblasts. S. TETRADIS* (UCLA School of Dentistry, Los Angeles, CA, USA).

0067 2:15 Cyclooxygenase-2 and Constitutive Nitric Oxide Synthase in Bone-loading Response. J.G. KUNNEL*, K. IGARASHI, J.L. GILBERT, and P.H. STERN (Northwestern University, Chicago, IL, USA).

0068 2:30 A 9.0-kb BSP Promoter Mediates Tissue-specific Expression in Transgenic Mice. J. TANG, J. SODEK, H. JIANG, M. YAMAUCHI, and J. CHEN* (University of Texas Health Science Center at San Antonio, USA; University of Toronto, Canada; and Kanagawa Dental College, Japan).

0069 2:45 Activation of MAP Kinase by Vitamin D₃ Metabolites and Its Role in Chondrocyte Phenotypic Expression. J. DUGGAN*, V.L. SYLVIA, D.D. DEAN, B.D. BOYAN, and Z. SCHWARTZ (University of Texas HSC, San Antonio, USA; and Hebrew University, Jerusalem, Israel).

0070 3:00 Cell-membrane-impermeable 17 β -estradiol-BSA Conjugates Regulate Growth Plate Chondrocytes by Membrane-associated Mechanisms Similar to Free 17 β -estradiol. J. WALTON*, V.L. SYLVIA, D.D. DEAN, B.D. BOYAN, and Z. SCHWARTZ (University of Texas HSC and Lackland AFB, San Antonio, USA; and Hebrew University, Jerusalem, Israel).

3:15 Discussion

Seq#: 14 **Wednesday, March 7, 2:00 pm - 4:00 pm**
Oral Session, Acapulco

Oral Medicine & Pathology - Carcinogenesis and Prevention

Chairpersons: V. Murrah and T. ElAttar

0071 2:00 Tobacco Carcinogens Enhance Progressive Oral Epithelial Transformation in K14-HPV16 Mice. V.A. MURRAH*, E.P. GILCHRIST, and J.M. ARBEIT (University of North Carolina, Chapel Hill, and University of California, San Francisco, USA).

0072 2:15 Nitric Oxide Release from Smokeless Tobacco and Nicotine. E.W.N. LAM*, E.E. KELLEY, and G.R. BUETTNER (Department of Dentistry, University of Alberta, Edmonton, Canada; and University of Iowa College of Medicine EPR Facility, Iowa City, USA).

0073 2:30 Increased Superoxide Dismutase (SOD) Functional Activities in Oral Mucosal Tissues. T.D. HAWLEY*, M.A. MORSE, C.W. WEGHORST, K.W.L. VIG, and S.R. MALLERY (Ohio State University, Columbus, USA).

0074 2:45 Effect of Tea Catechins on Growth of Oral Squamous Carcinoma Cell. T. ELATTAR* and A. VIRJI (School of Dentistry, University of Missouri-Kansas City, MO, USA).

0075 3:00 The Chemopreventive, Curcumin (curc), Modulates Carcinogen Metabolism in Oral Keratinocytes. A.L. RINALDI*, D.A. ROTHAS, M.A. MORSE, H.W. FIELDS, and S.R. MALLERY (Ohio State University, Columbus, USA).

0076 3:15 Vitamin E Induction of Apoptosis in Oral Cancer Cells. J.L. SCHWARTZ*, X. GU, and A. PALMER (College of Dentistry, Howard University, Washington, DC, USA).

0077 3:30 TRAF3, IgFbp6, and P53 as Potential Therapeutic Targets for Oral Cancers. D. LE*, M. WANG, N.-H. PARK, and A. JEWETT (UCLA School of Dentistry, Los Angeles, USA).

0078 3:45 Aspirin Use and Survival of Oropharyngeal Squamous Cell Carcinoma. R.G. HENRY*, M.K. RAYENS, and C.S. MILLER (Veterans Administration Medical Center and College of Dentistry, University of Kentucky, Lexington, USA).

Seq#: 15 **Wednesday, March 7, 2:00 pm - 4:00 pm**
Oral Session, Columbus Hall I

Periodontal Research - Leukocytes in Periodontitis

Chairpersons: T. van Dyke and R. Buchmann

0079 2:00 Activation of Mitogen-activated Protein Kinases (p38-MAPK & ERK) in Neutrophils. D. DE MESQUITA, Jr., R. BUCHMANN*, J.A. BADWEY, and T.E. VAN DYKE (Brigham & Women's Hospital/Harvard Medical School and Boston University, MA, USA).

0080 2:15 Identification of Diacylglycerol Species in Neutrophils from Localized Juvenile Periodontitis Patients. A. KANTARCI*, C.B. CLISH, K. OYAIZU, C.N. SERHAN, and T.E. VAN DYKE (Boston University, Brigham & Women's Hospital, and Harvard Medical School, Boston, MA, USA).

0081 2:30 Identification of Diacylglycerol Kinase Associated with Rac1 Protein in LJP Neutrophils. K. OYAIZU*, J.A. BADWEY, and T.E. VAN DYKE (Goldman School of Dental Medicine, Boston University, and Brigham & Women's Hospital/Harvard Medical School, MA, USA).

0082 2:45 LPS Stimulation of LJP Monocytes is not Mediated by CD14 or Moesin. A. JAIN*, A. KANTARCI, K. OYAIZU, I. IONTCHEVA, and T.E. VAN DYKE (School of Dental Medicine, Boston University, MA, USA).

0083 3:00 Dendritic Cells and Platelet-activating Factor Metabolism in LJP. S. AL-DARMAKI*, H.A. SCHENKEIN, J.G. TEW, and S.E. BARBOUR (CRCPD, MCV/VCU, Richmond, USA).

0084 3:15 Superoxide Production of Neutrophils in Diabetic Patients with and without Periodontitis. M. KARIMA*, A. KANTARCI, and T.E. VAN DYKE (Goldman School of Dental Medicine, Boston University, MA, USA).

0085 3:30 Interaction of Human Neutrophils with a *Fusobacterium nucleatum* Protein. J.P. BABU*, B. JENNINGS, K.M. PABST, and M.J. PABST (University of Tennessee, Memphis, USA).

0086 3:45 Oral Blood Mononuclear Cells Resist Activation-induced Cell Death in Periodontitis. A. JEWETT, S. VAZIRI*, and W.R. HUME (UCLA School of Dentistry, Los Angeles, USA).

Seq#: 16 **Thursday, March 8, 8:00 am - 8:45 am**
Plenary Session, Grand Ballroom F

Mechanisms of Pain Reduction Produced by Hypnosis and Placebo and Their Clinical Significance

0087 8:00 Mechanisms of Pain Reduction Produced by Hypnosis and Placebo and Their Clinical Significance. D.D. PRICE* (Oral and Maxillofacial Surgery and Neuroscience, University of Florida, Gainesville, USA).

Seq#: 17 Thursday, March 8, 9:00 am - 11:00 am
Hands-on Workshop, Wrigley

NIDCR - Grant Writing: Getting Your Message Out

Chairperson: L. W. Jackson

0088 9:00 Grant-writing Workshop. "Grant Writing: Getting Your Message Out". L.W. JACKSON* (*Division of Extramural Research, NIDCR/NIH, Bethesda, MD, USA*).

Seq#: 18 Thursday, March 8, 9:00 am - 11:00 am
AADR Group-sponsored Symposia
Grand Ballroom C

Educational Research Group – Research Issues in Dental Education: What is Important to Study and How to Study It

Chairperson: I. Stangel

0089 9:00 Symposium: Research Issues in Dental Education: What is Important to Study and How to Study It. I. STANGEL* (*Faculty of Dentistry, McGill University*).

9:05 The Evolution of Dental Education and the Need for a Research Base to Shape Educational Policies. J. LUND (*McGill University, Montreal, Canada*).

9:25 What Needs to be Studied. E. ROMBERG (*University of Maryland, Baltimore, US*).

9:45 An Overview of Research Design for Issues Important to the Education Mission. P. FEIL (*University of Missouri, Kansas City, US*).

10:10 A Practical Example: New Curriculum Implementation and its Measurement. M. DAGENAIS (*McGill University, Montreal, Canada*).

10:35 Discussion

Seq#: 19 Thursday, March 8, 9:00 am - 11:00 am
AADR Group-sponsored Symposia
Grand Ballroom F

Craniofacial Biology Group – Suture Biology: Development of Genetic and Non-Genetic Animal Models

Chairperson: H.-D. Nah

0090 9:00 Suture Biology: Development of Genetic and Non-genetic Animal Models. H.-D. NAH* (*University of Pennsylvania, Philadelphia, USA*).

9:05 Toward an Understanding of Non-syndromic Craniosynostosis: The Role of Head Constraint. R.E. KIRSCHNER (*Philadelphia, PA, US*).

9:30 Murine Models of Craniosynostotic Disorders: *Mx2* and *Twist*. R.E. MAXSON (*University of Southern California, Los Angeles, US*).

9:55 The Role of FGFR2 in Cranial Suture Development: Mutational Analysis in Transgenic Mice. H.-D. NAH (*University of Pennsylvania, Philadelphia, US*).

10:20 Dynamic Responses of Cranial and Facial Sutures. J. MAO (*University of Illinois, Chicago, US*).

10:45 Discussion

Seq#: 20 Thursday, March 8, 9:00 am - 11:00 am
AADR Group-sponsored Symposia
Grand Ballroom D

Behavioral Sciences & Health Services Research Group – Complementary and Alternative Medicine Research in Craniofacial Disorders

Chairpersons: B. White and N. Vuckovic

0091 9:00 Complementary and Alternative Medicine Research in Craniofacial Disorders. B.A. WHITE*, N. VUCKOVIC, T.E. MADDEN, and R. NAHIN (*Kaiser Permanente Center for Health Research and OHSU School of Dentistry, Portland, OR, and NCCAM, NIH, Bethesda, MD, USA*).

9:10 A Framework for Research in Complementary and Alternative Medicine. N. VUCKOVIC (*Center for Health Research, Portland, OR, US*).

9:35 CAM Research in Craniofacial Disorders. T. MADDEN (*Oregon Health Sciences University, Portland, US*).

10:00 Funding for CAM Research: The National Center for Complementary and Alternative Medicine. N. WEST (*NIH, Bethesda, MD, US*).

10:25 Challenges in CAM Research in Craniofacial Disorders. B.A. WHITE (*Center for Health Research, Portland, OR, US*).

10:40 Discussion

Seq#: 21 Thursday, March 8, 9:00 am - 11:00 am
Oral Session, Columbus Hall C

Behavioral Sciences/Health Services Research - Fluorides and Fluorosis

Chairpersons: P. Riordan and A. Antczak-Bouckoms

0092 9:00 DMFS Rates and CFI in 12-year-old Puerto Ricans. A. ELIAS, P. JIMENEZ*, and W.J. PSOTER (*School of Dentistry, University of Puerto Rico; and School of Dentistry, New York University, USA*).

0093 9:15 Fluoride Content of Tap and Bottled Water Samples in Veracruz, Mexico. A.E. SOTO-ROJAS*, J.L. UREÑA-CIRETT, E.A. MARTÍNEZ-MIER, G.K. STOOKEY, and A.J. DUNIPACE (*Universidad Intercontinental, Mexico; and Indiana University, USA*).

0094 9:30 Fluoride Analysis of Table Salt Samples from Mexico. E.A. MARTÍNEZ-MIER*, A.E. SOTO-ROJAS, J.L. UREÑA-CIRETT, G.K. STOOKEY, and A.J. DUNIPACE (*Universidad Intercontinental, Mexico; and Indiana University, USA*).

0095 9:45 Enamel Fluorosis in 12- and 15-year-old Schoolchildren in Costa Rica. M.T. SALAS*, E.D. BELTRÁN, P. CHAVARRÍA, I. SOLÓRZANO, and H. HOROWITZ (*Incinsa, Costa Rica; and Centers for Disease Control and Prevention, USA*).

0096 10:00 Primary Tooth Dental Fluorosis and Fluoride Intake during the First Year of Life. S.M. LEVY*, S.L. HILLIS, J.J. WARREN, B. BROFFITT, M. ISLAM, J.S. WEFEL, and M.J. KANEL-LIS (*College of Dentistry, University of Iowa, Iowa City, USA*).

0097 10:15 Dental Fluorosis Decline after Reductions in Discretionary Fluorides. P.J. RIORDAN* (*Dental Services, Metropolitan Health Board, Perth, Western Australia*).

0098 10:30 Longitudinal Study of Dental Fluorosis Related to Caries in Schoolchildren from Campeche, Mexico, 2000. A. VALLEJOS*, P. GUTIÉRREZ, S. PÉREZ, J. CASANOVA, and A. CASANOVA (*Faculty of Dentistry, Autonomous University of Campeche, Mexico*).

10:45 Discussion

Seq#: 22 Thursday, March 8, 9:00 am - 11:00 am
Oral Session, Columbus Hall E

Cariology Research - Prevention, Bacterial Inhibition, Fluoride, S. mutans

Chairpersons: A. Vacca Smith and B. Schemehorn

0099 9:00 Maternal Transfer of Mutans Streptococci in Children with Early Childhood Caries. S.C. MITCHELL*, Y. LI, H.W. WIENER, and A.P. DASANAYAKE (*University of Alabama at Birmingham, USA*).

0100 9:15 Effects of Food Preservatives on Production and Activity of Glucosyltransferase. B. A.M. VACCA SMITH*, M.A. VACCA, and W.H. BOWEN (*Center for Oral Biology, University of Rochester, NY, USA*).

0101 9:30 Bioactive Compounds from Propolis Against Glucosyltransferases and Bacterial Growth. H. KOO*, J.A. CURY, P.L. ROSALEN, Y.K. PARK, and W.H. BOWEN (*Center for Oral Biology, University of Rochester, NY, USA; and State University of Campinas, Brazil*).

0102 9:45 Results of a Plant-derived Mutans Streptococci Antibody Clinical Trial. J.A. WEINTRAUB*, J.F. HILTON, J.M. WHITE, C. HOOVER, J.E. PELINO, K. TRAN, K. WYCOFF, J.W. LARRICK, L. YU, and J.D.B. FEATHERSTONE (*University of California, San Francisco, and Planet Biotechnology, Mountain View, CA, USA*).

0103 10:00 Fluoride Uptake from Mouthrinses Using FDA Procedure #40. B.R. SCHEMEHORN*, G.D. WOOD, D. YU, J.A. MCGUIRE, L. KUMAR, and T. BILBAULT (*Indiana University, Indianapolis, and Pfizer Inc., Morris Plains, NJ, USA*).

0104 10:15 Effect of Fluoride on Enamel Demineralization under in vivo-like Conditions. A. LITMAN* and H.C. MARGOLIS (*The Forsyth Institute, Boston, MA, USA*).

10:30 Discussion

Seq#: 23 Thursday, March 8, 9:00 am - 11:00 am
Oral Session, Acapulco

Dental Anesthesiology Research - Local Anesthesia, Sedation, and General Anesthesia

Chairpersons: J. Yagiela and Y. Kaneko

0105 9:00 DentiPatch™ vs. Hurracaine® for Topical Anesthesia in Children. S. STECKER*, J.Q. SWIFT, J.S. HODGES, and P. ERICKSON (*University of Minnesota, Minneapolis, USA*).

0106 9:15 Investigation of Vasoconstrictor Degradation in Local Anesthetic Injections. F. CANCAÑÓN, B.F. PAULUS, G.A. THOMPSON, and J.R. AMMANN* (*United States Army Dental Research Detachment, Great Lakes, IL, USA*).

0107 9:30 Patient Demand for Sedation or Anesthesia during Dental Procedures. D.A. HAAS*, P. SBARAGLIA, L.J. DEMPSTER, and D. LOCKER (*University of Toronto, ON, Canada*).

0108 9:45 Laboratory Comparison of Nitrous Oxide Monitors. P.L. FAN*, H. BATCHU, C.L. MIAW, and J. SANDRIK (*American Dental Association, Chicago, IL, USA*).

0109 10:00 Dental Treatments under General Anesthesia in Day Care Dental Clinic. W.H. CHAO* (*Far-Eastern Memorial Hospital, Taipei, Taiwan*).

0110 10:15 Pregnancy Testing for Ambulatory Anesthesia: Is It Necessary for Everyone? M. MILLES*, M. LARECE, and Y. HOGANS (*UMDNJ/University Hospital, Newark, NJ, USA*).

0111 10:30 Combination of Er:YAG Laser Technique with Conventional Mechanical Preparation. R. SHESKIN* and N. BREZNIK (*Tel-Aviv University and Israel Defense Force*).

10:45 Discussion

Seq#: 24 Thursday, March 8, 9:00 am - 11:00 am
Oral Session, Regency A

Dental Materials - Adhesion: General

Chairpersons: J. Antonucci and L. Watanabe

0112 9:00 Comparison between Marginal Leakage and Tensile Bond Strength. J. EGLI, P. ALBERT, and K. DERMANN* (*Degussa Dental, Hanau, and Freie Universität Berlin, Germany*).

0113 9:15 Nitric-acid-modified N-Phenyliminodiacetic Acid—A Total Self-etching Primer. J.M. ANTONUCCI*, G.E. SCHUMACHER, and F.C. EICHMILLER (*NIST, ADAHF-PRC, Gaithersburg, MD, USA*).

0114 9:30 Effect of pH of Single-bottle Adhesive on Shear Bond Strength. B.I. SUH and M.Y. SCHILTZ* (*Bisco, Inc., Schaumburg, IL, USA*).

0115 9:45 Tensile Bond Strength of Clearfil Liner Bond 2V Using Different Application Techniques. J.D. LAFUENTE* (*School of Dentistry, University of Costa Rica, San José*).

0116 10:00 Effect of Delayed Activation of Light-cured Composites on All-in-one Adhesives. B.I. SUH*, F.R. TAY, N.M. KING, and D.H. PASHLEY (*Bisco, Inc., Schaumburg, IL, USA; University of Hong Kong, HK SAR, China; and Medical College of Georgia, Augusta, USA*).

0117 10:15 Solvent-induced Shrinkage of Moist Demineralized Dentin. D.H. PASHLEY*, K.A. AGEER, F.J. HARMON, R.M. CARVALHO, F.R. TAY, M. NAKAJIMA, and K.W. LEE (*Medical College of Georgia, Augusta, USA*).

0118 10:30 Bonding to Moist Dentin. A.J. WAHL, E.C. COMBE, and A. ABOUSHALA* (*University of Minnesota, Minneapolis, and School of Dental Medicine, Tufts University, Boston, MA, USA*).

10:45 Discussion

Seq#: 25 Thursday, March 8, 9:00 am - 11:00 am
Oral Session, Regency C

Dental Materials - Low-viscosity Monomers, Cure Shrinkage, and Biological Aspects

Chairpersons: S. Mitra and B. Norling

0119 9:00 Cure Shrinkage of Experimental LC Monomer-based Composite Resins. B.K. NORLING*, N. SATSANGI, and B.R. FURMAN (*University of Texas Health Science Center, San Antonio, USA*).

0120 9:15 Shrinkage of Oxirane-Polyol and Conventional Composites vs. Time Post-irradiation. M.G. REIMAN, S.M. ROZZI*, and S.C. WILLIAMS (*3M Company, St. Paul, MN, USA*).

0121 9:30 Dimethacrylate Copolymers Studied by Combined Solid-state NMR Techniques. T.G. NUNES*, S.G. PEREIRA, and S. KALACHANDRA (*Tech University Lisbon, IST, Portugal; Virginia Tech, Blacksburg, and Dental Research Center, University of North Carolina COSD, Chapel Hill, USA*).

0122 9:45 Low-viscosity Dimethacrylate Esters for Novel Dental Composites. S.G. PEREIRA*, T.G. NUNES, S. KALACHANDRA, and M.G. STEPHEN (*Tech University Lisbon, IST, Portugal; Virginia Tech, Blacksburg, and Dental Research Center, University of North Carolina COSD, Chapel Hill, USA*).

0123 10:00 Test to Determine Efficacy of Sensitizers for Curing Epoxy-Polyol Compositions. S.B. MITRA* and D. KAISAKI (*3M Dental Products, St. Paul, MN, USA*).

0124 10:15 A Novel Color-changing, Fluoride-releasing, Light-cured Dental Sealant. M.C. TROM*, J.D. OXMAN, and V. MADSEN (*3M Dental Products, St. Paul, MN, USA*).

0125 10:30 Controlled Drug Release by Novel Device Based on Ethylene Vinyl Acetate Copolymer for Oral Condition. S. KALACHANDRA*, D. LIN, and S. OFFENBACHER (*COSD, University of North Carolina, Chapel Hill, and Virginia Tech, Blacksburg, USA*).

0126 10:45 New and Novel Denture-base Polymers Resistant to Microbial Infection. P. ANTONY RAJ* and G. VENKATARAMAN (*Division of Periodontics, School of Dentistry, Marquette University, Milwaukee, WI, and Matrix Engineering Inc., Medford, MA, USA*).

Seq#: 26 Thursday, March 8, 9:00 am - 11:00 am
Oral Session, Regency D

Dental Materials - Physical and Mechanical Properties of Dental Alloys

Chairpersons: W. Brantley and J. Mitchell

0127 9:00 Force/Deflection Measurements on Unloading of Selected Orthodontic Wire Alloys. J.A. HUNTER*, M.G. DUNCANSON, Jr., and S.S. KHAJOTIA (*College of Dentistry, University of Oklahoma, Oklahoma City, USA*).

0128 9:15 Bending Performance, Microstructures, and X-ray Diffraction of Two Beta-Titanium Wires. M. IJIMA*, W.A. BRANTLEY, J.C. MITCHELL, A.B. WADE, and J.G. FRANKMANN (*Ohio State University, Columbus, USA*).

0129 9:30 Bending Performance of Nickel-Titanium and Stainless Steel Rotary Endodontic Instruments. L.L. LAUSTEN*, N.H. LUEBKE, W.A. BRANTLEY, and J.C. MITCHELL (*UMKC, Wisconsin Dental Group, Waukesha, and Ohio State University, Columbus, USA*).

0130 9:45 Transmission Electron Microscopic Study of Beta-titanium Orthodontic Wires. W. GUO, W.A. BRANTLEY, W.A.T. CLARK*, and M. IJIMA (*Ohio State University, Columbus, USA*).

0131 10:00 Mechanical Integrity between Hedrocel and a Single-tooth Implant. L.D. DILLON* and L.D. ZARDIACKAS (*University of Mississippi Medical Center, Jackson, USA*).

0132 10:15 Transmission Electron Microscopic Investigation of a Pd-Ag-In-Sn Dental Alloy. W. GUO*, W.A. BRANTLEY, W.A.T. CLARK, and P. MONAGHAN (*Ohio State University, Columbus, USA*).

0133 10:30 TEM Analysis of Fatigue Test Specimens for High-Palladium Dental Alloys. W. GUO, W.A. BRANTLEY*, W.A.T. CLARK, D. LI, and P. MONAGHAN (*Ohio State University, Columbus, USA*).

0134 10:45 SEM Study of Fractured Fatigue Test Specimens for High-palladium Alloys. J.C. MITCHELL*, W.A. BRANTLEY, D. LI, G.S. DAEHN, P. MONAGHAN, and E. PAPAZOGLU (*Ohio State University, Columbus, USA*).

Seq#: 27 Thursday, March 8, 9:00 am - 11:00 am
Oral Session, Grand Ballroom B

Microbiology/Immunology & Infection Control - Bacterial Interactions with the Host and the Environment

Chairpersons: J. Fenno and D. Kolodrubetz

0135 9:00 Microbial Patterns of Colonization on Different Oral Surfaces. D. MAGER*, N.G. UZEL, L.A. XIMENEZ-FYVIE, M. JAPLIT, C. TAUSCHER, S. HOLT, A.D. HAFAJEE, and S.S. SOCRANSKY (*The Forsyth Institute, Boston, MA, USA*).

0136 9:15 Measurement of *P. gingivalis* Gene Activation in vivo. C.E. SHELBURNE*, R.M. GLEASON, G.R. GERMAINE, B.H. MULLALLY, L.F. WOLFF, W.A. COULTER, and D.E. LOPATIN (*3M, St. Paul, MN, University of Minnesota, Minneapolis, University of Michigan, Ann Arbor, USA; and Queen's University of Belfast, Northern Ireland*).

0137 9:30 *Treponema msp's* from Subgingival Plaque and Cultivated Strains. J.C. FENNO*, S.Y. LEE, C.H. BAYER, and Y. NING (*University of Michigan, Ann Arbor, USA*).

0138 9:45 Environmental Regulation of Proteinase Expression in *Porphyromonas gingivalis*. B. LU* and M.S. LANTZ (*University of Michigan, Ann Arbor, USA*).

0139 10:00 Adhesion of *Actinobacillus actinomycetemcomitans* Involves a Zinc Metalloprotease. J.E. ROSE*, D.H. MEYER, and P.M. FIVES-TAYLOR (*University of Vermont, Burlington, USA*).

0140 10:15 Construction and Characterization of a Chromosomal Insertion Mutant of the Methionine Sulfoxide Reductase (*msrA*) Gene of *Actinobacillus actinomycetemcomitans*. K. MINTZ*, H. WU, and P.M. FIVES-TAYLOR (*University of Vermont, Burlington, USA*).

0141 10:30 Novel Mechanism for Oxygen Repression of Leukotoxin Transcription in *A. actinomycetemcomitans*. E. KRAIG, A. BURGUM, L. PHILLIPS, and D. KOLODRUBETZ* (*University of Texas Health Science Center, San Antonio, USA*).

10:45 Discussion

Seq#: 28 Thursday, March 8, 9:00 am - 11:00 am
Oral Session, Columbus Hall K

Mineralized Tissue - Amelogenesis/Enamel Proteins

Chairpersons: C. Gibson and J. Feng

0142 9:00 Analysis of Amelogenin mRNA Expression in Human and Mouse Dental Cells. P. PAPAGERAKIS*, T.T. GU, J. SCHULZE, and M. MacDOUGALL (*Dental School, University of Texas Health Science Center at San Antonio, USA*).

0143 9:15 Targeted Disruption of the Amelogenin Gene Results in Abnormal Enamel. C.W. GIBSON*, Z.A. YUAN, B. HALL, G. LONGENECKER, E. CHEN, T. THYAGARAJAN, T. SREENATH, J.T. WRIGHT, and A.B. KULKARNI (*University of Pennsylvania, Philadelphia, University of North Carolina, Chapel Hill, and NIDCR, Bethesda, MD, USA*).

0144 9:30 Proximal Promoter of Bmp4 is Active at Later Developmental Stage. J. ZHANG*, X. TAN, D. GUO, Y. LU, and J. FENG (*School of Dentistry, University of Missouri-Kansas City, USA*).

0145 9:45 Temporo-spatial Localization of Enamel Proteins and Proteases during Tooth Development. X. ANDERTON*, O. RYU, J.E. MCINTOSH, X. LUAN, J. SIMMER, and T.G.H. DIEKWISCH (*Baylor College of Dentistry, Dallas, TX, USA*).

0146 10:00 Tissue Plasminogen Activator: Cloning, Expression, and Localization in the Developmental Porcine Enamel Organ. Y. DING*, J. XUE, and J.D. BARTLETT (*The Forsyth Institute, Boston, MA, USA*).

0147 10:15 Activation of Enamelysin (MMP-20) by Enzymes Expressed in Developing Teeth. J.D. BARTLETT* and J. XUE (*The Forsyth Institute, Boston, MA, USA*).

0148 10:30 Association of Osteopontin with Enamel Hypoplasia in Primary Teeth. R.L. SLAYTON*, J.J. WARREN, S.P. DESCHENES, F. RYDZEWSKI, M.C. WILLING, M.J. KANELIS, and S.M. LEVY (*University of Iowa, Iowa City, USA*).

0149 10:45 Mineral Acquisition Rates in Maturing Enamel of Upper and Lower Rat Incisors. C.E. SMITH* and S.E.B. ALLEN (*McGill University, Montreal, QC, Canada*).

Seq#: 29 Thursday, March 8, 9:00 am - 11:00 am
Oral Session, Columbus Hall G

Neuroscience/TMJ - Lab and Human Studies; Surveys

Chairpersons: S. Dworkin and L. LeResche

0150 9:00 Muscle Activity Evoked by Capsaicin Injection into Rat Temporomandibular Joint. J.W. HU, K. HO, M. TANG, and B.J. SESSLE* (*Faculty of Dentistry, University of Toronto, Ontario, Canada*).

0151 9:15 Dual Second-messenger Activation in Bitter Taste Transduction. Y. WENTAO, S. ROSENZWEIG, J.G. BRAND, and A.I. SPIELMAN* (*NYU College of Dentistry, Monell Chemical Senses Center, and VA, Philadelphia, PA, USA*).

0152 9:30 Neuromuscular Compartments of the Rabbit Masseter are Functionally Distinct. A.W. ENGLISH* and C.G. WIDMER (*Department of Cell Biology, Emory University, Atlanta, GA, and Department of Orthodontics, University of Florida, Gainesville, USA*).

0153 9:45 Pain Following Implant Placement in Edentulous Elderly Patients. A. CHEHADE, M.A. AWAD, S. RICO-VARGAS, A. SAVARD, J.P. LUND, and J.S. FEINE* (*McGill University, Montreal, Canada*).

0154 10:00 Depression: A Risk Factor for Progression of TMD Chronic Pain. J.R. FRICTON*, J.O. LOOK, A.K. JACKSON, P.L. CARLSON, P.A. LENTON, and J.S. HODGES (*University of Minnesota, Minneapolis, USA*).

0155 10:15 Surveying the Feasibility of an RDC/TMD-based International TMD Research Consortium. S.F. DWORKIN* (*University of Washington, Seattle, USA*).

0156 10:30 Searching the Internet for Information on Temporomandibular Disorders. A.G. GLAROS, D. RAAMAH*, and S.A. EDLAVITCH (*University of Missouri-Kansas City and University of Kansas Medical Center, USA*).

10:45 Discussion

Seq#: 30 Thursday, March 8, 9:00 am - 11:00 am
Oral Session, Grand Ballroom A

Periodontal Research - Maintenance, Rinses

Chairpersons: M. Novak and J. Payne

0157 9:00 Periodontal Surgery and Tooth Loss: A Pilot Outcomes Study. P.P. HUJOEL*, B.G. LEROUX, H. SELIPSKY, and B.A. WHITE (*University of Washington, Seattle, USA*).

0158 9:15 Conventional Periodontal Maintenance Compared with Root Planing/Subgingival Minocycline. R.A. REINHARDT*, T.A. MEINBERG, C.M. BARNES, and D.G. DUNNING (*University of Nebraska Medical Center, Lincoln, USA*).

0159 9:30 Doxycycline Effects on Oral Bone Loss in Post-menopausal Women. J.B. PAYNE*, R.A. REINHARDT, P.V. NUMMIKOSKI, and L.M. GOLUB (*UNMC College of Dentistry, Lincoln, UTHSC, San Antonio, and SUNY at Stony Brook, USA*).

0160 9:45 The Effect of Low-dose Aspirin Exposure on Bleeding on Probing. J.Y. LEE*, L. RECIO, and N.Y. KARIMBUX (*Harvard School of Dental Medicine, Boston, MA, USA*).

0161 10:00 Effects of Ca/PO₄ Rinses on Periodontal Attachment Levels in Xerostomics. G. MARTUSCELLI*, E. JOHANSEN, and A.S. PAPAS (*School of Dental Medicine, Tufts University, Boston, MA, USA*).

0162 10:15 Comparative Analysis of Mouthrinses on the Production of Volatile Sulfur-containing Compounds (VSC). C.K. RÖSING*, G. JONSKI, and G. RÖLLA (*University of Oslo, Norway*).

0163 10:30 Effectiveness of a Colloidal Silver Solution in Supragingival Plaque Reduction. L. HARPENAU*, M. RONDEROS, R.S. RUDIN, and W. LUNDERGAN (*School of Dentistry, University of the Pacific, San Francisco, CA, USA*).

0164 10:45 Redefining the Biologic Width in Severe, Generalized Periodontitis. M.J. NOVAK*, H.M. ALBATHER, and J.M. CLOSE (*University of Pittsburgh, PA, USA*).

Seq#: 31 Thursday, March 8, 9:00 am - 11:00 am
Oral Session, Columbus Hall I

Periodontal Research - Tissue Regeneration, Grafts

Chairpersons: S. Jepsen and N. Bissada

0165 9:00 Gingival Tissue Exclusion, a Critical Requirement for GTR. U.M.E. WIKESJÖ, W.H. LIM*, R.C. THOMSON, and W.R. HARDWICK (*School of Dentistry, Temple University, and W.L. Gore & Associates, Inc.*).

0166 9:15 FGF-2 Released from a Resorbable Membrane Stimulates Bone Regeneration. R.B. SANTANA* and P.C. TRACKMAN (*Goldman School of Dental Medicine, Boston University, MA, USA*).

0167 9:30 Controlled Release of FGF-2 Rescues Inhibited Intramembranous Diabetic Bone Healing. R.B. SANTANA and P.C. TRACKMAN* (*Goldman School of Dental Medicine, Boston University, MA, USA*).

0168 9:45 rhBMP-2 Significantly Enhances Bone Formation with Space-providing ePTFE Devices. U.M.E. WIKESJÖ, A. XIROPAIDIS*, R.C. THOMSON, A. COOK, K.A. SELVIG, J.M. WOZNEY, and W.R. HARDWICK (*Temple University, WL Gore & Associates, Inc., Genetics Institute, Inc., USA; and University of Bergen, Norway*).

0169 10:00 Comparison of Enamel Matrix Derivative to Membranes for Furcation Therapy. S. JEPSEN*, K. JEPSEN, B. HEINZ, M. ARJOMAND, T. HOFFMANN, S. RICHTER, E. REICH, A. SCULEAN, J. GONZALES, and J. MEYLE (*University of Kiel, University of Dresden, University of Homburg, University of Giessen, and Private Practice, Hamburg, Germany*).

0170 10:15 Defect-determined Regenerative Options for Treating Baboon Periodontal Intrabony Defects. N.M. BLUMENTHAL*, M.E. ALVES, S. AL-HUWIS, and A.M. HOFFBAUER (*College of Dentistry, University of Illinois, Chicago, USA*).

0171 10:30 The Impact of Connective Tissue Graft Orientation on Root Coverage and Gingival Augmentation. M. AL-ZAHRANI*, N. BISSADA, A. FICARA, and B. COLE (*Case Western Reserve University School of Dentistry, Cleveland, OH, USA*).

0172 10:45 Regeneration in Recession Defects after Different Orientation of Dermal Grafts. D. WENG*, P. DIAZ, E.A. SALLUM, and R.G. CAFFESSE (*University of Würzburg, Germany; University of Texas at Houston, USA; and University of Campinas at Piracicaba, Brazil*).

Seq#: 32 Thursday, March 8, 9:00 am - 11:00 am
Oral Session, Toronto

Prosthodontics Research - Ceramics: Strength, Fracture Analysis, Surface Characteristics

Chairpersons: J. Holloway and W. O'Brien

0173 9:00 *In vitro* Investigations on the Fracture Strength of All-ceramic Posterior Bridges of ZO₂ Ceramic. P. ROUNTREE*, F. NOTHDURFT, and P. POSPIECH (*Department of Prosthodontics, Ludwig-Maximilians-University of Munich, Germany*).

0174 9:15 Fracture Strength of Tooth-colored Posterior Fixed Partial Dentures. M. ROSENTRITT*, M. BEHR, R. LANG, S. KLEINMAYER, and G. HANDEL (*Department of Prosthetic Dentistry, University Clinics, Regensburg, Germany*).

0175 9:30 Design Optimization of All-ceramic Bridges via FEM and CARES. N. GOETZEN* and K.J. ANUSAVICE (*University of Florida, Gainesville, USA*).

0176 9:45 "Split Energy Factor" Theory in Fracture Analysis of Dental Ceramics. H.-X. BERGE*, J.A. SORENSEN, and D. EDELHOFF (*Oregon Health Sciences University, Portland, USA; and University of Aachen, Germany*).

0177 10:00 Surface Layer Characterization in a Heat-pressed Lithium Disilicate Glass-ceramic. J.A. HOLLOWAY*, L.A. TARR, and I.L. DENRY (*Ohio State University, Columbus, USA*).

0178 10:15 Decrease in the Hardness of Duceram LFC Porcelain after Storage in Artificial Saliva. W.J. O'BRIEN*, S.A. BALLOUGH, and K.M. BOENKE (*School of Dentistry, University of Michigan, Ann Arbor, USA*).

0179 10:30 Effect of Under-sintering Veneering Porcelain on *in vitro* Enamel Wear. J.A. SORESENSEN* and M.K. PHAM (Department of Prosthodontics, Oregon Health Sciences University, Portland, USA).

0180 10:45 SEM, Profilometer, and Visual Evaluation of Porcelain Polishing Systems. T.N. LU*, G.R. GOLDSTEIN, J.P. LeGEROS, and T.V. VIJAYARAGHAVAN (New York University, USA).

Seq#: 33 Thursday, March 8, 9:00 am - 11:00 am
Oral Session, Columbus Hall A

Pulp Biology - Gene Expression

Chairpersons: R. D'Souza and J. Dale

0181 9:00 Regulation of Steroid Hormone Receptor mRNA Expression in Human Pulp. S.L. SARICH, J.R. DALE*, J.F. HATTON, and R.J. ZACHOW (Saint Louis University, MO, and School of Dental Medicine, Southern Illinois University, Alton, USA).

0182 9:15 Gene Delivery to the Injured Pulp. T.N. TANADA*, A.N. PUGH, S.R. WINN, and C. SFEIR (Oregon Health Sciences University, Portland, and University of Pittsburgh, PA, USA).

0183 9:30 Analysis of Odontoblast Gene Expression Using a Novel Approach. J.S. GAIKWAD, M. HOFFMANN, A. CAVENDER, and R. D'SOUZA* (University of Texas Health Science Center-Houston, USA; and University of Regensburg, Germany).

0184 9:45 Differential Gene Expression in Cbfa 1 (+/+) Mice Mandibular First Molars. J.S. GAIKWAD, K. HSIEH*, A. CAVENDER, M. HOFFMANN, and R. D'SOUZA (Department of Orthodontics, UTHSC, USA; and University of Regensburg, Germany).

0185 10:00 Evaluation of G-protein Binding Sites in Dental Pulp. L.D. WAGNER*, C.M. FLORES, A. POON, and K.M. HARGREAVES (Department of Endodontics & Pharm., University of Texas HSC, San Antonio, USA).

0186 10:15 Immunodetection of Osteopontin at Sites of Odontoclastic Resorption in Traumatized Pulp of Replanted Rat Molars. Y.M. SHIMAZU*, A. NANJI, and T. AOBA (Nippon Dental University, Tokyo, Japan; and University of Montreal, QC, Canada).

0187 10:30 Dentin Extract Inhibits Osteopontin Expression by Pericyte Cell Line. B.D. SMITH*, A.J. SMITH, and J.R.D. MOISEWITSCH (School of Dentistry, University of North Carolina, Chapel Hill; and University of Birmingham, UK).

0188 10:45 Immunohistochemical Localization of Connective Tissue Growth Factor during Reporative Dentinogenesis. W. SONOYAMA*, T. KUBOKI, C. KOMORI, T. FUJISAWA, M. KANYAMA, T. NAKANISHI, S. TAKASHIBA, H. YATANI, and M. TAKIGAWA (Dental School, Okayama University, Japan).

Seq#: 34 Thursday, March 8, 11:00 am - 12:15 pm
Poster Session, Exhibition Hall

Prosthodontics Research - Clinical Studies with Fiber-reinforced FPDs, Endodontically Treated Teeth Porcelain Veneers, Study Biases; Ocular Prostheses

0189 Clinical Performance of Multi-unit Targis/Vectris Fiber-reinforced Bridges: One-year Results. ST. KISTLER*, C. FRASCH, and P. POSPIECH (Department of Prosthodontics, University of Munich, and Private Practice, Nördlingen, Germany).

0190 Clinical Evaluation of FibreKor™ Bridges Utilized for the Replacement of Single Missing Incisors. L. XU*, N. CONTE, S. WEINER, and R. FLINTON (SUNY at Stony Brook and UMDNJ Newark, USA).

0191 Clinical Results of Zirconium Oxide Posts after 2 Years. C. KRANTZ* and F. SCHÄFERS (Department of Operative Dentistry, University of Göttingen, Germany).

0192 Clinical Results of Two Root Post Systems after 10 Years. F. SCHÄFERS*, S. RINKE, C. KRANTZ, U. HILGENBERG, and W. SCHÄFERS (Department of Operative Dentistry, University of Göttingen, Germany).

0193 Relationship between Crown Placement and Survival of Endodontically Treated Teeth. S.A. AQUILINO* and D.J. CAPLAN (University of Iowa, Iowa City, and University of North Carolina, Chapel Hill, USA).

0194 Long-term Clinical Evaluation of Etched Porcelain Veneers. H.E. STRASSLER* and S. WEINER (Dental School, University of Maryland, Baltimore, USA).

0195 Control of Bias in Randomized Controlled Trials in Prosthodontics. H.B. DUMBRIGUE*, J.S. JONES, and J.F. ESQUIVEL (Baylor College of Dentistry, Dallas, TX, and University of Florida, Gainesville, USA).

0196 Evaluation of the Characteristics of "Dropouts" in a Longitudinal Clinical Study. R.L. ETTINGER* (University of Iowa, Iowa City, USA).

0197 Color Stability in Paints Used for Artificial Iris-ocular Prostheses. N.F. D'ALMEIDA*, R. RODE, and S.M. RODE (School of Dentistry, UNESP-São José dos Campos, and Ibirapuera University, São Paulo, Brazil).

Seq#: 35 Thursday, March 8, 11:00 am - 12:15 pm
Poster Session, Exhibition Hall

Dental Materials - Bonding with One-component and Self-etching Primer Systems

0198 Shear Bond Strength of Self-etching Primers. M.A.C. de ANDRADA*, G.C. LOPES, L.N. BARATIERI, and J. PERDIGÃO (Federal University of Santa Catarina, Florianópolis, SC, Brazil; and University of Minnesota, Minneapolis, USA).

0199 *In vitro* Study of Total-etch Adhesives Used with Self-etching Primers. C.E. FRANCCI*, J. PERDIGÃO, M. CARILHO, and M. LOPES (University of São Paulo/NAPEM, Brazil; and University of Minnesota, Minneapolis, USA).

0200 *In vitro* Evaluation of "No-bottle" vs. "One-bottle" Dentin Adhesives. R. FRANKENBERGER, M. LOPES*, and J. PERDIGÃO (University of Erlangen-Nuremberg, Germany; and University of Minnesota, Minneapolis, USA).

0201 Laboratory Characterization of a New Antibacterial Self-etching Primer. J. PERDIGÃO*, M. LOPES, and S. GERALDELI (Division of Operative Dentistry and MDRCB, University of Minnesota, Minneapolis, USA).

0202 Microtensile Strength of Self-etching Primer Adhesive Systems in Enamel and Dentin. P.E.C. CARDOSO*, A. MALLMANN, and P.A. BURMANN (University of São Paulo and Univ. Fed. Santa Maria, RS, Brazil).

0203 Shear Bond Strength of Self-etching Adhesive Systems with Compomers. J. GALLO, C. SMITH, X. XU*, and J.O. BURGESS (School of Dentistry, LSUHSC, New Orleans, USA).

0204 Effect of Self-etching Primer Application Method on Enamel Bond Strength. G. HONJO*, M. MIYAZAKI, H. ONOSE, and B.K. MOORE (Nihon University, Tokyo, Japan; and Indiana University, Indianapolis, USA).

0205 Adhesion of Single-application Bonding Systems to Enamel and Dentin. K. IWASAKI*, M. MIYAZAKI, H. ONOSE, and B.K. MOORE (Nihon University, Tokyo, Japan; and Indiana University, Indianapolis, USA).

0206 Bonding to Dentin Using Conventional, One-step, and Self-etching Adhesives. S. BOUILLAGUET*, P. GYSI, J.C. WATAHA, M. CATTANI, Ch. GODIN, and J.-M. MEYER (University of Geneva, Switzerland; and Medical College of Georgia, Augusta, USA).

- 0207** Bond Strength Sensitivity of Self-etching Adhesive to Application Procedure. B.A. SHUKLA*, C. KAADEN, and J.M. POWERS (3M Company, St. Paul, MN, and Houston Biomaterials Research Center, University of Texas-Houston Dental Branch, USA).
- 0208** Bond Strength and Time Consumption of Bonding Bracket with Self-etching Primers. G.C. LOPES, D.E. RITTER*, D.G. THYS, I. RUDEK, L.C.C. VIEIRA, and A. LOCKS (Univer. Federal de Santa Catarina, Brazil).
- 0209** Adhesion of Resin Composite Core Materials. K.L. O'KEEFE* and J.M. POWERS (Houston Biomaterials Research Center, University of Texas-Houston Dental Branch, USA).
- 0210** Shear Bond Strength of Six Adhesive Systems in Enamel and Dentin. L.A.F. PIMENTA*, M.C.G. ERHARDT, A.K.B. BEDRAN DE CASTRO, and C.M. AMARAL (Dentistry School of Piracicaba, UNICAMP, São Paulo, Brazil).
- 0211** Bonding Ability of Adhesive Systems and Resin Cements to Human Dentin, Evaluated by Means of Microtensile Tests. A. MALLMANN*, J.F.F. SANTOS, P.E.C. CARDOSO, L.B. JACQUES, and A.U. TAVARES (University of São Paulo, Brazil).
- 0212** Shear Bond Strength of Primer/Adhesives with Dual- and Chemical-cure Cements. M. PASCIUTA*, D.S. COBB, V.J. SETIEN, and M.R. BOUSCHLICHER (University of Iowa, Iowa City, USA).
- 0213** TBS and FE-SEM Observation of a Newly Designed One-step and Visual Bonding System. T. YAMADA*, J. SUGIZAKI, S. HORIGUCHI, M. KATAUMI, and M. MORIGAMI (Toranomon Hospital Dental Clinic, Tokyo, Japan).

Seq#: 36 Thursday, March 8, 11:00 am - 12:15 pm
Poster Session, Exhibition Hall

Dental Materials - Adhesion: Bonding to Ceramics and Metals

- 0214** Conversion Rate and Bond Strength of a Dual-curing Luting Composite. S. GAHSE*, U. LOHBAUER, R. FRANKENBERGER, and N. KRÄMER (Polyclinic of Operative Dentistry, University of Erlangen, Germany).
- 0215** Influence of Time and Adhesive System on Porcelain/Bovine Dentin Bond Strength. R.R. BRAGA, R.Y. BALLESTER, and M. DARONCH* (Faculty of Dentistry, University of São Paulo, Brazil).
- 0216** Influence of Silanization on the Bond Strength to Sandblasted Alumina. D. SOIGNET*, M.B. BLATZ, C. MALTEZOS, X. XU, J.O. BURGESS, and G.J. CHICHE (Louisiana State University, New Orleans, USA).
- 0217** Bond Strengths of Three Bonding Systems to Three Different Ceramic Materials. C. MALTEZOS*, M.B. BLATZ, D. SOIGNET, X. XU, J.O. BURGESS, and G.J. CHICHE (Louisiana State University Health Sciences Center, New Orleans, USA).
- 0218** Bonding Durability between Ceramic and Dual-cure Resin Cement. R.M. FOXTON*, M. NAKAJIMA, P.N.R. PEREIRA, J. TAGAMI, and H. MIURA (Tokyo Medical and Dental University, Japan; and UNC School of Dentistry, USA).
- 0219** Comparison of Enamel Color Changes Associated with Orthodontic Bonding. T. ELIADES, A. KAKABOURA, G. ELIADES, and T.G. BRADLEY* (Department of Dental Materials, University of Athens, Greece; and Department of Orthodontics, Marquette University, Milwaukee, WI, USA).
- 0220** Effect of a Desensitizing Agent on Dentin Bond Strengths of Different Materials. R. FRANKENBERGER, H. OBERSCHACHTSIEK*, M. SOGANCI, N. KRÄMER, and A. PETSCHT (Polyclinic of Operative Dentistry, University of Erlangen, Germany).

- 0221** Retentive Strength of an Experimental Single-component Temporary Luting Cement. K.-T. HA THI*, M. BALKENHOL, B. WÖSTMANN, and P. FERGER (Department of Prosthodontics, University of Giessen, and Heraeus Kulzer, Dormagen, Germany).
- 0222** Prehybridization of Dentin: Its Influence on Adhesive Strength. P.A. BURMANN*, P.E.C. CARDOSO, E. DUTRA, A. MALLMANN, and L.F. SOARES (Univ. Fed. of Santa Maria and Univ. of São Paulo, Brazil).
- 0223** Effects of Different Sandblasting Procedures on Metal Bonding. Y. MINESAKI*, Y. KATSUREN, H. KAJIHARA, T. TANAKA, and S. SUZUKI (University of Alabama, USA; and University of Kagoshima, Japan).
- 0224** Retentive Strength of Adhesive Resin Cement Systems. C.-P. ERNST*, K. PAULIG, E. STENDER, and B. WILLERSHAUSEN (Department of Restorative Dentistry and Institute for Dental Materials and Technology, Johannes Gutenberg-University Mainz, Germany).
- 0225** Laboratory Evaluation of Porcelain/Metal Repair Systems. T.M. WILWERDING*, M.A. LATTI, and W.W. BARKMEIER (School of Dentistry, Creighton University, Omaha, NE, USA).
- 0226** Dentin Surface Texture and Bond Strength to Amalgam. D. EL-SHEIKH*, W.A. EL-BADRAWY, O.M. EL-MOWAFY, and J. SINGH (Faculty of Dentistry, University of Toronto, Ontario, Canada).
- 0227** Fracture Strength of Bovine Pulpless Teeth Restored by Post Systems. P.E.C. CARDOSO, P.A. BURMANN, B.L. SILVEIRA*, A. ALBERS, and L.F. SOARES (University of Santa Maria and University of São Paulo, Brazil).

Seq#: 37 Thursday, March 8, 11:00 am - 12:15 pm
Poster Session, Exhibition Hall

Dental Materials - Primers and Adhesives

- 0228** The Efficacy of Dual-cure Sealant with Bonding Primer. J.M. SOH*, I.C. PUNWANI, N. SOH, C.Y. HA, and A. KOERBER (Department of Pediatric Dentistry, University of Illinois at Chicago, USA).
- 0229** Enamel Decalcification around Orthodontic Brackets Bonded with Different Adhesives. C.T. RAMOS, K. KOHLI*, P. NGAN, and M. GLADWIN (West Virginia University School of Dentistry, Morgantown, USA).
- 0230** Clinical Evaluation of a New Adhesive System: Results after 18 Months. M.C. PETERS, K.W. STOFFERS*, J.B. DENNISON, M.E. McLEAN, and J.C. HAMILTON (School of Dentistry, University of Michigan, Ann Arbor, USA).
- 0231** Clinical Evaluation of a Self-etching Primer—Two-year Recall. A. RIPPS*, J.O. BURGESS, A. GROGONA, A. RAPPOLD, and J. GALLO (LSUHSC, New Orleans, USA).
- 0232** Clinical Evaluation of Self-etching Primer System—Seven-year Results. N. AKIMOTO*, M. TAKAMIZU, and A. KOHNO (School of Dental Medicine, Tsurumi University, Yokohama, Japan).
- 0233** Clinical Performance of a Combined Etchant/Adhesive in Class V Resin Composite Restorations. W.W. BRACKETT, D.A. COVEY*, and H.A. ST. GERMAIN (University of Nebraska, Lincoln, USA).
- 0234** Six-month Clinical Study of an All-in-One Dentin Adhesive. A.D. WILDER, Jr.*, J. PERDIGÃO, H.O. HEYMANN, E.J. SWIFT, Jr., T.M. ROBERSON, and S.C. BAYNE (School of Dentistry, University of North Carolina, Chapel Hill, and University of Minnesota, Minneapolis, USA).

0235 Clinical Study of Self-etching Adhesive for Sealant Application. R.J. FEIGAL* and I. QUELHAS (*University of Michigan, Ann Arbor, USA*).

0236 One-year Clinical Evaluation of a Self-etching Primer in Posterior Composites. G.E. DENEHY*, D.S. COBB, M.R. BOUSCHLICHER, and M.A. VARGAS (*University of Iowa, Iowa City, USA*).

0237 Clinical Evaluation of Prompt L-Pop at 6 Months. C.A. MUNOZ, J.R. DUNN, G. BERNAL, J. TORRES*, and A. WILSON (*Loma Linda University, CA, USA*).

0238 Clinical Evaluation of a Self-etching Adhesive at One Year. J. MANHART*, C. GLOMB, D. STUECKGEN, P. NEUERER, H.P. FLESSA, and R. HICKEL (*Department of Restorative Dentistry, Dental School of the LMU, Munich, Germany*).

0239 WITHDRAWN

0240 *In vivo/In vitro* Testing of New Restoratives in Primary Teeth. A.C. BEZERRA* and R.J. FEIGAL (*University of Michigan, Ann Arbor, USA; and University of Brazilia, Brazil*).

Seq#: 38 Thursday, March 8, 11:00 am - 12:15 pm
Poster Session, Exhibition Hall

Dental Materials - Low-viscosity Monomers, Polymerization Shrinkage, and Other Physical Properties

0241 Polymeric Materials for Composite Matrices in the Oral Environment. T. TAKAMATA*, S. KALACHANDRA, and M.S. PANDIAN (*Matsumoto Dental University, Japan; Eastman Dental Institute, UK; and UNC, Chapel Hill, NC, and Virginia Tech, Blacksburg, USA*).

0242 Thermomechanical Characterization of Liquid Crystalline Monomer in Dental Composites. A. MOGRI*, B.R. FURMAN, N. SATSANGI, J.L. ONG, and H.R. RAWLS (*Division of Biomaterials, University of Texas Health Science Center, San Antonio, USA*).

0243 The Effect of Silanation on Polymerization and Dynamic Mechanical Behavior of a Homogeneous, Nanofilled Resin. S.M. DOWELL*, B.R. FURMAN, J.L. ONG, and H.R. RAWLS (*Division of Biomaterials, University of Texas Health Science Center, San Antonio, USA*).

0244 Degree of Cure in Oxirane Composites Measured by Modulated Differential Scanning Calorimetry. D.W. JACOBS* and W.L. THOMPSON (*3M Company, St. Paul, MN, USA*).

0245 Polymerization of Resin-based Composite with Equivalent Doses. R.H. HALVORSON* and R.L. ERICKSON (*3M Dental Products Division, St. Paul, MN, USA*).

0246 Rheological Behavior of Flowable Composites. C. LUU*, C. ANGELETAKIS, and E. SHELLARD (*Kerr Corp., Orange, CA, USA*).

0247 Using Experimental Design in Resin Formulation. K.A. HAYES*, S.J. DURAY, and B.I. SUH (*Bisco, Inc., Schaumburg, IL, USA*).

0248 Single- vs. Multi-view Measurements of Volumetric Shrinkage by AcuVol. I. CHOI* and B.I. SUH (*Bisco, Inc., Schaumburg, IL, USA*).

0249 Solvent-induced Expansion of Dried-demineralized Dentin Matrix. D.H. PASHLEY, K.A. AGEE*, M. NAKAJIMA, F.R. TAY, R.M. CARVALHO, and F.J. HARMON (*Medical College of Georgia, Augusta, USA*).

0250 Novel Tris-methacrylate Monomer for Dental Resins. F. GAO*, S.R. SCHRICKER, Y. TONG, Y. HUANG, and B.M. CULBERTSON (*College of Dentistry, Ohio State University, Columbus, USA*).

0251 Influence of Hyperbranched Multi-methacrylates on Human Gingival Fibroblast Proliferation. Q. WAN*, D. RUMPF, S.R. SCHRICKER, A. MARIOTTI, and B.M. CULBERTSON (*Ohio State University, Columbus, USA*).

0252 Translucency/Opacity of Composite Resins by Contrast Ratio. M.S. AFFLECK*, G.E. DENEHY, M.R. BOUSCHLICHER, and M.A. VARGAS (*University of Iowa, Iowa City, USA*).

Seq#: 39 Thursday, March 8, 11:00 am - 12:15 pm
Poster Session, Exhibition Hall

Dental Materials - Polymer Materials: Physical Properties and Wear

0253 Evaluation of the Infiltration of Restorations after Dental Bleaching. M. POLONIATO, C.G.R. SARTORELLI*, B.S. SILVA, and J.F.F. SANTOS (*Dept. of Dental Materials, University of São Paulo, Brazil*).

0254 Isolation of Human Salivary Esterase Activities Associated with Composite Biodegradation. B.A. LIN*, F. JAFFER, Y. TANG, and J.P. SANTERRE (*Faculty of Dentistry, University of Toronto, Canada*).

0255 Color Stability of Resin Cements after Aging and Water Storage. R.M. FAY*, M.S. KONINGS, and J.M. POWERS (*Houston Dental Branch, University of Texas, and 3M Dental, St. Paul, MN, USA*).

0256 Color Stability of Composite Resins Soaked in Various Daily Drinks. J.D. LAFUENTE, L. PIEDRA*, and J.M. POWERS (*School of Dentistry, University of Costa Rica, San José; and Houston Biomaterials Research Center, TX, USA*).

0257 Simulated Oral Wear of Packable Composites. L.A. KNOBLOCH, S. VILLARROEL, Y. DOROSTI*, and R.R. SEGHI (*College of Dentistry, Ohio State University, Columbus, USA*).

0258 Effect of Microfiller Surface Treatment on Wear of Hybrid Composites. R.R. BRAGA*, J.R. CONDON, and J.L. FER-RACANE (*School of Dentistry, University of São Paulo, Brazil; and School of Dentistry, OHSU, Portland, USA*).

0259 *In vitro* Evaluation of Wear of the Packable Resin Composites. C.C.S. LOUREIRO*, P.E.C. CARDOSO, E. PLACIDO, and J.F.F. SANTOS (*Department of Dental Materials, School of Dentistry, University of São Paulo, Brazil*).

0260 *In vitro* Localized Wear of Four Composite Resins vs. Enamel. M.A. LATTA, M.K. COOK*, F.G. CORDINI, and W.W. BARKMEIER (*School of Dentistry, Creighton University, Omaha, NE, USA*).

0261 A Pin-on-Disk Test for *in vitro* Simulation of Oral Abrasive Wear. H.P. O'KRAY* and W.J. O'BRIEN (*School of Dentistry, University of Michigan, Ann Arbor, USA*).

0262 *In vitro* Wear Assessment of Composite Resin and Amalgam vs. Enamel. M.A. LATTA, F.G. CORDINI*, M.K. COOK, and W.W. BARKMEIER (*School of Dentistry, Creighton University, Omaha, NE, USA*).

0263 *In vitro* Wear Behavior of Veneering Composites. M. ROSENTRITT, M. SIKORA*, M. BEHR, M. SÖLDNER, and G. HANDEL (*Department of Prosthetic Dentistry, University of Regensburg, Germany*).

0264 Dynamic Response to a Simulated Sudden-contact Isotonic Jaw Closure. D. TANTBIROJN*, A. VERSLUIS, T.W. WALDRON, and W.H. DOUGLAS (*Chulalongkorn University, Thailand; and University of Minnesota, Minneapolis, USA*).

0265 Effect of Compressive Clenching on Wear of Composite Inlays. C.A. MITCHELL*, W.-M. AL-OMARI, M.R. PINTADO, and W.H. DOUGLAS (*School of Dentistry, Queen's University, Belfast, UK; and School of Dentistry, University of Minnesota, USA*).

0266 Water Sorption of Resin-modified Glass-ionomer Luting Cements. E. LEIVA* and J.D. LAFUENTE (*School of Dentistry, University of Costa Rica, San José*).

0267 Evaluation of the Increase in Dimensions in the Replacement of Composite Resin Restorations. V.V. GORDAN* (*University of Florida, Gainesville, USA*).

Seq#: 40 Thursday, March 8, 11:00 am - 12:15 pm
Poster Session, Exhibition Hall

Diagnostic Systems - Radiography

0268 Comparison of Two Radiographic Absorptiometry Methods in Alveolar Bone Loss Measurement. E.F. MENDONCA* and P.V. NUMMIKOSKI (*Universidade Federal De Goiás, Capes, Goiás-Brazil; and UTHSCSA, San Antonio, TX, USA*).

0269 In vivo Short-term Precision of Alveolar Process Density Measurements. K.A. SOUTHARD*, T.E. SOUTHARD, and D.M. STULTZ (*University of Iowa, Iowa City, USA*).

0270 Estrogen Causes Generalized Alveolar Crest Height Change in Healthy Post-menopausal Women. C.F. HILDEBOLT*, T. PILGRAM, N. YOKOYAMA, M. DOTSON, J. MUCKERMAN, J. HAUSER, S. COHEN, E. KARDARIS, M. VANNIER, R. CIVITELLI, P.J. HANES, and M.K. SHROUT (*Washington University, St. Louis, MO, and Medical College of Georgia, USA*).

0271 Diagnosis of Osteoporosis from Panoramic Radiographs. V. BAE*, G.R. PERSSON, L.G. HOLLENDER, and R.E. PERSSON (*University of Washington, Seattle, USA*).

0272 Interrelationship between Cross-sectional and Sagittal Imaging in Computer-assisted Dental Implant Tomography. K.H. THUNTHY* (*School of Dentistry, Louisiana State University, New Orleans, USA*).

0273 Craniometric Analysis of Pediatric Skulls by Spiral CT. G.D. GUTTMANN* and D.M.L. COOPER (*University of Saskatchewan, Saskatoon, and University of Calgary, AB, Canada*).

0274 Comparison of Storage Phosphor, APS-CMOS Sensor, and Conventional Radiography for Periodontal Diagnosis. H. VISSER and D. ZENG* (*Dental School, University of Göttingen, Germany*).

0275 Panoramic Radiographic Assessment of Simulated Root Parallelism. R. GRANT, F.J. SOBKOWSKI, D.M. KILLIANY, M.V. PURCELL, D.J. FERGUSON, G.G. SOTIROPOULOS, and L.A. FULK* (*CADE, Saint Louis University, MO, USA*).

0276 Incidence of Carotid Artery Calcifications in a Head and Neck Cancer Population. J. CHEN*, B. BECKSTROM, H. GREENWELL, C. DRISKO, M. ABASKARON, Z. KHAN, and A.G. FARMAN (*HSC, University of Louisville, KY, USA*).

Seq#: 41 Thursday, March 8, 11:00 am - 12:15 pm
Poster Session, Exhibition Hall

Geriatric Oral Research - Oral Health Status: Impact on Utilization and Quality of Life

0277 Evaluation of a Tooth-counting Questionnaire for Primary Dental Care Research. N.J.A. JEPSON*, P.F. ALLEN, and F.M. BURKE (*University of Newcastle upon Tyne, UK; and National University of Ireland, Cork*).

0278 Prevalence of Root Surface Caries in an Early 20th Century Skull Sample. S.R. JENSEN*, M.A. PYLE, T.R. JASINEVICIUS, D.R. SAWYER, J.A. LALUMANDIER, and K.J. KOHRS (*Case Western Reserve University School of Dentistry, Cleveland, OH, USA*).

0279 The Relationship between Functional Ability and Oral Health in Aging. K. AVLUND and P. HOLM-PEDERSEN* (*University of Copenhagen, Denmark*).

0280 Relationship of Oral Symptoms and Perceived Need for Dental Care in a Community-based Sample. M.W. HEFT*, G.H. GILBERT, and R.P. DUNCAN (*University of Florida, Gainesville, and University of Alabama at Birmingham, USA*).

0281 Nutritional Intake is Associated with Both Clinical and Patient-perceived Oral Health. J.A. JONES*, D.R. MILLER, N.R. KRESSIN, S.E. RICH, and R.I. GARCIA (*Department of Veterans Affairs, Bedford and Boston, and Boston University, MA, USA*).

0282 Oral-health-related Quality of Life in Impaired Older Adults. R.H. SAUNDERS* and M.E. MOSS (*University of Rochester, NY, USA*).

0283 Oral Health in Older Adults at High Risk for Hospitalization. M.E. MOSS*, R.H. SAUNDERS, R. MECK-STROTH, B. WAMSLEY, and B. FRIEDMAN (*University of Rochester, NY, and West Virginia University, Morgantown, USA*).

0284 Social Impact of Oral Conditions among a 79+-year-old Iowa Cohort. C.A. WATKINS*, J.J. WARREN, and H.J. COWEN (*College of Dentistry, University of Iowa, Iowa City, USA*).

0285 Oral-health-related Quality of Life in Two Geographic Locations. D.B. JOHNSON*, M.E. MOSS, and R.H. SAUNDERS (*University of Rochester, NY, USA*).

0286 Comparisons of the GOHAI and OHIP-14 as Measures of the OHRQoL of the Compromised Elderly. D. LOCKER*, D.W. MATEAR, M. STEPHENS, and H.P. LAWRENCE (*University of Toronto, Canada*).

Seq#: 42 Thursday, March 8, 11:00 am - 12:15 pm
Poster Session, Exhibition Hall

Behavioral Sciences/Health Services Research - Knowledge, Attitudes, and Behaviors: The Patient's Perspective

0287 Patterns and Predictors of Self-reported Oral Disadvantage Incidence. L.S. CHAVERS*, G.H. GILBERT, and B.J. SHELTON (*School of Dentistry, University of Alabama, Birmingham, USA*).

0288 Patient and Parent Understanding of Informed Consent in Orthodontics. J.F. BAIRD* and H.A. KIYAK (*University of Washington, Seattle, USA*).

0289 Predictors of Self-rated Dental Health in Rural Residents. T.P. RAYBOULD*, T.A. SMITH, and C.R. WEBB (*University of Kentucky, Lexington, USA*).

0290 Attitudes Toward Dentists and Oral Health. M.G. FARLEY* and J.L. RILEY, III (*University of Florida, Gainesville, USA*).

0291 Parental Satisfaction with School-based Dental Care in South Australia. K.F. ROBERTS-THOMSON*, L. LUZZI, and R. MATHEW (*AIHW Dental Statistics & Research Unit, Adelaide University, South Australia*).

0292 Patients' Perceptions of Short-term Outcomes from Periodontal Surgery. D.C. MATTHEWS* and S. HANSCOM (*Dalhousie University, Halifax, NS, Canada*).

0293 Motives Underlying Food Choice: Dentists, Porters, and Dietary Health Promotion. M.L. CROSSLEY* (*University of Manchester, UK*).

0294 Evaluation of Orthodontic Treatment Accessibility in Public Health Clinics. T.R. GAILEY*, D.L. STEWART, and D.I. ROSENSTEIN (*Oregon Health Sciences University, Portland, USA*).

0295 Parents' Utility of School-based Sealants: Opportunity Cost of Class-time Lost. P. BHURIDEJ*, P.C. DAMIANO, M.J. KANELIS, R.A. KUTHY, and M.F. DEANDA (*University of Iowa, Iowa City, and Des Moines Health Center, USA*).

Seq#: 43 Thursday, March 8, 11:00 am - 12:15 pm
Poster Session, Exhibition Hall

Behavioral Sciences/Health Services Research - Oral Health and Quality of Life

- 0296** Patient Perceptions of Quality of Life Following Complete Denture Therapy. C.M. ASMUSSEN*, C.A. WATKINS, J.P. CHOWDHURY, and C.M. STANFORD (*Dows Institute, University of Iowa, Iowa City, USA*).
- 0297** Development of the Child Oral Health Quality-of-Life Questionnaire. H. BRODER, A. JOKOVIC, S. KARMINI, S. GERSCH*, P. MATHESON, E.D. REKOW, P. CHIBBARO, G. CISNEROS, and D. LOCKER (*UMDNJ, NYU, Montefiore, NY, USA; and University of Toronto, Canada*).
- 0298** Parental Perceptions of Pediatric Oral-health-related Quality of Life. A. JOKOVIC*, D. LOCKER, and M. STEPHENS (*Faculty of Dentistry, University of Toronto, Canada*).
- 0299** Xerostomia-related Quality of Life—Development of an Assessment Instrument. M.R. INGLEHART*, J.A. SHIP, and A. EISBRUCH (*University of Michigan, Ann Arbor, USA*).
- 0300** Periodontal Grafts vs. Injectable Collagen: Quality-of-Life Outcomes. M. KUKUK*, M.R. INGLEHART, and D. SARMENT (*University of Michigan, Ann Arbor, USA*).

Seq#: 44 Thursday, March 8, 11:00 am - 12:15 pm
Poster Session, Exhibition Hall

Nutrition - Nutrition, Development, and Oral Health

- 0301** Growth Failure, Caries Experience, and Juice Intake in Young Children. T.A. MARSHALL*, S.M. LEVY, J.J. WARREN, J. GILMORE, J. TISCH, and M. ISLAM (*University of Iowa, Iowa City, USA*).
- 0302** Dietary Quality, Nutrient Supplementation, and Root Caries in OH:SALSA Subjects. C.C. MOBLEY*, J. GOETZ, M.J. SAUNDERS, and H. HAZUDA (*UTHSCSA & GRECC, STVHCS, San Antonio, TX, USA*).
- 0303** Effect of Diet upon Feline Gingivitis and Accumulation of Plaque, Stain, and Calculus. E.I. LOGAN*, L. COFFMAN, M.L. BERG, N.A. LI, J. BRESNAHAN, and J.J. HEFFERREN (*University of Kansas, Lawrence, USA*).
- 0304** Black Tea Extract and Tea Polyphenols Inhibit Growth and Virulence Factors of Periodontal Pathogens. G.-X. WEI* and C.D. WU (*College of Dentistry, University of Illinois at Chicago, USA*).
- 0305** Cell Proliferation and Bone Nodule Formation by Caffeine and Fluoride. K. IDE*, N. NGUYEN, M. YAZDANI, F. JOSEPH, Jr., and T. NAKAMOTO (*LSU Health Sciences Center School of Dentistry, New Orleans, USA*).
- 0306** Fluoride Content in Infant Milk Formulas and Dental Fluorosis. L.M.M. TREVIZANI*, C.A. DAMANTE, F. ORNELAS, J.M. GRANJEIRO, and M.A.R. BUZALAF (*University Paulista and University of São Paulo, Bauru, Brazil*).
- 0307** Fluoride Content of Selected Powdered Drinks and Their Pre-mixed Liquid Counterparts. P.M. FORTUNATO* and K.E. DIEFENDERFER (*Naval Postgraduate Dental School, Bethesda, MD, and Naval Dental Research Institute, Great Lakes, IL, USA*).
- 0308** Breast-feeding and the Development of Artificial Sucking Habits. E. LARSSON* (*University of Oslo, Norway; and Orthod. Clinic, Falköping, Sweden*).
- 0309** Association of Masticatory Variables and Diet in a Population-based Sample. R.S.A. SHINKAI*, J.P. HATCH, J.D. RUGH, S. SAKAI, C.C. MOBLEY, and M.J. SAUNDERS (*UTHSCSA & GRECC, STVHCS, San Antonio, TX, USA*).

Seq#: 45 Thursday, March 8, 11:00 am - 12:15 pm
Poster Session, Exhibition Hall

Cariology Research - Prevention and Treatment of Primary and Secondary Coronal and Root Caries

- 0310** Topical Antimicrobial Therapy in Prevention of Early Childhood Caries. L. LOPEZ, R. BERKOWITZ*, M.E. MOSS, and P. WEINSTEIN (*University of Puerto Rico; University of Rochester; and University of Washington, USA*).
- 0311** Chlorhexidine Effects to Reduce *Streptococcus mutans* in Saliva. M.F.S. PINHEIRO, A.F. CELESTINO, Jr., C.M. SILVA*, J.A.A. MENDES, R.P. BARROS, and P.B. NÓBREGA (*Centro de Ensino Superior do Pará, Brazil*).
- 0312** Effect of Polyphenon 60 on Dental Plaque Formation in Rats. A. CZAJKA-JAKUBOWSKA and J. STOPA* (*Karol Marcinkowski University of Medical Sciences, Poznań, Poland*).
- 0313** Oxidation of Human Plaque Biomolecules by an Antibacterial Ozone-generating Device. B. MILLS*, E. LYNCH, A. BAYSAN, C.J. SILWOOD, and M. GROOTVELD (*Restorative Dentistry, Queen's University, Belfast, UK*).
- 0314** Inhibition of Secondary Caries Root Lesion Progression with Different Varnishes. M. JARET*, A. HAIDER, C. GONZÁLEZ-CABEZAS, and M. FONTANA (*School of Dentistry, Indiana University, Indianapolis, USA*).
- 0315** Influence of Chlorhexidine on Growth of *Streptococcus sobrinus* *in vitro*. S. DOGAN, H. GÜNAY*, and W. GEURTSSEN (*Dental School, Medical University, Hannover, Germany*).
- 0316** Effects of Sodium Fluoride (NaF) on Growth of *Str. sobrinus* *in vitro*. S. DOGAN, G. LEYHAUSEN*, H. GÜNAY, J. MUNACK, and W. GEURTSSEN (*Dental School, Medical University, Hannover, Germany*).
- 0317** Caries Removal: SEM Analysis. P.E.C. CARDOSO, S.K. MOURA, W.G. MIRANDA, Jr., and J.F.F. SANTOS* (*Department of Dental Materials, University of São Paulo, Brazil*).
- 0318** Inhibition of Secondary Caries around Aged, Fluoride-releasing Dental Materials. M. FONTANA*, C. GONZÁLEZ-CABEZAS, A. HAIDER, J.M. HERVAS, and G.K. STOOKEY (*School of Dentistry, Indiana University, Indianapolis, USA*).
- 0319** *In vitro* Cariostatic Effects of Restorative Materials Associated with a Fluoride Dentifrice. J.A. RODRIGUES*, G.M. MARCHI, M.C. SERRA, and A.T. HARA (*Dentistry School of Piracicaba, UNICAMP, São Paulo, Brazil*).
- 0320** Influence of the Smear Layer and Collagen Fibers on Artificial Caries around RMGI. A. AL-HELAL*, J.S. WEFEL, and D. BOYER (*College of Dentistry, University of Iowa, Iowa City, USA*).
- 0321** High-output Halogen Light Effects on *in vitro* Enamel Demineralization. R.W. ELLIS*, M.E. HARRIS, M.A. LATTI, and P.D. HAMMESFAHR (*School of Dentistry, Creighton University, Omaha, NE, and Dentsply/Caulk, Milford, DE, USA*).
- 0322** *In vitro* Evaluation of Fluoride Release from Two Orthodontic Bonding Adhesives. Y. HADDAD*, M. MESSERSMITH, and J.T. CHAN (*Houston Dental Branch, University of Texas, USA*).
- 0323** Chlorhexidine and Cetrimide in Carious Dentin. C. BARONI*, M. GATTI, E. BONDI, and M.R. GATTO (*Department of Dental Sciences, University of Bologna, Italy*).

Seq#: 46 Thursday, March 8, 11:00 am - 12:15 pm
Poster Session, Exhibition Hall

Implantology Research - Calcium Phosphates

0324 Effects of Media on the Dissolution Properties and Transverse Strength of Bone Cements. C. HSU* and J.L. ONG (*University of Texas Health Science Center, San Antonio, USA*).

0325 Setting Reactions Affect the Degradative Properties of HA Cements. D. MORIO*, D. LEW, J. HARLESS, J.S. WEFEL, K. KRIZAN, S.R. ARMSTRONG, and J.C. KELLER (*University of Iowa, Iowa City, USA*).

0326 Chemical Characterization and Dissolution of Plasma-sprayed Hydroxyapatite Coatings. M.S. TUNG* and B.O. FOWLER (*Paffenbarger Research Center, ADAHF, NIST, Gaithersburg, and NIDCR/NIH, Bethesda, MD, USA*).

0327 *In vitro* Behavior of Silicate Glass Coatings on Ti6Al4V. E. SAIZ, M. GOLDMAN, J. GOMEZ-VEGA, S.J. MARSHALL, G.W. MARSHALL, and A.P. TOMSIA* (*Lawrence Berkeley Lab and University of California, San Francisco, USA*).

0328 Effects of Calcium and Phosphorus on Osteoblast Response. S. MA*, R.L. GLOVER, and J.L. ONG (*University of Texas Health Science Center, San Antonio, USA*).

0329 Assessment of the Cytotoxicity of Experimental Calcium-releasing Cements. A.M. GATTI*, R.Z. LeGEROS, E. MONARI, S. LIN, C. MAGNONI, and F. CAZZELLA (*Biomaterials Center and Departments of Surgery and Neuropsychosensorial Pathology, University of Modena, Italy; and Department of Biomaterials, NYU College of Dentistry, USA*).

0330 Histological and Chemical Analyses of Calcium Phosphate Cements Implanted Subcutaneously into Rats. S. LIN*, R.Z. LeGEROS, H. NAGATSUKA, R. ROHANIZADEH, M. INOUE, and J.P. LeGEROS (*College of Dentistry, New York University, USA; and Okayama University Dental School, Japan*).

0331 Management of Healing Risk by Physicochemical Modification of Implant Surfaces. H.-L. GRAF*, E. HIRSCH, and A. HEMPRICH (*University of Leipzig, Germany*).

0332 Xenograft Deproteinization—Analytical Correlation of Chemistry, Structure, and Spectroscopy. M. PAHAN and A. TOFE* (*CeraMed Dental, Lakewood, CO, USA*).

Seq#: 47 Thursday, March 8, 11:00 am - 12:15 pm
Poster Session, Exhibition Hall

Mineralized Tissue - Amelogenesis/Enamel Proteins

0333 Expression of the ARHGAP6/Amelogenin Genes. Z.A. YUAN*, E. CHEN, and C.W. GIBSON (*University of Pennsylvania, Philadelphia, USA*).

0334 Alteration of the Basal Lamina Associated with Maturation-stage Ameloblasts by Tunicamycin. G. ORSINI*, S. ZALZAL, and A. NINCI (*Université de Montréal, Québec, Canada*).

0335 Structural Aspects of the Dentino-enamel Junction in Human Teeth. A.F.B. OLIVEIRA*, M.S. VENTURA, and A.M.B. CHAVES (*Federal University of Paraíba, João Pessoa, Brazil*).

Seq#: 48 Thursday, March 8, 11:00 am - 12:15 pm
Poster Session, Exhibition Hall

Salivary Research - Salivary Proteins

0336 Tyrosine Sulfation of Arylsulfatase A Peptide. N. SHAH*, P. MANOWITZ, and C. KASINATHAN (*Dental Research Center, NJ Dental School, University of Medicine and Dentistry of New Jersey, Newark, USA*).

0337 Expression of Rat Salivary CSP-1 in Transgenic Mouse Salivary Glands. N. GUPTA, A.R. HAND, and L. MIRELS* (*University of California, Berkeley, and University of Connecticut, Farmington, USA*).

0338 The Detection of rhuMab HER2 Antibody in the Saliva of Adult Rats. R.C. BRANCH*, W. UMPHLETT, J. BRINKLEY, W.R. MCREYNOLDS, H. BENGHUZZI, M. TUCCI, L. BIGLER, and C. STRECKFUS (*University of Mississippi Medical Center, Jackson, USA*).

0339 Salivary Calprotectin in Subjects with and without Oral Candidosis. C.L. KLEINEGGER*, D.C. STOECKEL, and Z.B. KURAGO (*University of Iowa, Iowa City, and Southern Illinois University, Alton, USA*).

0340 Regulation of Salivary Gelatinase Activity in the NOD.It Mouse. H. HUA* and A.J. WU (*Stanford University School of Medicine, CA, USA*).

0341 Secretory Leukocyte Protease Inhibitor and HIV-1 Infection of THP-1 Cells. K. KONOPKA*, N.R. SHINE, S.C. WANG, C.P. WHITMAN, and N. DÜZGÜNES (*School of Dentistry, University of the Pacific, San Francisco, CA, and Medicinal Chemistry Division, College of Pharmacy, University of Texas, Austin, USA*).

0342 Regulation of Paracellular Barrier Function in Mouse Submandibular Gland Acini. K. UCHIHASHI*, K. HIGUCHI, and N. TAKAI (*Department of Physiology, Osaka Dental University, Japan*).

0343 Saliva Secretion and Saliva Variables in Patients after Radioactive Iodine Treatment. A.K. LUEDERS*, R. GOECKE, H. JENTSCH, B. BARTSCH, J. FELDKAMP, and W.H.-M. RAAB (*Operative Dentistry and Endocrinology, Heinrich-Heine University, Duesseldorf, and Operative Dentistry, University of Rostock, Germany*).

Seq#: 49 Thursday, March 8, 11:00 am - 12:15 pm
Poster Session, Exhibition Hall

Microbiology/Immunology & Infection Control - Biofilms, Disease, and Antimicrobials

0344 Carbohydrates, Colonization, and Caries Induction by *Gordonii* and Mutans Streptococci. J.M. TANZER*, L. GRANT, A. THOMPSON, and F.A. SCANNAPIECO (*School of Dental Medicine, UCONN, Farmington, and School of Dental Medicine, SUNY, Buffalo, NY, USA*).

0345 Role of PLD 1 in the Adherence of *Candida albicans*. A.C. BELL* and J.W. DOLAN (*Medical University of South Carolina, Charleston, USA*).

0346 Development and Distribution of Bacterial Coaggregates within Oral Biofilm. A. FRIEDMANN*, J. WECKE, K. MADELA, and J.-P. BERNIMOULIN (*Department of Periodontology, Charité, Humboldt University, and Robert-Koch Institute, Berlin, Germany*).

0347 Effects of Selected Antibiotics on Periodontopathogenic Bacteria in Biofilm. S. EICK*, T. SELTMANN, and W. PFISTER (*University of Jena, Germany*).

0348 Growth Conditions and *Streptococcus mutans* Biofilm Development. A. MODESTO*, B. OLSON, and D. DRAKE (*University of Iowa, Iowa City, USA*).

0349 Genetic Exchange between *Treponema denticola* and *Streptococcus gordonii*. B.Y. WANG* and H.K. KURAMITSU (*State University of New York at Buffalo, USA*).

0350 Monitoring of Light-emitting Bacteria in Soft and Hard Tissues of Whole Animals. S. SHABAHANG*, A.A. SZALAY, and J.D. KETTERING (*Loma Linda University, CA, USA*).

0351 Effects of Zinc Salts on Oral Pathogens and Oral Malodor. S. SCHEINBACH*, G.-X. WEI, C.D. WU, K. AJI, and R. D'AMELIA (*Nabisco Inc., East Hanover, NJ, and University of Illinois at Chicago, USA*).

0352 Preventing Transfer of Mutans Streptococci from Primary to Permanent Molars. S.M. ALAKI*, W.J. LOESCHE, R.J. FEIGAL, K.B. WELCH, and M.A. DA-FONSECA (*University of Michigan, Ann Arbor, USA*).

0353 A Rapid *in vitro* Method to Determine Antibacterial Efficacy of Oral Care Formulations. P. SREENIVASAN, G. TAMBS, N. NABI*, and A. GAFFAR (*Colgate-Palmolive Company, Piscataway, NJ, USA*).

0354 Extended Duration of Mouthrinse Antibacterial Activity *in vivo*. D. FURGANG*, K. SINATRA, D. FINE, C. CHARLES, J. VINCENT, and D. LUO (*UMDNJ Dental Research Center and Warner-Lambert Consumer Group, Pfizer, Inc., Morris Plains, NJ, USA*).

0355 Reducing Plaque on Model Surfaces by Controlling Surface Energy. T.J. BOYD* (*Colgate-Palmolive, Piscataway, NJ, USA*).

0356 Comparative *in vitro* Antimicrobial Activity of Peroxide Gels in Strip or Tray Bleaching Systems. J.A. FITZGERALD*, N.J. FLENNOY, and R.W. GERLACH (*The Procter & Gamble Co., Mason, OH, USA*).

0357 Development of Chlorhexidine Rinse Formulations with Flavoring Agents. K. SHEPPARD*, C.L. MAREK, B. OLSON, and D. DRAKE (*University of Iowa, Iowa City, USA*).

0358 Effects of Different Storage Methods on Microbial Contamination of Toothbrushes. A. SVENSON*, R. SRIKANTHA, and K. VARGAS (*University of Iowa, Iowa City, USA*).

Seq#: 50 Thursday, March 8, 11:00 am - 12:15 pm
Poster Session, Exhibition Hall

Microbiology/Immunology & Infection Control - Genetics of Periodontopathogens

0359 *Treponema denticola* Subtilisin Gene (*prtP*)-like Sequences among Oral Treponemes. J.L. GALVIN, S.K. BOCHES, C. WYSS, F.E. DEWHIRST, B.J. PASTER, and R.P. ELLEN* (*University of Toronto, Canada; University of Zürich, Switzerland; and The Forsyth Institute, Boston, MA, USA*).

0360 Native Plasmids from Clinical Isolates of *Fusobacterium nucleatum*. S.C. YODER*, D.M. CITRON, J. MCCOY, S. HUNT GERARDO, E.J.C. GOLDSTEIN, and S. KINDER HAAKE (*UCLA School of Dentistry and R.M. Alden Research Laboratory, Santa Monica-UCLA Medical Center, USA*).

0361 Complete IVIAT Screening of the *Actinobacillus actinomycetemcomitans* Genome for *in vivo*-induced Genes. J.R. SPEIGEL*, S.L. CAO, A. PROGULSKE-FOX, J.D. HILLMAN, and M. HANDFIELD (*College of Dentistry and Center for Molecular Microbiology, University of Florida, Gainesville, USA*).

0362 Functional Analyses of Type IV Secretion Genes in *Actinobacillus actinomycetemcomitans*. K.F. NOVAK, B.A. DOUGHERTY, and M. PELAEZ* (*School of Dental Medicine, University of Pittsburgh, PA, USA*).

0363 Evidence for Genetic Heterogeneity in *secB* Genes from *Actinobacillus actinomycetemcomitans*. K.F. NOVAK, K. ETESSAMI, and B.A. DOUGHERTY* (*School of Dental Medicine, University of Pittsburgh, PA, USA*).

0364 Cloning of Putative Type IV Pilus Genes of *Actinobacillus actinomycetemcomitans*. C. CHEN* and W. SHI (*Periodontology, USC School of Dentistry, and Molecular Biology Institute and UCLA School of Dentistry, Los Angeles, CA, USA*).

0365 Analysis of *Actinobacillus actinomycetemcomitans* Strains Harboring Type IV Secretion Genes. K.F. NOVAK, B.A. DOUGHERTY, and C. SCLATER* (*School of Dental Medicine, University of Pittsburgh, PA, USA*).

0366 Identification of a Gene Encoding *Treponema denticola* "BANA" Peptidase. S.Y. LEE*, C.H. BAYER, Y. NING, and J.C. FENNO (*University of Michigan, Ann Arbor, USA*).

0367 Characterization of *Porphyromonas gingivalis* Outer Membrane Vesicle Formation. J. HAYASHI* and H.K. KURAMITSU (*State University of New York at Buffalo, USA*).

0368 Absence of Cytolethal Distending Toxin and Leukotoxin Genes in *Actinobacillus actinomycetemcomitans* Bacteriophage ϕ Aa. Y. AZULAY and R.H. STEVENS* (*School of Dentistry, Temple University, Philadelphia, PA, USA*).

Seq#: 51 Thursday, March 8, 11:00 am - 12:15 pm
Poster Session, Exhibition Hall

Periodontal Research - Tissue Regeneration

0369 Enamel Matrix Derivative Inhibits BMP-2-induced Mineralization in 2T9 Cells *in vitro* by Stimulation of TGF- β Production. K. RUDE*, D.L. CARNES, Z. SCHWARTZ, S. HARRIS, B.D. BOYAN, and D.L. COCHRAN (*University of Texas Health Science Center, San Antonio, USA*).

0370 Effects of EMDOGAIN® on Proliferation and Viability of Fibroblasts *in vitro*. D.R. DAVENPORT*, J.M. MAILHOT, J.C. WATAHA, M.A. BILLMAN, M. SHARAWY, and M.K. SHROUT (*Medical College of Georgia, Augusta, USA*).

0371 Enamel Matrix Proteins and Bioabsorbable Membrane in the Treatment of Early-onset Periodontitis. K.A. GHAFAR*, M.M. HOSNY, and S. GARRETT (*Ain Shams University and Cairo University, Egypt; and Atrix Labs. Inc., Fort Collins, CO, USA*).

0372 The Influence of rpAmelogenin on Human Periodontal Ligament Cells in an *in vitro* Wound. J.H. JOHNSON*, A.M. HOANG, and D.L. COCHRAN (*University of Texas Health Science Center, San Antonio, USA*).

0373 Evaluation of Calcium Sulfate Barrier for the Treatment of Intrabony Defects. M.E. AICHELMANN-REIDY*, M.A. REYNOLDS, and C.D. HEATH (*University of Maryland, Baltimore, USA*).

0374 Atrisorb™ Direct Flow Barrier for Gingival Recession Treatment in Humans. R.A. YUKNA*, G.H. EVANS, J. SIMMONS, A.M. SAENZ, K.W. OWENS, and E.T. MAYER (*Louisiana State University Dental School, New Orleans, USA*).

0375 GTR in Class II Furcations with a Bioabsorbable Membrane. P.R. CURY*, A.W. SALLUM, R.G. CAFFESSE, L.M.C. NASCIMENTO, J.E. CORRENT, and E.A. SALLUM (*University of Campinas, Piracicaba, Brazil*).

0376 Cementoblast Cell Therapy for Modulation of Periodontal Regeneration. M. ZHAO*, W.V. GIANNOBILE, and M.J. SOMERMAN (*University of Michigan, Ann Arbor, USA*).

0377 PDGF Gene Delivery for Application in Periodontal Tissue Engineering. W.V. GIANNOBILE*, C.S. LEE, J.E. BERRY, E.R. WATTERS, R.C. ROBKE, H. VISWANATHAN, and M.J. SOMERMAN (*University of Michigan, Ann Arbor, USA*).

0378 Characterization of Noncollagenous Protein from Surface Bovine Cementum. K. NISHIMURA*, T. KISHIMOTO, K. TAKADA, Y. ONODERA, H. IMAI, and M. MUNEKATA (*Osaka Dental University and Hokkaido University, Japan*).

0379 Cellular Inflammatory Response to Porcine Collagen Grafts. M.G. PATINO* and R.E. COHEN (*State University of New York at Buffalo, USA*).

0380 rhBMP-2 Significantly Enhances GBR at Machined and Surface-etched Dental Implants. U.M.E. WIKESJÖ, M. QAHASH*, R.C. THOMSON, A. COOK, M.D. ROHRER, J.M. WOZNEY, and W.R. HARDWICK (*Temple University, WL Gore & Associates, Inc., Genetics Institute, Inc., and University of Minnesota, USA*).

Seq#: 52 **Thursday, March 8, 11:00 am - 12:15 pm**
Poster Session, Exhibition Hall

Periodontal Research - Periodontal Medicine

0381 The Prevalence of Hypertension in Periodontitis Patients over Age 60. B. ALLEN*, H. GREENWELL, C. DRISKO, and J.P. SCHEETZ (*University of Louisville, KY, USA*).

0382 Periodontitis and Carotid Artery Calcifications in Head and Neck Cancer Patients. B. BECKSTROM*, H. GREENWELL, C. DRISKO, J. CHEN, J.P. SCHEETZ, Z. KHAN, and A.G. FARMAN (*University of Louisville, KY, USA*).

0383 Periodontal Disease in Two Population Samples of Pregnant Women. H. TO*, A. CURRAN, B. FRANCIS, N.G. MOSCA, S. LEE, R. JOHNSON, J.S. HODGES, M. HARSCH, C. DOYEN, P.A. LENTON, A. DEINARD, and B. PIHLSTROM (*University of Minnesota, Minneapolis, and University of Mississippi, Jackson, USA*).

0384 Desquamative Gingival Lesions Probably Related to Disorders of Female Hormone. K. UYENO*, K. ABE, H. YOKO-FUJI, and T. KIKUCHI (*Department of Periodontology, School of Dentistry, Iwate Medical University, Japan*).

0385 Risk Assessment Model for Gingivitis in Diabetic Patients. E.K. DELGADO*, H. AGUILAR, and A. EVANGELISTA (*Universidad Peruana Cayetano Heredia, Lima, Perú*).

0386 Prevalence of Periodontal Disease in First-year Dental Students with Family History of Diabetes. P. FAMILI*, R. MILLER, A. SEYEDAIN, A. GOLDSMITH, and J.M. CLOSE (*Department of Periodontics, School of Dental Medicine, University of Pittsburgh, PA, USA*).

0387 Periodontal Disease in Guatemalan Type I Diabetics. E.E. MILIAN*, A.E. HERNANDEZ, and R.A. SANCHEZ (*D.E.O., School of Dentistry, Universidad de San Carlos de Guatemala*).

0388 Could Periodontitis be Involved with Paranasal Sinus Infections? H. VISSER* and O. BÖHM (*Dental School, University of Göttingen, Germany*).

0389 Prevalence and Severity of Cyclosporine-A-induced Overgrowth at Lima's Hospital. K.L. MEDINA* and D. PROAÑO (*Universidad Peruana Cayetano Heredia, Lima, Perú*).

Seq#: 53 **Thursday, March 8, 11:00 am - 12:15 pm**
Poster Session, Exhibition Hall

Neuroscience/TMJ - Sleep and Hormones in TMD and AFP

0390 Temporomandibular Disorders (TMD) Reliability Assessment Using the Intraclass Correlation Coefficient. M.T. JOHN*, L. MANCL, and S.F. DWORKIN (*Martin Luther University, Halle, Germany; and University of Washington, Seattle, USA*).

0391 Hormonal Changes and Other Related Factors in Atypical Facial Pain. L.A. CHEN*, E.L. TRUELOVE, M.T. DRANGSHOLT, S.F. DWORKIN, E. SOMMERS, T.S. BENTON, L. MANCL, and L. LeRESCHÉ (*University of Washington, Seattle, USA*).

0392 Clinical Characteristics of AFP Patients with and without TMD. L.A. CHEN, L. LeRESCHÉ, E.L. TRUELOVE*, M.T. DRANGSHOLT, E. SOMMERS, S.F. DWORKIN, and L. MANCL (*University of Washington, Seattle, USA*).

0393 Risk Factors for AFP with vs. without TMD Symptoms. L.A. CHEN, L. LeRESCHÉ*, M.T. DRANGSHOLT, E.L. TRUELOVE, E. SOMMERS, S.F. DWORKIN, T.S. BENTON, and L. MANCL (*University of Washington, Seattle, USA*).

0394 Lack of Estrogen Receptors in Tissues of Patients with Burning Mouth Syndrome. S. MYERS* and N.L. RHODUS (*University of Minnesota, Minneapolis, USA*).

0395 Sex Differences in Temporomandibular Disorder Symptoms, Signs, and Diagnoses. C. MONTEZI*, M. BITTEN-COURT, C. MATTOS, and J. GIACOMIN (*University of Espirito Santo-Vitoria, Brazil*).

0396 Correlates of Sleep Disturbance in an Orofacial Pain Population. V. ANDREOU*, A. SHELEMAY, H.P. LAWRENCE, and H.C. TENENBAUM (*University of Toronto, ON, Canada*).

0397 Physical Activity, Psychological Distress, and Sleep Dysfunction in Myofascial Pain. V.L. VENABLE*, C.R. CARLSON, J.L. STUDTS, R. DE LEEUW, and J.P. OKESON (*University of Kentucky, Lexington, USA*).

0398 Fibromyalgia: A Predictor for Progression of TMD Chronic Pain Grade. P.L. CARLSON*, J.O. LOOK, P.A. LENTON, R.P. MESSNER, A.K. JACKSON, J.S. HODGES, and J.R. FRIC-TON (*University of Minnesota, Minneapolis, USA*).

0399 Variation in Human TMJ and Muscle Forces during Static Biting. B. THORNTON*, P. YAO, R. WALKER, B. BAIRD, L.R. IWASAKI, and J.C. NICKEL (*College of Dentistry, UNMC, Lincoln, NE, USA*).

0400 Correlation Analysis of Stimuli Affecting Temporomandibular Disorders. W.G. HARRINGTON* and F.M. BUSH (*Department of General Practice Dentistry, Virginia Commonwealth University, Richmond, USA*).

0401 Temporomandibular Joint Disk Displacement and Risk Indicators in a Rural Population. A. ZAZUETA*, F. HER-RERA, and G. JIMÉNEZ (*Faculty of Dentistry, Autonomous University of Campeche (UAC), Mexico*).

0402 Association Analysis between Masticatory Functional Angles and Masticatory Preference Side. G. PIGNATARO NETO*, K.A. NÓBILO, and F. BÉRZIN (*Oral Physiology Area, FOP/UNI-CAMP, Brazil*).

0403 Disc Displacement in Temporomandibular Disorders. A Survey in University Students. J. CASANOVA*, S. PÉREZ, A. VALLEJOS, and A. CASANOVA (*Faculty of Dentistry, Autonomous University of Campeche, México*).

0404 Relationship among TMD Pain, Somatization, Anxiety, Depression, and SF-36 Scores. J. ALGHAMDI, N. MEHTA, and A. FORGIONE* (*School of Dental Medicine, Tufts University, Boston, MA, USA*).

0405 Multidisciplinary Treatment Effectiveness on TMDs: 519 Patients Sampled from 5,000. N. MEHTA*, J. ALGHAMDI, and A. FORGIONE (*School of Dental Medicine, Tufts University, Boston, MA, USA*).

0406 Prevalence of Carpal Tunnel Syndrome and Median Mononeuropathy among Dentists. C. HAMANN, R.A. WERNER, A. FRANZBLAU, P.A. RODGERS, C. SIEW*, and S.E. GRUNINGER (*SmartHealth, Phoenix, AZ, University of Michigan, Ann Arbor, and ADA Health Foundation, Chicago, IL, USA*).

Seq#: 54 **Thursday, March 8, 11:00 am - 12:15 pm**
Poster Session, Exhibition Hall

Oral Medicine & Pathology - Tissue and Cell Biology

0407 Structural Basis for Hemostatic Regulation by Antithrombin and Heparin. S. OLSON*, I. BJÖRK, U. DESAI, V. AROCAS, S. RAJA, S. BOCK, and P. GETTINS (*University of Illinois at Chicago, USA; Swedish University of Agricultural Science, Uppsala; and University of UT, Salt Lake City, USA*).

0408 Specificity Determinants of Heparin-activated Antithrombin for Hemostatic Enzymes. Y. CHUANG, R. SWANSON*, M. SADRI, N. CHABALANI, and S. OLSON (*University of Illinois at Chicago, USA*).

0409 Role of ERE Sequence in Binding Specificity of Estrogen Receptors. A. PEPIC*, A. SMOLENKOV, and J.L. WITTLIFF (*Brown Cancer Center, University of Louisville, KY, USA*).

0410 Recombinant Receptor Proteins as Tools for Estrogen Action Studies. S.M. POLLY*, W. FENG, A. SMOLENKOV, A. PEPIC, G.K. RUSSELL, and J.L. WITTLIFF (*University of Louisville, KY, USA*).

0411 Protein N-glycosylation in Oral Epithelial Cell Proliferation and Differentiation. S.M. CAWLEY* and M.A. KUKURUZINSKA (*School of Dental Medicine, Boston University, MA, USA*).

0412 Rap1 Expression in Human Oral Keratinocytes: Up-regulation during Differentiation. N.J. D'SILVA*, C. BABCOCK, P.J. POLVERINI, and T. CAREY (*University of Michigan, Ann Arbor, USA*).

0413 The Role and Regulation of Plasminogen Activation in Epithelial Cell Proliferation. C.J. BRUZDZINSKI* and X. WANG (*University of Illinois at Chicago, USA*).

0414 Plasminogen Activator and Inhibitor Genes are Regulated by Extracellular Matrix. J.M. BATOR, R.L. COHEN*, and D.A. CHAMBERS (*University of Illinois at Chicago, USA*).

0415 Mechanism of Norepinephrine-mediated Destabilization: mRNA Binding Proteins. L.H. GRAF, Jr., Y. TANG*, R.L. COHEN, and D.A. CHAMBERS* (*University of Illinois at Chicago, USA*).

0416 The β -adrenergic Receptor Modulates Cytokine mRNA in Mouse Spleen. V.V. KALINICHENKO, L.H. GRAF, Jr., R.L. COHEN, P. FELSNER, K. SCHAUENSTEIN, and D.A. CHAMBERS* (*University of Illinois at Chicago, USA; and University of Graz, Austria*).

0417 Norepinephrine Regulation of Murine Splenocyte Interleukin-1 β mRNA *in vitro*. A. ROTRAMEL*, V.V. KALINICHENKO, L.H. GRAF, Jr., R.L. COHEN, and D.A. CHAMBERS (*University of Illinois at Chicago, USA*).

0418 Norepinephrine-mediated T-cell mRNA Destabilization: Roles of Characterized Binding Proteins. L.H. GRAF, Jr., Y. TANG, G. BREWER, R.L. COHEN, and D.A. CHAMBERS (*University of Illinois at Chicago, and University of Medicine and Dentistry of New Jersey, Newark, USA*).

0419 NK92 Cell Line: Model for Natural Killer Cell Cytokine Regulation. B. BROWN* and Z.B. KURAGO (*University of Iowa, Iowa City, USA*).

Seq#: 55 Thursday, March 8, 11:00 am - 12:15 pm
Poster Session, Exhibition Hall

Craniofacial Biology - Developmental Biology: Cartilage and Sutures

0420 Recovery of Condylar Cartilage in Response to Estrogen. R.P. HARPER, R.M. TALWAR, P.A. NICOARA, and B.S. WONG* (*Baylor College of Dentistry, Texas A & M University System Health Science Center, Dallas, USA*).

0421 PTH Down-regulates Type X Collagen mRNA Expression in Chondrocytes. D.E. KERN*, G.M. ALBRIGHT, and K.K.H. SVOBODA (*Baylor College of Dentistry, Texas A & M University System, Dallas, USA*).

0422 Chondrocyte Apoptosis in Mechanical-stress-induced OA Cartilage of the Rabbit TMJ. T. FUJISAWA*, T. KUBOKI, T. KASAI, T. MIZUSHIMA, W. SONOYAMA, K. NAWACHI, M. KANYAMA, H. YATANI, and M. TAKIGAWA (*Dental School, Okayama University, Japan*).

0423 Regulation of Proliferation and Maturation of Meckel's Cartilage by Perichondrium. D. COLOSI*, D.A. VELO-NIS, W.B. UPHOLT, and M. MINA (*School of Dental Medicine, University of Connecticut Health Center, Farmington, USA*).

0424 Effects of Genistein, a Phytoestrogen, on Mandibular Condylar Cartilage. P.A. NICOARA*, R.P. HARPER, and B.S. WONG (*Baylor College of Dentistry, Texas A & M University System Health Science Center, Dallas, USA*).

0425 Condylar Cartilage Gene Expression Following Altered Postural Position of Mandible. M.A. FUENTES, L.A. OPPERMAN, L.L. BELLINGER, P.H. BUSCHANG, D.S. CARLSON, and R.J. HINTON* (*Baylor College of Dentistry, Texas A & M University System Health Science Center, Dallas, USA*).

0426 Rescue of Coronal Suture Synostosis with TGF- β 3 in Craniosynostotic Rabbits. S.L. CHONG*, R. MITCHELL, A.M. MOURSI, P.L. WINNARD, H.W. LOSKEN, O. OZERDEM, K. KEELER, L.A. OPPERMAN, M.I. SIEGEL, and M.P. MOONEY (*University of Pittsburgh, PA, Ohio State University, Columbus, and Baylor College of Dentistry, Dallas, TX, USA*).

0427 Detection of Apoptosis in Rat Interfrontal Sutures Using Annexin V. C.O. HARPER*, J.J. SCIOTE, R. MITCHELL, I.M.J. MATHIJSEN, M.I. SIEGEL, and M.P. MOONEY (*University of Pittsburgh, PA, USA; and Erasmus Medical Center, Rotterdam, The Netherlands*).

0428 Generation and Analysis of Transgenic Mice Expressing the Bone-targeted FGFR2 Gene with an Activating (Craniosynostosis) Mutation or a Dominant-negative Mutation. C. RATISOONTORN* and H.-D. NAH (*University of Pennsylvania, Philadelphia, USA*).

0429 Cell Proliferation Rates during Development in the Primary Palate of Mice. S. AHMAD* and S.-G. GONG (*University of Michigan, Ann Arbor, USA*).

0430 Assessment of Candidate Genetic Regions for Oral-facial Clefts in China. M.L. MARAZITA*, M.E. COOPER, B.S. MAHER, Y. LIU, and L.L. FIELD (*University of Pittsburgh, PA, USA; Zhebei Eye Hospital, Shanghai, China; and University of British Columbia, Canada*).

0431 TGF β -induced Differential Gene Expression in Embryonic Palate Mesenchymal Cells: Analysis by cDNA Array Hybridization. M.M. PISANO*, J.C. KUSEK, and R.M. GREENE (*Birth Defects Center, University of Louisville, KY, USA*).

Seq#: 56 Thursday, March 8, 1:45 pm - 3:45 pm
AADR Group-sponsored Symposia
Grand Ballroom B

Oral Medicine & Pathology Group – Adhesion Molecules and Disease Progression

Chairpersons: D. Ramos and R. Kramer

0432 1:45 Adhesion Molecules and Disease Progression. D.M. RAMOS* (*University of California, San Francisco, USA*).

1:50 Adhesion Receptors Regulate Oral SCC Survival and Growth. R. KRAMER (*University of California, San Francisco, US*).

2:20 Expression $\alpha v \beta 3$ Enhances Bone Resorption by Osteoclasts. F.P. ROSS (*Washington University, St. Louis, MO, US*).

2:50 Molecular Mechanisms of Integrin Cross-talk in Oral Streptococci. S. BLYSTONE (*State University of New York, Syracuse, US*).

3:15 Signal Transduction Mediated by the $\alpha v \beta 6$ Integrin in Oral SCC. D.M. RAMOS (*University of California, San Francisco, US*).

3:40 Discussion

Seq#: 57 Thursday, March 8, 1:45 pm - 3:45 pm
AADR Group-sponsored Symposia
Grand Ballroom F

AAADR National Student Research Group – Benefits of Academic and Research Careers

Chairpersons: A. Iacopino and C. Freeman

0433 1:45 Benefits of Academic and Research Careers. A.M. IACOPINO* (*Marquette University School of Dentistry, Milwaukee, WI, USA*).

1:50 Personal Experiences in an Academic/Research Career. A.M. IACOPINO (*Marquette University, Milwaukee, WI, US*).

2:10 Positive Aspects of Academic/Research Careers. D.S. CARLSON (*Baylor College of Dentistry, Dallas, TX, US*).

2:30 Why I Enjoy Being a Faculty Member. C. WHITE (*University of Missouri, Kansas City, US*).

2:50 Incentives and Innovations for Academic/Research Careers. J. KELLER (*University of Iowa, Iowa City, US*).

3:10 Discussion

Seq#: 58 Thursday, March 8, 1:45 pm - 3:45 pm
Oral Session, Columbus Hall G

Craniofacial Biology - Malocclusion: Craniofacial Characteristics, Treatment Outcome and Need

Chairpersons: S. Baumrind and J. English

0434 1:45 Heritability of Head and Facial Form in Caucasian Families. M.G. HANS*, S. REDLINE, R. ELSTON, K. NELSON, G. GRAHAM, J. AYLOR, and M. VALIATHAN (*Case Western Reserve University, Cleveland, OH, USA*).

0435 2:00 The Heritability of Maxillary Midline Diastemas. J. GASS, M. VALIATHAN*, H.K. TIWARI, and M.G. HANS (*Case Western Reserve University, Cleveland, OH, USA*).

0436 2:15 Crowding in Treated and Untreated Subjects 17-50 Years of Age. P.H. BUSCHANG* and J.D. SHULMAN (*Baylor College of Dentistry, Texas A&M University Health Science Center, Dallas, USA*).

0437 2:30 The Effects of Malocclusion on Masticatory Performance. J. ENGLISH*, P.H. BUSCHANG, and G.S. THROCKMORTON (*Baylor College of Dentistry, Texas A&M University Health Science Center, Dallas, USA*).

0438 2:45 Discriminant Analysis of Obstructive Sleep Apnea (OSA) Subgroups. V. TANGUGSORN*, O. KROGSTAD, L. ESPELAND, and T. LYBERG (*University of Oslo, Norway*).

0439 3:00 Relationships between Chin Prominence and Mandibular Size and Shape. S. BAUMRIND* and S.L. HOROWITZ (*University of Medicine and Dentistry of New Jersey, and University of the Pacific, San Francisco, USA*).

0440 3:15 Patient Satisfaction with Orthodontic Care between Orthodontists and Pediatric Dentists. A.K. MASCARENHAS*, B.H. JOO, M.E. BENNETT, and K.W.L. VIG (*Ohio State University, Columbus, USA*).

0441 3:30 Validity of the ICON in Determining Orthodontic Treatment Need. A.R. FIRESTONE*, F.M. BECK, F.M. BEGLIN, and K.W.L. VIG (*College of Dentistry, Ohio State University, Columbus, USA*).

Seq#: 59 Thursday, March 8, 1:45 pm - 3:45 pm
Oral Session, Columbus Hall C

Dental Materials - Composite and Posterior Restorations

Chairpersons: J. Dunn and R. Perry

0442 1:45 Clinical Evaluation of Esthet-X Composite Resin. J.R. DUNN*, C.A. MUNOZ, R. KINZER, D.E. TAN, J. SY-MUNOZ, and A. WILSON (*Loma Linda University, CA, USA*).

0443 2:00 Total Bonding of Direct Posterior Composite Restorations—Four-year Results. N. KRÄMER*, A. PETSCHL, and R. FRANKENBERGER (*Policlinic of Operative Dentistry and Periodontology, University of Erlangen, Germany*).

0444 2:15 Clinical Evaluation of Heliomolar HB for Posterior Restorations. J.R. DUNN, C.A. MUNOZ*, G. BERNAL, J. TORRES, and A. WILSON (*Loma Linda University, CA, USA*).

0445 2:30 Clinical Evaluation of Base, Sandwich, and Bonded Class 2 Composite Restorations. J.O. BURGESS*, J.B. SUMMITT, J.W. ROBBINS, C.W. HAVEMAN, and P.V. NUMMIKOSKI (*LSUMC and UTHSCSA, USA*).

0446 2:45 Five-year Evaluation of Amalgambond Plus and Pin-retained Amalgam Restorations. J.B. SUMMITT*, J.O. BURGESS, T. BERRY, J. OSBORNE, J.W. ROBBINS, and C.W. HAVEMAN (*UTHSCSA, TX, LSUMC, LA, and UCHSC, CO, USA*).

0447 3:00 Survival Analysis of Posterior Restorations Using an Insurance Claims Database. R.E. BOGACKI*, M. DELAGUILA, R. HUNT, and W. SMITH (*Virginia Commonwealth University, Richmond, USA*).

0448 3:15 Three-month Clinical Performance of Super Seal Desensitizing Agent on Dentin Hypersensitivity. A.A. HAFEZ* and C.F. COX (*Restorative Dentistry, School of Dentistry, UCLA, USA*).

3:30 Discussion

Seq#: 60 Thursday, March 8, 1:45 pm - 3:45 pm
Oral Session, Regency D

Dental Materials - Polymer Materials: Mechanical Properties and Wear

Chairpersons: W. Geurtsen and L. Sharp

0449 1:45 Characterization of the Rheology of Dental Composites. L. SHARP* (*Bisco, Inc., Schaumburg, IL, USA*).

0450 2:00 Laboratory Wear Rates of Posterior Composite Materials. W.W. BARKMEIER*, M.A. LATTA, R.L. ERICKSON, F.G. CORDINI, and M.K. COOK (*Creighton University, Omaha, NE, and 3M Dental Products, St. Paul, MN, USA*).

0451 2:15 Effects of Various Media on Fluoride Release from Three Compomers—Long-term Results. B. BEHREND, G. LEYHAUSEN, F. GARCÍA-GODOY, and W. GEURTSSEN* (*Medical University, Hannover, Germany; and University of Texas at San Antonio, USA*).

0452 2:30 Evaluation of Two Coatings on the Longevity of a Tissue Conditioner. N. MEHTA*, R. SANCHEZ, and H.S. MALMSTRÖM (*University of Rochester Eastman Dental Center, NY, USA*).

0453 2:45 Breaking Load and Tensile Strength of Seven Knotted Suture Materials. D.A. FREY* and E.P. LAUTENSCHLAGER (*Northwestern University Dental School, Chicago, IL, USA*).

0454 3:00 Setting Time as a Function of Working Time in Impression Materials. B. WÖSTMANN* and P. FERGER (*Department of Prosthodontics, Justus-Liebig-University, Giessen, Germany*).

0455 3:15 Correlation between Static and Dynamic Properties and Accompanied Acoustic Emission. T.S. HUSSEIN* and G.A. ALIAN (*Ain Shams University, Egypt*).

0456 3:30 Surface Analysis of Retrieved Temporomandibular Joint Prostheses. B. VENKATACHALAM*, R.E. BAIER, and A.E. MEYER (*State University of New York at Buffalo, USA*).

Seq#: 61 **Thursday, March 8, 1:45 pm - 3:45 pm**
Oral Session, Toronto

Diagnostic Systems - 3D and Bone Radiography

Chairpersons: A. Farman and S. White

0457 1:45 3D Hand-held X-ray System: Design and Test Results. R.L. WEBBER*, S.E. WEBBER, and J. MOORE (*Wake Forest University, Winston-Salem, NC, USA*).

0458 2:00 Tuned-aperture Computed Tomography (TACT) Array Geometry Depth Discrimination Impact. R.D. MORANT, P.D. ELEAZER, J.P. SCHEETZ, and A.G. FARMAN* (*School of Dentistry, University of Louisville, KY, USA*).

0459 2:15 Linear and Circular Projection Arrays for TACT® Reconstruction: Effects on Caries Detection. M. ABREU, Jr.*, D.A. TYNDALL, J.B. LUDLOW, and A.L. ABREU (*Federal University of Santa Catarina, Florianópolis, Brazil; and University of North Carolina, Chapel Hill, USA*).

0460 2:30 The Testing of a Device to Control for Vertical Angulation and Film Placement of Bitewings. S.M. POLLOCK*, M.K. O'CARROLL, and F.M. GORDY (*University of Mississippi Medical Center, Jackson, USA*).

0461 2:45 Impact of Lossy Compression on Diagnostic Accuracy of Periapical Lesions. M. ANALOUI, F. ERASO*, A.B. WATSON, and R. REBESCHINI (*School of Dentistry, Indiana University, Indianapolis, College of Dental Medicine, Nova Southeastern University, Ft. Lauderdale, FL, and NASA Ames Research Center, Moffett Field, CA, USA*).

0462 3:00 Alteration of Trabecular Pattern of Panoramics in Osteoporosis. S.C. WHITE*, H. AL-SAMARRAI, A. TAGUCHI, and D.C. YOON (*UCLA School of Dentistry, USA*).

0463 3:15 Photostimulable Phosphor Scanners for Oral Bone Mass Measurements. R.A. COUTURE*, C.F. HILDEBOLT, and B.R. WHITING (*School of Medicine, Washington University, St. Louis, MO, USA*).

3:30 Discussion

Seq#: 62 **Thursday, March 8, 1:45 pm - 3:45 pm**
Oral Session, Columbus Hall A

Educational Research - Educational Methodology

Chairpersons: K. Eaton and T. Burke

0464 1:45 Oral Rehabilitation: Problem-based, Collaborative Distance Learning in Dentistry. S.K. LECHNER*, P. KANDBINDER, S. GONSALKORALE, T. WINNING, J. SCOTT, F. RAZOOL, B. MONTEITH, M. BRADSHAW, and K. HARRIS (*University of Sydney, Australia*).

0465 2:00 Is Comprehensive Care Taught in US and UK Dental Schools? F.J.T. BURKE*, L. JENSON, S. McHUGH, and N.H.F. WILSON (*University of Birmingham, UK; University of California, USA; University of Glasgow, UK; and University of Manchester, UK*).

0466 2:15 Teaching Technical Skills by Evaluating Basic Dexterity Training in Implant Surgery. M.F. CAMINITI*, G. REGEHR, S. HAMSTRA, and R. REZNICK (*Oral and Maxillofacial Surgery, Centre for Research in Education, University of Toronto, Canada*).

0467 2:30 Effects of Simulated Final Clinical Competency Examination on Licensure Examination. Y. WILLIAMS*, F. ERNST, and H.L. YOUNG (*Meharry Medical College, Nashville, TN, USA*).

0468 2:45 Video-conferencing for Continuing Dental Education: A London-based Project. K.A. EATON*, C.A. FRANCIS, R.D. MASON, E.W. ODELL, and P.A. REYNOLDS (*University of London and Open University, Milton Keynes, UK*).

0469 3:00 Clinical Use of the Multi-media Application "Inlay Interactive" for Undergraduate Education. J. GRAMSCH* and W.H.-M. RAAB (*Department of Operative Dentistry, Heinrich-Heine-University, Duesseldorf, Germany*).

0470 3:15 Use of Web-based Instruction by Community College Dental Hygiene Students. S.M. MAURIELLO*, J.B. LUDLOW, C.A. PETERSON, C.M. PREISER, and D.E. FLEMING (*University of North Carolina-CH and Catawba Valley Community College, NC, USA*).

3:30 Discussion

Seq#: 63 **Thursday, March 8, 1:45 pm - 3:45 pm**
Oral Session, Columbus Hall I

Implantology Research - Tissue Engineering

Chairpersons: P. Ma and R. Wang

0471 1:45 Synthetic Micro-tubular Matrices for Tissue Regeneration. P.X. MA* and R. ZHANG (*University of Michigan, Ann Arbor, USA*).

0472 2:00 Differences in Neo-cartilage Derived from Two Scaffold Materials. A.K. OJHA, M.W. BEATTY*, J.L. COOK, L.R. ALBERTS, G.K. MAHANNA, L.R. IWASAKI, and J.C. NICKEL (*University of Nebraska, Lincoln and Omaha, and University of Missouri-Columbia, USA*).

0473 2:15 Measurement of Oxygen Levels in Extracellular Matrices Using a Microbiosensor. M. SHAO, R.R. WANG*, and C.C. LIU (*Case Western Reserve University, Cleveland, OH, USA*).

0474 2:30 Development of Controlled-release Hydrogel Scaffold for Dental Tissue Engineering. E. TEHRANI*, J. GAO, and R.R. WANG (*Case Western Reserve University, Cleveland, OH, USA*).

0475 2:45 The Effect of Simvastatin on Fetal Rat Calvarial Cells. K. WHANG, R.L. GLOVER, H.L. CARDENAS, B.R. FURMAN, B. LISKA, J. EMMONS, J. VO*, and S.R. KADAPAKKAM (*University of Texas Health Science Center, San Antonio, USA*).

0476 3:00 *In vitro* Biomineralization with Substrate-immobilized BMP-7 Peptides. B. RHEUDE*, K. WHITE, K.C. DEE, and K.L. KIRKWOOD (*SUNY at Buffalo, NY, and Tulane University, New Orleans, LA, USA*).

3:15 Discussion

Seq#: 64 **Thursday, March 8, 1:45 pm - 3:45 pm**
Poster Discussion Session, Grand Ballroom C

Microbiology/Immunology & Infection Control - Streptococcal Genetics

Chairpersons: M. Vickerman and J. Banas

0477 2:05 *Streptococcus mutans* Genes Involved in Biofilm Formation. A. YOSHIDA* and H.K. KURAMITSU (*SUNY at Buffalo, NY, USA*).

0478 2:15 The Contributions of Extracellular Proteins to *Streptococcus mutans* Biofilm Structure. J.A. BANAS*, M.E. FUSCHINO, J.D. MILLER, and J.E. MAZURKIEWICZ (*Albany Medical College, NY, USA*).

0479 2:25 The LicT Protein Regulates β -glucoside Utilization in *Streptococcus mutans*. C.K. COTE* and A.L. HONEYMAN (University of South Florida, Tampa, USA).

0480 2:35 Effects of Transcriptional Regulators *srlR* and *srlM* in *Streptococcus mutans*. C.D. FRENZEL* and A.L. HONEYMAN (University of South Florida, Tampa, USA).

0481 2:45 Characterization of Determinants Downstream of the *Streptococcus gordonii* Glucosyltransferase Gene. P.E. MINICK* and M.M. VICKERMAN (Indiana University, Indianapolis, USA).

0482 2:55 Genetic Analysis of the *rgg/gtfG* Intergenic Region in *Streptococcus gordonii*. M.M. VICKERMAN* and P.E. MINICK (Indiana University, Indianapolis, USA).

0483 3:05 Genetic Analysis of *Streptococcus parasanguis* *FimA*. J.S. MARK*, J.P. LEWIS, and F.L. MACRINA (Philips Institute of Oral and Craniofacial Molecular Biology, Virginia Commonwealth University, Richmond, USA).

0484 3:15 *Streptococcus mutans* *treR* Encodes a Positive Regulator of the Trehalose Operon. W. LASZCZ*, A.O. KILIC, and L. TAO (University of Illinois, Chicago, USA).

3:25 Discussion

Seq#: 65 Thursday, March 8, 1:45 pm - 3:45 pm
Oral Session, Columbus Hall K

Mineralized Tissue - Dentin/Cementum Development

Chairpersons: M. MacDougall and H. Ritchie

0485 1:45 Distinct Roles of Cbfa1 Isoforms during Dentinogenesis. S. CHEN* and M. MacDOUGALL (Dental School, University of Texas Health Science Center at San Antonio, USA).

0486 2:00 Post-translational Modifications of Rat Dentin Sialoprotein. J. van ITTERSUM*, J. ATTA-FYNN, and H.H. RITCHIE (School of Dentistry, University of Michigan, Ann Arbor, USA).

0487 2:15 BMP2 and BMP4 Induce Odontoblast Differentiation *in vitro*. M. HOFFMANN, J.S. GAIKWAD*, and R. D'SOUZA (University of Texas Health Science Center-Houston, USA; and University of Regensburg, Germany).

0488 2:30 Characterization of Murine Dental Follicle Cells. J.E. BERRY*, S.S. HAKKI, M. ZHAO, L.K. McCAULEY, and M.J. SOMERMAN (University of Michigan, Ann Arbor, USA).

0489 2:45 Relationship between Occlusion and Cellular Cementogenesis in Rat Molars. C. RODRIGUEZ*, J. CHEN, H. JIANG, and H.F. THOMAS (Dental School, University of Texas Health Science Center at San Antonio, USA).

0490 3:00 Function of Mouse Dentin Matrix Protein 1 during Mandibular Morphogenesis. X. LUAN* and M. MacDOUGALL (University of Texas Health Science Center at San Antonio, USA).

0491 3:15 Modulation of the Differentiation Fate of Avian Meckelian Chondrocytes *in vitro*. D.A. VELONIS* and M. MINA (School of Dental Medicine, University of Connecticut Health Center, Farmington, USA).

3:30 Discussion

Seq#: 66 Thursday, March 8, 1:45 pm - 3:45 pm
Oral Session, Acapulco

Oral Health Research - Oral Health Services, Health Promotion, Periodontitis Implications, Gingivitis, and Toothbrush Bristles

Chairpersons: H. Proskin and N. Wilson

0492 1:45 Prevalence of Atheromas on Panographs of Post-menopausal Women: Risk Factors. A.H. FRIEDLANDER* and L. ALTMAN (VA Medical Center and UCLA, Los Angeles, CA, USA).

0493 2:00 Comparative Study of Tobacco, Alcohol, and Health Promotion in Popular Print Media. B.T. MOORE*, K.V. RANKIN, and D.L. JONES (Baylor College of Dentistry/TAMHSC, Dallas, USA).

0494 2:15 Presence of Dental Abfraction on Post-traumatic Stress Disorder Patients. M. VITELLO*, S.G. CIANCIO, and G. DITURSI (VA Medical Center, Buffalo, NY, USA).

0495 2:30 Racial Differences in Acute Pain Following Mandibular Third Molar Surgery. Y.F. REN*, L. TAVAKOLI, and H.S. MALMSTRÖM (Division of General Dentistry, University of Rochester Eastman Dental Center, NY, USA).

0496 2:45 Periodontal Disease and Adverse Pregnancy Outcome. A Case Control Study. S. MOORE*, M. RANDHAWA, M. IDE, R.F. WILSON, and F.P. ASHLEY (GKT Dental Institute, Guy's Hospital, London, UK).

0497 3:00 Periodontitis Not a Risk Factor for Septicemia after Transplant. S. AKINTOYE*, M. BRENNAN, C. GRABER, B. MCKINNEY, T.E. RAMS, J. BARRETT, J. BENNETT, and J.C. ATKINSON (NIDCR/NIH, NIAID/NIH, and NHLBI/NIH, Bethesda, MD, Carolinas Medical Center, NC, Temple University, PA, and University of Maryland, USA).

0498 3:15 Effectiveness of Gum Chewing on Gingivitis through Sitewise Score Transitions. H.M. PROSKIN*, C.J. KLEBER, N.C. SHARMA, and B.J. NELSON (H.M. Proskin & Assoc., Indiana University, Purdue University, USA; BioSci Research Canada; and Church & Dwight Co., Princeton, NJ, USA).

0499 3:30 Bristle Tip Morphology Changes of Powered and Manual Toothbrushes. R.G. GELLIN*, K.W. FORD, D.J. MISHKIN, J.B. SANDIFER, and M.R. JOHNSON (Medical University of South Carolina, Charleston, and Optiva Corp., USA).

Seq#: 67 Thursday, March 8, 1:45 pm - 3:45 pm
Oral Session, Columbus Hall E

Oral Medicine & Pathology - Mucosal Homeostasis and Transformation

Chairpersons: J. Garlick and D. Wong

0500 1:45 Secretion of Human β -defensins by Gingival Epithelial Cells. B.A. DALE*, J.R. KIMBALL, D.L. DIAMOND, and S. KRISANAPRAKORNKIT (University of Washington, Seattle, and Ciphergen Biosystems Inc., Fremont, CA, USA).

0501 2:00 Molecular Cloning and Detection of an Epithelial Chymotrypsin. J.D. FIRTH* and V.-J. UITTO (Oral Biological and Medical Sciences, UBC, Vancouver, Canada).

0502 2:15 NF- κ B-inducible Death Effector Domain-containing Protein Suppresses TNF-mediated Apoptosis. Z. YOU, H. OUYANG, P.J. POLVERINI, and C.-Y. WANG* (Lab of Molecular Signaling and Apoptosis, University of Michigan, Ann Arbor, USA).

0503 2:30 TRAIL Modulation of *DOC-1* Expression in Human Normal Oral Keratinocytes. Y. KIM*, V. PATEL, B.-R. CHIN, D.T.W. WONG, and R. TODD (Harvard School of Dental Medicine, Boston, MA, USA).

0504 2:45 Ultraviolet-B Irradiation Induces Early Neoplastic Progression of Human Stratified Epithelium. A.V. MUDGIL, S.O. MATHEW*, N. SEGAL, Y. WANG, N.E. FUSENIG, and J.A. GARLICK (SUNY, Stony Brook, USA; and German Cancer Research Center, Heidelberg, Germany).

0505 3:00 Cell-Cell and Cell-Matrix Interactions in Early Neoplastic Progression. F. ANDRIANI, A. MARGOLIS, M. VACCARIELLO, Y. WANG, N.E. FUSENIG, and J.A. GARLICK* (SUNY, Stony Brook, USA; and German Cancer Research Center, Heidelberg, Germany).

0506 3:15 Chemically Induced Activation of Caspase-9 Induces Endothelial Cell Apoptosis. J.E. NÖR*, Y. HU, D.M. SPENCER, and G. NUNEZ (*School of Dentistry and Comprehensive Cancer Center, University of Michigan, Ann Arbor, USA*).

3:30 Discussion

Seq#: 68 **Thursday, March 8, 1:45 pm - 3:45 pm**
Oral Session, Grand Ballroom A

Periodontal Research - Microbial Virulence

Chairpersons: J. Ebersole and C. Genco

0507 1:45 Methylglyoxal, a New Virulence Factor in Adult Periodontitis. S. KASHKET* and M.F.J. MAIDEN (*The Forsyth Institute, Boston, MA, USA*).

0508 2:00 *Bacteroides forsythus* Produces Methylglyoxal, a Potential Virulence Factor in Periodontitis. M.F.J. MAIDEN*, P.M. MITCHELL, F.E. DEWHIRST, and S. KASHKET (*The Forsyth Institute, Boston, MA, USA*).

0509 2:15 Methylglyoxal Production by Bacterial Species Present in Periodontal Plaque. P.M. MITCHELL*, M.F.J. MAIDEN, S. KASHKET, S.S. SOCRANSKY, and F.E. DEWHIRST (*The Forsyth Institute, Boston, MA, USA*).

0510 2:30 Methylglyoxal Suppresses Growth and IL-8 Production of Gingival Epithelial Cells. T. KAWAI*, M.F.J. MAIDEN, and S. KASHKET (*The Forsyth Institute, Boston, MA, USA*).

0511 2:45 Methylglyoxal-modified Proteins Alter Adaptive Immune Responses. V.A. LEVANOS*, F.E. DEWHIRST, S. KASHKET, M.F.J. MAIDEN, and T.R. ESCH (*The Forsyth Institute, Boston, MA, USA*).

0512 3:00 Invasion-independent Inhibition of Chemokines in HUVEC by *Porphyromonas gingivalis*. H. NASSAR, M. KHLGATIAN, F.C. GIBSON, III, T.E. VAN DYKE, and C.A. GENCO* (*Al-Azhar University, Cairo, Egypt; and Boston University, MA, USA*).

0513 3:15 *Porphyromonas gingivalis* and Fimbriae Peptides Induce Adhesion Molecules in HUVEC. M. KHLGATIAN*, H. NASSAR, and C.A. GENCO (*Boston University, MA, USA; and Al-Azhar University, Cairo, Egypt*).

0514 3:30 Inflammatory Profile of Gingival Crevicular Fluid in Experimental Gingivitis (EG). J.L. EBERSOLE*, N.P. LANG, and R.E. SINGER (*University of Kentucky, Lexington, USA; University of Berne, Switzerland; and The Procter & Gamble Co., Cincinnati, OH, USA*).

Seq#: 69 **Thursday, March 8, 1:45 pm - 3:45 pm**
Oral Session, Grand Ballroom D

Salivary Research - Salivary Proteins

Chairpersons: J. Grogan and B. Liu

0515 1:45 Expression of Mucin Genes in the Human Parotid Gland. G.D. OFFNER*, D.P. NUNES, J.R. LAGUE, B. LIU, S.A. RAYMENT, R.V. SOARES, F.G. OPPENHEIM, and R.F. TROXLER (*Boston University Medical Center, MA, USA*).

0516 2:00 MG2 Degradation in Human Whole Saliva *in vivo*. B. LIU*, S.A. RAYMENT, R.V. SOARES, F.G. OPPENHEIM, G.D. OFFNER, and R.F. TROXLER (*Boston University Medical Center, MA, USA*).

0517 2:15 The Two Cysteine Residues in MG2 are not Disulfide-linked. R.V. SOARES*, B. LIU, S.A. RAYMENT, F.G. OPPENHEIM, G.D. OFFNER, and R.F. TROXLER (*Boston University Medical Center, MA, USA*).

0518 2:30 Influence of Intensity and Duration of Stimulation on Mucin Levels. S.A. RAYMENT*, B. LIU, R.V. SOARES, F.G. OPPENHEIM, G.D. OFFNER, and R.F. TROXLER (*Boston University Medical Center, MA, USA*).

0519 2:45 Development of a New Method for the Isolation and Purification of Histatins. B. FLORA*, H. GUSMAN, E.J. HELMERHORST, R.F. TROXLER, and F.G. OPPENHEIM (*Goldman School of Dental Medicine, Boston University, MA, USA*).

0520 3:00 Intra- and Intersubject Variability in Histatins Measured by Capillary Electrophoresis. C. LEONE*, J. KEEN, S. MORIN, J. GROGAN, B. FLORA, R.F. TROXLER, and F.G. OPPENHEIM (*Boston University, MA, USA*).

0521 3:15 Proton NMR Titration of Histatin 5 Histidine Residues. J. GROGAN*, C.J. MCKNIGHT, R.F. TROXLER, and F.G. OPPENHEIM (*Goldman School of Dental Medicine, Boston University, and Boston Medical Center, MA, USA*).

0522 3:30 Histatin 5 Binding Affinities for Zinc and Copper. H. GUSMAN*, J. GROGAN, U. LENDENMAN, R.F. TROXLER, and F.G. OPPENHEIM (*Goldman School of Dental Medicine, Boston University, MA, USA*).

Seq#: 70 **Thursday, March 8, 3:45 pm - 5:00 pm**
Poster Session, Exhibition Hall

Prosthodontics Research - Implant-supported Restorations, Ceramics, Composites, Provisional Resins, Disinfection

0523 The Application of Infinite Element Analysis to Endodontic Endosseous Implants. X.-H. TAO*, X. MA, L. YING, S. ZHANG, and Z. QIAN (*Qin Du Stomatological College, Fourth Military Medical University, Xian ShaanXi Province, China*).

0524 Comparison of Wider Diameter Implant Placement and Offset Placement of Implants. K. AKÇA, H. İPLİKÇİOĞLU, and M. MUHTAROĞULLARI* (*University of Hacettepe, Ankara, Turkey*).

0525 Passivity of Fit of Implant-supported Frameworks, Using Strain Gauge Measurements. H. HOLLWEG*, J.H. RUBO, L.B. JACQUES, and E.C. SOUZA (*Bauru School of Dentistry, University of São Paulo, Brazil*).

0526 Stress Distribution on Fixed Implant-supported Prostheses, Using Strain Gauge Measurements. L.B. JACQUES, J.H. RUBO, H. HOLLWEG, E.C. SOUZA, and G.C. SANTOS, Jr.* (*Bauru School of Dentistry, University of São Paulo, Brazil*).

0527 Finite Element Analysis: Application in Dental Research. L.A. LANG*, S.N. WHITE, R.-F. WANG, B.J. KANG, and B.R. LANG (*University of Colorado Health Sciences School of Dentistry, UCLA School of Dentistry, and University of Michigan School of Dentistry, USA*).

0528 Abutment Forms of Restorations Utilizing Adhesion. T. YORIMOTO*, K. KOBAYASHI, and K. HIKITA (*Hokkaido University and Health Sciences University of Hokkaido, Japan*).

0529 Four Weeks' Efficacy of a Two-mix Silane Coupling Agent. N. BARGHI and R. NGUYEN* (*Department of Restorative History, University of Texas Health Science Center at San Antonio, USA*).

0530 Ceramic Inlay Microleakage and Shearbond Strength of New Dentin Adhesives. J.A. SORENSEN, L. HEDAYAT*, and M.D. WHITE (*Department of Prosthodontics, Oregon Health Sciences University, Portland, USA*).

0531 Refinishing Techniques for Ceramic Restoration Surfaces after Orthodontic Bracket Debonding. J.C. CLEMETSON*, B.H. MILLER, P.W. WOODS, and J.T. KEESLER (*Baylor College of Dentistry, Texas A & M University System Health Science Center, and Private Practice, Neenah, WI, USA*).

0532 Effects of Dental Hygiene Procedures on Porcelain Stains. A.G. WEE, J.R. OROZCO*, M.P. CARR, and W.M. JOHNSTON (*College of Dentistry, Ohio State University, Columbus, USA*).

0533 Evaluation of Placement Techniques on Margin Voids of Composite Restorations. J. ZIEZIULA*, P. YAMAN, A. HERRERO, and J.B. DENNISON (*University of Michigan, Ann Arbor, USA*).

0534 Physical Properties of a High-luster Submicron Indirect Composite Resin. V. BUI*, J. CRUZ, A. KOBASHIGAWA, and E. SHELLARD (*Kerr Corp., Orange, CA, USA*).

0535 Surface Luster of a New Submicron Hybrid Indirect Composite Resin after Toothbrush Wear. J. CRUZ*, A. KOBASHIGAWA, and E. SHELLARD (*Kerr Corporation, Orange, CA, USA*).

0536 Comparative Disinfecting Efficiency of Four Dental Immersion Solutions. A.C. PAVARINA, A.C. PIZOLLITTO, A.L. MACHADO*, C.E. VERGANI, and E.T. GIAMPAOLO (*UNESP, Araraquara, SP, Brazil*).

0537 Stress Distribution in a Provisional Resin Crown Restoration Using Finite Element Analysis. D. EHRENBORG* and S. WEINER (*UMDNJ-NJDS, Newark, NJ, USA*).

Seq#: 71 Thursday, March 8, 3:45 pm - 5:00 pm
Poster Session, Exhibition Hall

Dental Materials - Resin Bonding - Effects of Application Technique and Testing Method

0538 Etching Time Evaluation on the Shear Bond Strength of the Adhesive Systems in Primary Teeth. A.S. CALDO-TEIXEIRA*, R.M. PUPPIN-RONTANI, M.A.C. SINHORETI, and L.C. CORRER-SOBRINHO (*Áreas de Odontopediatria e Materiais Dentários, FOP/UNICAMP, São Paulo, Brazil*).

0539 Effect of Etching Time on Microtensile Dentin Bond Strengths. J. PERDIGÃO, S. GERALDELI, and G. GOMES* (*Division of Operative Dentistry and MDRCBB, University of Minnesota, Minneapolis, USA; and Private Practice, Lisbon, Portugal*).

0540 Effect of One- or Two-layer Application of an All-in-one Adhesive on Bond Strength and Ultrastructure. E.L. PASHLEY*, K.A. AGEE, D.H. PASHLEY, and F.R. TAY (*Medical College of Georgia, Augusta, USA; and University of Hong Kong, China*).

0541 Effect of Vacuum vs. Air Thinning on Immediate SBS of Adhesives. N. JESSOP*, J.R. DUNN, C.A. MUNOZ, and K. CARAMBOT (*Loma Linda University, CA, USA*).

0542 Dentin Bond Strength of Single-bond Adhesive with Different Applications. B.S. BER, M.B. LAHAYE*, and J.O. BURGESS (*School of Dentistry, LSUHSC, New Orleans, USA*).

0543 Effect of Primer Penetration Time on Microtensile Bond Strength to Dentin. R. FRANKENBERGER*, H. MATTONET, U. LOHBAUER, N. KRÄMER, and A. PETSCHT (*Policlinic of Operative Dentistry, University of Erlangen, Germany*).

0544 Omitting the Curing Step—A New Adhesion Concept for Composites. T. LUCHTERHANDT*, O. FREY, and M. HANSEN (*ESPE Dental AG, Seefeld, Germany*).

0545 Light-cure Intensity Effect on Adhesive Bonding to Dentin. K. WIGGINS* and R.L. ERICKSON (*3M Dental Products Division, St. Paul, MN, USA*).

0546 Comparison of Microtensile Testing Fixtures. S.R. ARMSTRONG*, D. DONNELLY, M.A. VARGAS, H. DIRCKS, and D.H. PASHLEY (*University of Iowa, Iowa City, and Medical College of Georgia, Augusta, USA*).

0547 The Comparison of Two Shear Bond Strength Testing Devices. N. PECORA*, P. YAMAN, J.B. DENNISON, and A. HERRERO (*University of Michigan, Ann Arbor, USA*).

0548 *In vitro* Microtensile Study Comparing Bur- vs. Saw-cut Dentin Surfaces. C.C. HAMILTON*, J.H. PURK, V.M. DUSEVICH, and J.D. EICK (*School of Dentistry, University of Missouri-Kansas City, USA*).

0549 Adhesive Area Effects on Composite-to-Dentin Shear Bond Strength. G.E. SCHUMACHER*, G.D. SELLOCK, N. EIDELMAN, and J.M. ANTONUCCI (*ADAHF-PRC, NIST, Gaithersburg, MD, and 23d DENTCO, 29 Palms, CA, USA*).

0550 Variables Affecting the Strength Obtained by the Microtensile Test. P.F. CESAR*, J. BIANCHI, R.Y. BALLESTER, A. MUENCH, and L.E. RODRIGUES FILHO (*University of São Paulo, Brazil*).

0551 Accelerated Aging and Strength of Dentin-Resin Composite Bonds. A.R. ADKINS* and R.J. MITCHELL (*College of Dentistry, University of Kentucky, Lexington, USA*).

0552 The Effects of Different Resin Cements on the Bonding Strength of Fiber-reinforced Composites. T.A. EL-GENDY* and O.A. ZIDAN (*University of Minnesota, Minneapolis, USA*).

0553 Influence of Technical Sensitivity of CLEARFIL SE BOND on Bond Strength. K. NAKATSUKA*, K. OKADA, and J. YAMAUCHI (*Kuraray Co., Ltd., Kurashiki, Okayama, Japan*).

Seq#: 72 Thursday, March 8, 3:45 pm - 5:00 pm
Poster Session, Exhibition Hall

Dental Materials - Microleakage: Restorative, Adhesive

0554 Microleakage of a Flowable Compomer in Minimally Invasive Preparations. D.R. HIGGINBOTHAM*, R. HORA, D. PAPAETHIMIOU, and M.A. LATTA (*School of Dentistry, Creighton University, Omaha, NE, USA*).

0555 Comparison of Posterior Composite Restorations Using Different Restorative Techniques. R. KOBAYASHI*, M.L. CANNON, and R. JURADO (*Northwestern University and Children's Medical Center, Chicago, IL, USA*).

0556 Microleakage of Packable Composites/Ormocers after Artificial Aging. J. MANHART, A. ALBRECHT*, H.Y. CHEN, and R. HICKEL (*Department of Restorative Dentistry, Dental School of the LMU, Munich, Germany*).

0557 *In vitro* Microleakage in Class II Packable Resin Composite Restorations. A.L. NEME, F.E. PINK, M.N. AKSU*, B.B. MAXSON, and N. KASHANI (*University of Detroit Mercy, MI, USA*).

0558 Microleakage Evaluation of a New Combined Etchant/Primer/Adhesive. B.D. GREENWOOD*, D.S. COBB, and G.E. DENEHY (*Department of Operative Dentistry, University of Iowa, Iowa City, USA*).

0559 Effect of Curing Method on Microleakage of Hybrid Composite Resin Restorations. W.W. JOHNSON*, W.W. BRACKETT, and L.D. HAISCH (*College of Dentistry, University of Nebraska, USA*).

0560 Enamel and Dentin Microleakage, Immediate and Delayed Shear Bond Strength of Single-bottle Adhesives. T.J. HILTON*, W. JIA, J.L. FERRACANE, and R. QUINN (*OHSU School of Dentistry, Portland, OR, USA*).

0561 The Sealing Abilities of Dental Adhesives Which Have Different Modes of Application. A. MATHER*, L.E. TAM, and D. McCOMB (*University of Toronto, Ontario, Canada*).

0562 Microleakage of One-step and Two-step Adhesive Systems under Thermocycling and Simultaneous Repeated Load. T. MASEKI*, M. MIYAMATO, I. KIZUKI, T. KIMISHIMA, Y. NARA, H. TANAKA, and I.L. DOGON (*Nippon Dental University, Japan; and The Forsyth Institute, Harvard School of Dental Medicine, USA*).

0563 Resin Cement Film Thickness under Resin Inlays. A. RIPPS, S. CHIDLOW*, and X. XU (*School of Dentistry, LSUHSC, New Orleans, USA*).

0564 Microleakage of Tooth-colored Restorations in Class II Cavities after Artificial Aging. J. MANHART, M. SCHMIDT*, H.Y. CHEN, and R. HICKEL (*Department of Restorative Dentistry, Dental School of the LMU, Munich, Germany*).

0565 Margin Analysis of CAD/CAM Inlays Using Different Luting Systems. M. PFRETZSCHNER*, S. SIEPMANN, R. FRANKENBERGER, U. LOHBAUER, and N. KRÄMER (*Policlinic of Operative Dentistry, University of Erlangen, Germany*).

0566 Effects of Caries Detector on Microleakage of Composite Resin Restorations. B. NGHIEM*, A. TRAN, R. PERRY, and A. ABOUSHALA (*School of Dental Medicine, Tufts University, Boston, MA, USA*).

0567 Effects of Bonding Agents as Amalgam Liners on Artificial Caries. M. HERNANDEZ*, G.E. DENEHY, J.S. WEFEL, M.A. VARGAS, and G. IBARRA (*University of Iowa, Iowa City, USA*).

0568 Microleakage Evaluation of Two Restorative Systems and an Intermediate Resin Layer. A.K.B. BEDRAN DE CASTRO*, L.A.F. PIMENTA, C.M. AMARAL, and G.M.B. AMBROSANO (*Dentistry School of Piracicaba, UNICAMP, Brazil*).

0569 Microleakage of Posterior Restorations Using Flowable Resin-based Composites. H.S. MALMSTRÖM*, M. SCHLÜETER, and M.E. MOSS (*Division of General Dentistry, University of Rochester Eastman Dental Center, NY, USA*).

Seq#: 73 Thursday, March 8, 3:45 pm - 5:00 pm
Poster Session, Exhibition Hall

Dental Materials - Ceramics: General

0570 Effect of Thermocycling on Fracture Toughness of Porcelain and Polyglass Materials. Y.F. MANSOUR* and C.A. MITCHELL (*Division of Restorative Dentistry, Queen's University, Belfast, UK*).

0571 Effects of Repeated Baking on Porcelain Bond Strength. S. NAGASAWA*, T. YOSHIDA, T. MIZOGUCHI, M. ITO, and Y. OSHIDA (*Matsumoto Dental University, Nagano, Japan; and School of Dentistry, Indiana University, Indianapolis, USA*).

0572 Effect of Heat-pressing on Indentation Crack Patterns in Mica Glass-ceramics. G. BARANTA*, I.L. DENRY, J.A. HOLLOWAY, and P.K. GUPTA (*Ohio State University, Columbus, USA*).

0573 Flexural Strength of Aluminum Oxide Measured by Mechanical Testing and FEM. R.-F. WANG*, B.R. LANG, L.A. LANG, and B.J. KANG (*School of Dentistry, University of Michigan, and School of Dentistry, University of Colorado Health Science Center, USA*).

0574 Fracture Behavior of Dental Ceramics Modified by SiO₂ and SiO₂/Au Thin Films. E.S. BAILEY*, D.E. RUDELL, B.R. STONER, and J.Y. THOMPSON (*University of North Carolina at Chapel Hill, USA*).

0575 The Effects of CEREC CAD/CAM Materials on the Wear of Human Enamel. K.-H. KUNZELMANN*, J. MANHART, A. MEHL, and R. HICKEL (*Department of Restorative Dentistry, LMU-University of Munich, Germany*).

0576 Enamel Cusp Wear Opposing Low-fusing Ceramic Materials. N. CLELLAND, S. VILLARROEL, V. AGARWALA*, and R.R. SEGHI (*College of Dentistry, Ohio State University, Columbus, USA*).

0577 A Surface Profilometry Comparison of Six Techniques for Polishing Adjusted Porcelain. D. KILIMIT-ZOGLU* and M.S. WOLFF (*Department of General Dentistry, State University of New York at Stony Brook, USA*).

0578 Effects of Fluoride and Carbamide Peroxide on Porcelain Surfaces. C.J. BUTLER*, C.F. DRISCOLL, J.A. VON FRAUNHOFER, G.A. THOMPSON, and D.A. RUNYAN (*University of Maryland and US Army Dental Research Detachment, Great Lakes, IL, USA*).

0579 Clinical Porcelain Color Match of Porcelain Shade-matching Systems. E.Y. KANG*, A.G. WEE, R.R. SEGHI, and W.M. JOHNSTON (*College of Dentistry, Ohio State University, Columbus, USA*).

0580 Predicting the Color of Opaque Feldspathic Porcelain Mixtures. A.G. WEE, D.N. ROBERTSON*, and W.M. JOHNSTON (*College of Dentistry, Ohio State University, Columbus, USA*).

0581 Development of Magnetron Sputter-deposited Zirconia Coatings for Dental Ceramics. D.E. RUDELL*, E.S. BAILEY, B.S. STONER, and J.Y. THOMPSON (*University of North Carolina, Chapel Hill, USA*).

0582 Tool Lifetime on the CEREC® 2 System. R.P. RUSIN*, R.P. COSTEN, L.A. GOLDSWORTHY, R.F. MURPHY, K.M. CUMMINGS, P. BAKER, and M.E. CAVALERI (*3M Company, St. Paul, MN, USA*).

0583 Marginal Gap Measurement of Machinable Ceramic Inlays. R. YAMAGUCHI*, H. SEKI, H. IWASHIMA, and Y. KATOH (*Department of Operative Dentistry, School of Dentistry, Nippon Dental University at Niigata, Japan*).

0584 Wear Characteristics of DuceraGold® Hydrothermal Porcelain. J.L. SHOTWELL*, C.C. BEARD, and B.R. LANG (*School of Dentistry, University of Michigan, Ann Arbor, USA*).

0585 Fractal Analysis of the Fracture Surfaces of Dental Ceramics. M. THOMPSON*, J.L. DRUMMOND, and M.S. BAPNA (*Department of Restorative Dentistry, University of Illinois at Chicago, USA*).

0586 Adhesion Analysis of a New Glass-ceramic for Cast Titanium. A. SCRASCIA*, M. QUARANTA, D. TESTARELLA, and S. DI CARLO (*Dental School, La Sapienza University, Rome, Italy*).

Seq#: 74 Thursday, March 8, 3:45 pm - 5:00 pm
Poster Session, Exhibition Hall

Dental Materials - General

0587 Clinical Evaluation of Crown Restorations on Vital and Nonvital Teeth: A Retrospective Study. G. BORNEMANN*, S. RINKE, and A. HÜLS (*Georg-August-University, Göttingen, Germany*).

0588 The Influence of Restorative Materials on Inflammatory Parameters of Marginal Periodontal Tissues. C. KÖTTGEN*, C.-P. ERNST, and B. WILLERSHAUSEN (*Department for Operative Dentistry, Johannes Gutenberg-University Mainz, Germany*).

0589 In situ Clinical Evaluation of Plaque Retention of Four Prosthetic Materials. G. BERNAL, C.A. MUNOZ, and M.E. ESTEY* (*Loma Linda University, CA, USA*).

0590 A Comparison of Three Electric Toothbrushes on Orthodontic Bracket Retention. R. PERRY*, E. GHEEWALLA, and G. KUGEL (*Tufts University, Boston, MA, USA*).

0591 Clinical Evaluation of Liners vs. No Liner Under Silver Amalgams. R.S. SHADDY*, C.M. MURDOCK, P.E. TAMISIEA, W.T. CAVEL, and M.A. LATTA (*School of Dentistry, Creighton University, Omaha, NE, USA*).

0592 Highly Viscous Glass Ionomer for Fissure Protection in an Under-served Population. C. TAGGART*, J. MARTIN, E. CASAS, and N. EWOLDSSEN (*UNMC, Lincoln, NE, OSU, Columbus, OH, and GC America, Alsip, IL, USA*).

0593 Clinical Features of a Resin-metal Restorative System: 2-year Follow-up. M.W.B. ARAUJO*, F. MCINTYRE, D. GARLAPO, S.G. CIANCIO, and M.L. MATHER (*SUNY at Buffalo, NY, USA*).

0594 Clinical Evaluation of Experimental CRB Material for CAD/CAM-generated Onlays. M.C. PETERS*, K. NEMATOLLAHI, J.B. DENNISON, and D.J. FASBINDER (*School of Dentistry, University of Michigan, Ann Arbor, USA*).

Seq#: 75 Thursday, March 8, 3:45 pm - 5:00 pm
Poster Session, Exhibition Hall

Dental Materials - Polymer Materials: Photopolymerization I

0595 Barcol Hardness vs. Direct Degree of Conversion Measurement by FTIR. C.M. MURDOCK*, M.A. LATTA, W.W. BARKMEIER, P.D. HAMMESFAHR, and X. WANG (*School of Dentistry, Creighton University, Omaha, NE, and Dentsply/Caulk, Milford, DE, USA*).

0596 Influence of a Condensable Resin Composite, Conventional Resin Composite, and Amalgam on Molar Cuspal Stiffness. J.D. MOLINARO*, K.E. DIEFENDERFER, and J.M. STROTHER (*Naval Postgraduate Dental School, Bethesda, MD, and Naval Dental Research Institute, Great Lakes, IL, USA*).

0597 Flexural Strength and Volumetric Shrinkage of Experimental Urethane Dimethacrylate Composites. C.J.E. FLOYD* and S.H. DICKENS (*ADAHF Paffenbarger Research Center, National Institute of Standards and Technology, Gaithersburg, MD, USA*).

0598 Evaluation of Composite Hardness Polymerized under Three Conditions. M. POLONIATO, T.R. FREITAS*, V.N. GOMES, and J.F.F. SANTOS (*Department of Dental Materials, University of São Paulo, Brazil*).

0599 Effect of Polyol Concentration on Properties of Low-shrinking Oxirane Composites. M.G. REIMAN*, S.C. WILLIAMS, A. FABER, Y.-S. CHENG, and W.H. DOUGLAS (*3M Company, St. Paul, and University of Minnesota, Minneapolis, USA*).

0600 Depth of Cure and Mechanical Strength for Resin-based Light-cure Core Materials. T.D. NGUYEN*, X.J. QIAN, and E. SHELLARD (*Kerr Corporation, Orange, CA, USA*).

0601 Polymerization Shrinkage of Compomer Restorative Materials. H.Y. CHEN*, J. MANHART, K.-H. KUNZELMANN, and R. HICKEL (*Department of Restorative Dentistry, Dental School of the LMU, Munich, Germany*).

0602 Analysis of Dental Composite Polymerization Stress by Computer Modeling. G.A. LAUGHLIN*, J.L. WILLIAMS, J.D. EICK, and D.C. KRENKEL (*University of Missouri-Kansas City, USA*).

0603 Polymerization Shrinkage Stress Measurement—Progress and Pitfalls. D.C. KRENKEL*, G.A. LAUGHLIN, J.D. EICK, and C.Q. BOWLES (*School of Dentistry and Coordinated Engineering Programs, University of Missouri-Kansas City, USA*).

0604 Effect of Energy Density on Hardness and Degree of Conversion on Posterior Composite. K.S. VANDEWALLE*, J.L. FERRACANE, T.J. HILTON, and R.L. SAKAGUCHI (*Oregon Health Sciences University, Portland, USA*).

0605 Effect of Temperature on Tan δ (E''/E') during Cure of Composites. R.L. SAKAGUCHI and C.F. MURCHISON* (*Oregon Health Sciences University, Portland, USA*).

0606 *In vitro* Assessment of the Shrinkage and Hydrophobicity of Resin Composites. A.D. JOHNSON, E.C. COMBE*, and J.S. HODGES (*Department of Chemical Engineering, Iowa State University, and School of Dentistry, University of Minnesota, USA*).

0607 Shrinkage Stress: Does Restoration Size Matter? A. VERSLUIS*, D. TANTBIROJN, and W.H. DOUGLAS (*University of Minnesota, Minneapolis, USA; and Chulalongkorn University, Bangkok, Thailand*).

0608 Polymerization Shrinkage Stress Generated from Composites of Different Resin Formulations. J. DUBOS*, P. MONAGHAN, and R.R. SEGHI (*College of Dentistry, Ohio State University, Columbus, USA*).

0609 Contraction Stress of Composite Resin Build-up Procedures for Pulpless Molar. T. KUROE*, Y. TANINO, K. TACHIBANA, N. SATOH, N. OHATA, H. SANO, and A.A. CAPUTO (*Hokkaido University, Sapporo, Japan; and UCLA, USA*).

Seq#: 76 Thursday, March 8, 3:45 pm - 5:00 pm
Poster Session, Exhibition Hall

Dental Materials - Polymer Materials: Characteristics and Properties

0610 Marginal Integrity, Internal Adaptation, and Microleakage of Flowable Resin Composites. O. HAKKI, B.K. MOORE*, and M.A. COCHRAN (*School of Dentistry, Indiana University, Indianapolis, USA*).

0611 Ultrastructural Characterization of a Nanoparticle-filled Resin. D.P. NICOLELLA*, D. MORAVITS, B.R. FURMAN, J. LANKFORD, H.R. RAWLS, and J.L. ONG (*Southwest Research Institute and University of Texas Health Science Center, San Antonio, USA*).

0612 Spectrophotometric Measurements of Commercial Composites. D. NGUYEN*, C. ANGELETAKIS, and E. SELLARD (*Kerr Corp., Orange, CA, USA*).

0613 Comparing the Marginal Seals of Five Direct Esthetic Restorative Materials in Class V Lesions. M.L. HERZBERG*, K.E. DIEFENDERFER, and J.M. STROTHER (*Naval Postgraduate Dental School, Bethesda, MD, and Naval Dental Research Institute, Great Lakes, IL, USA*).

0614 Effects of Base and Esterase on Wear of Dental Composites. B. PATEL*, I. GARCEA, and K.J. SÖDERHOLM (*University of Florida, Gainesville, USA*).

0615 Effect of Resin Viscosity on Fiber Impregnation. A.J. GOLDBERG*, K.A. HASER, and M.A. FREILICH (*University of Connecticut Health Center, Farmington, USA*).

0616 Color Stability of Various Composites after Immersion in Coffee and Tea. J. SANG*, X. WANG, B.A. HUGHES, and L.C. HAYES (*Dentsply/Caulk, Milford, DE, USA*).

Seq#: 77 Thursday, March 8, 3:45 pm - 5:00 pm
Poster Session, Exhibition Hall

Dental Materials - Polymer Materials: Properties of Impression Materials and Prosthodontic Polymers

0617 Dynamic Mechanical Analysis Provides New Perspective for Elastomeric Impression Materials. J.M. VICKERY*, W.A. BRANTLEY, and T.H. GRENTZER (*University of Nebraska, Lincoln, Ohio State University, Columbus, and Ashland Specialty Chemical Company, Dublin, OH, USA*).

0618 Surface Wettability during the Curing Process of Impression Materials. M. MONDON*, CH. ZIEGLER, and B. REUSCH (*Department of Physics, University of Kaiserslautern, and ESPE, Seefeld, Germany*).

0619 Tensile Strength of Silicone Impression Materials under Various Conditions. J.A. BROCKHAUS*, C. DREYER, P. FERGER, and B. WÖSTMANN (*Department of Prosthodontics, Justus-Liebig-University, Giessen, Germany*).

0620 Rheological Properties of Vinyl Polysiloxane Impression Pastes. J.E. MARTINEZ*, E.C. COMBE, and I.J. PESUN (*Nova Southeastern University, FL, and University of Minnesota, USA*).

0621 Dimensional Stability of Addition Silicone Impression Materials. D. LI, V.C. CISNEROS, J. ALARCON*, and J.M. POWERS (*Biomaterials Research Center, Prosthodontics, University of Texas Houston Dental Branch, USA*).

0622 Linear Shrinkage of Vinylpolysiloxane Bite Registration Materials. L. HUYNH*, D.X. XIE, and E. SHELLARD (*Kerr Corporation, Orange, CA, USA*).

0623 Mechanical Properties of Vinylpolysiloxane Impression Materials. D.X. XIE*, E. NGUYEN, and E. SHELLARD (*Kerr Corporation, Orange, CA, USA*).

0624 Flow Under Pressure of Four Impression Materials Using Shark-fin Device. M.S. KIM*, E.H. DOHERTY, and G. KUGEL (*School of Dental Medicine, Tufts University, Boston, MA, USA*).

0625 Mechanical Properties of Temporary Crown and Bridge Materials. E. NGUYEN*, D.X. XIE, and E. SHELLARD (*Kerr Corporation, Orange, CA, USA*).

0626 Strength of Provisional Crown and Bridge Resins. D.R. HASELTON, A.M. DIAZ-ARNOLD, and M.A. VARGAS* (*University of Iowa, Iowa City, USA*).

0627 Surface Roughness of 12 Provisional Crown Materials. D.R. HASELTON* and A.M. DIAZ-ARNOLD (*University of Iowa, Iowa City, USA*).

0628 The Surface Roughness of Provisional Materials before and after Being Finished. A. FARD*, A.L. NEME, and F.E. PINK (*University of Detroit Mercy, MI, USA*).

0629 Stain Resistance of Sealed Provisional Materials. M. ELDIWANY*, D. LI, P. DORAY, and J.M. POWERS (*Houston Biomaterials Research Center, Houston Dental Branch, University of Texas, USA*).

0630 The Effects of Position and Number of Flasks on Some Properties of Microwave Acrylic Resin. V.B. MAIA OLIVEIRA*, A.A. DEL BEL CURY, B.L. TORRES, and S. CONSANI (*Faculty of Dentistry of Piracicaba, UNICAMP, Brazil*).

0631 Selected Mechanical Properties of Temporary Crown and Bridge Materials. R. HECHT*, U. HOHEISEL, and B. WINDMÜLLER (*ESPE Dental AG, Seefeld, Germany*).

Seq#: 78 Thursday, March 8, 3:45 pm - 5:00 pm
Poster Session, Exhibition Hall

Dental Materials - Amalgam Filtration, Root Canal Instrumentation, and Dental Alloy Investments

0632 Ultrafiltration of Dental Wastewater Using Tubular and Hollow-fiber Membranes. M.D. BAGBY* and B.E. REED (*West Virginia University, Morgantown, and University of Missouri, Columbia, USA*).

0633 Evaluation of a Low-cost Amalgam Separator. H. BATCHU* and P.L. FAN (*ADAHF Research Institute, Chicago, IL, USA*).

0634 Mercury Solubilization by Dental Line Cleansers. E.D. PEDERSON, M.E. STONE, J.C. RAGAIN*, R.A. AUXER, R.S. KARAWAY, and S.L. DAVIS (*The Naval Dental Research Institute, Great Lakes, IL, USA*).

0635 Cleaning Efficacy of Two Rotary NiTi Instrumentation Techniques. G. GAMBARINI, S. REDAELLI*, F. DI CARLO, L. PROSPER, and M. QUARANTA (*University of Rome "La Sapienza" and University of Milan, Italy*).

0636 *In vitro* Evaluation of Root Canal Instrumentation with POW-R System Using Computerized Tomography. M.A. PINTO BASTOS*, M.C.G. TANNURE, M.I.S. CÔRTEZ, and J.V. BASTOS (*Federal University of Minas Gerais, Belo Horizonte, MG, Brazil*).

0637 The Effects of Fast Burnout Times Using an Accelerated Technique. M. LeBLANC*, P. HANSEN, and K. WILLIAMS (*School of Dentistry, University of Missouri-Kansas City, USA*).

0638 Effects of Mold Materials on the Pure Titanium Casting. C.C. HUNG*, C.C. TSAI, and P.L. LAI (*Department of Prosthodontics, School of Dentistry, Kaohsiung Medical University, Taiwan*).

Seq#: 79 Thursday, March 8, 3:45 pm - 5:00 pm
Poster Session, Exhibition Hall

Diagnostic Systems - Caries/Virtual Patient

0639 Investigations on a Newly Developed Method in Caries Risk Estimation. H. WELLINGS*, C. FOLTIN, and W.H.-M. RAAB (*Operative Dentistry, Heinrich-Heine University, Duesseldorf, Germany*).

0640 Video Repositioning—Increased Repeatability for QLF Caries Monitoring Method. W. BUCHALLA*, E. DE JOSSELIN DE JONG, M. ANDO, H. EGGERTSSON, A. LENNON, and G.K. STOOKEY (*IUPUI, Indianapolis, IN, USA; and Inspektor Research Systems B.V., Amsterdam, The Netherlands*).

0641 Approximal Cavitation Assessment by Radiographic Films and Impressions. P. DENNY*, T. HEAVEN, R. WEEMS, and A.R. FIRESTONE (*School of Dentistry, University of Alabama, Birmingham, and School of Dentistry, OSU, Columbus, USA*).

0642 Optimal View-set from Clinical Records for a Virtual Dental Patient (VDP). M.R. PINTADO*, R. DeLONG, M. HEINZEN, B. CHAPEAU, and W.H. DOUGLAS (*MN Dental Research Center for Biomaterials & Biomechanics, University of Minnesota, Minneapolis, USA*).

0643 Replication of Occlusal Contacts in a Virtual Dental Patient (VDP) from Digitized Bite Records. R. DeLONG*, I. OLSON, B. CHAPEAU, G.C. ANDERSON, and W.H. DOUGLAS (*MN Dental Research Center for Biomaterials & Biomechanics, University of Minnesota, Minneapolis, USA*).

0644 Algorithm for Describing Jaw Motion in a Virtual Dental Patient (VDP). Y. CAO*, R. DeLONG, C.C. KO, and W.H. DOUGLAS (*Minnesota Dental Research Center for Biomaterials and Biomechanics, University of Minnesota, Minneapolis, USA*).

Seq#: 80 Thursday, March 8, 3:45 pm - 5:00 pm
Poster Session, Exhibition Hall

Behavioral Sciences/Health Services Research - Oral Cancer and Tobacco Use

0645 Spit Tobacco Cessation: High School Baseball Athletes, Two-year Findings. M. WALSH, J. ELLISON*, J.F. HILTON, C. KAVANAGH, M. CHESNEY, and V. ERNSTER (*University of California, San Francisco, CA, USA*).

0646 Is Smokeless Tobacco Use a Risk Factor for Cigarette Smoking? S.L. TOMAR* (*College of Dentistry, University of Florida, Gainesville, USA*).

0647 Role of Dentists in Tobacco Cessation Activities in Mumbai, India. Y. BUTANI*, S.M. LEVY, and X.J. XIE (*College of Dentistry, University of Iowa, Iowa City, USA*).

0648 Depressive Symptoms and Their Correlates among Patients with Oral Cancer (OC), Oral Dysplasia (OD), and Benign Oral Lesions (BL). S. REISINE* and D.E. MORSE (*School of Dental Medicine, University of Connecticut, Farmington, and College of Dentistry, New York University, USA*).

0649 Cost Analysis in Oral Cavity Cancer Treatment. G.W. SANDAU*, C.A. FELDMAN, and R.M. WILK (*New Jersey Dental School, University of Medicine and Dentistry of New Jersey, Newark, USA*).

0650 National Socio-economic Statistics Predict Oral Cancer Mortality Rates. R.D.R. BAUTISTA*, M.H. HOBDELL, E.R. OLIVEIRA, S. NARENDHAN, and N.W. JOHNSON (*University of Texas, Houston, USA; and GKT Dental Institute, London, UK*).

0651 Understanding Oral Cancer Prevention Services among New York State Dentists. O.M. SIMOYAN* and V.M. BADNER (*Montefiore Medical Center, Bronx, NY, USA*).

0652 Malignant Melanoma and Farms in Connecticut: An Inverse Relationship. W.J. PSOTER*, D.G. PENDRYS, and D.E. MORSE (*College of Dentistry, New York University, and School of Dental Medicine, University of Connecticut, USA*).

0653 The Role of "Shamma" in the Incidence of Oral Cancer in the Gizan Population of Saudi Arabia: A Case Control Study. A. REFAI*, P. FEIL, C. DUNLAP, and A.G. GLAROS (*University of Missouri-Kansas City, USA*).

Seq#: 81 Thursday, March 8, 3:45 pm - 5:00 pm
Poster Session, Exhibition Hall

Cariology Research - Diagnostic Methods

0654 Ability of QLF to Detect Early Enamel Caries Lesions. S.M. HIGHAM*, W.M. EDGAR, and I.A. PRETTY (*Cariology Group, University of Liverpool, England*).

0655 Factors Influencing Caries Detection and Quantification Using Quantitative Light-induced Fluorescence. B.T. AMAECHI* and S.M. HIGHAM (*University of Liverpool, UK*).

0656 Effect of Ambient Light Levels on QLF Analysis. I.A. PRETTY*, W.M. EDGAR, and S.M. HIGHAM (*Cariology Group, University of Liverpool, England*).

0657 Use of Reflectance Confocal Microscopy to Measure Enamel Demineralization. I. PETROU*, C.M. MURPHY, and R.J. SULLIVAN (*Colgate-Palmolive Company, Piscataway, NJ, USA*).

0658 Influence of Enamel Thickness on Quantification of White Spot Using Laser Fluorescence. M. ANDO*, B.R. SCHEMEHORN, G.J. ECKERT, D.T. ZERO, and G.K. STOOKEY (*School of Dentistry, Indiana University, Indianapolis, USA*).

0659 Evaluation of Several Methods for the Detection of Root Caries. E. DUNN*, C. GONZÁLEZ-CABEZAS, M. ANDO, H. EGGERTSSON, D. GOMES, M. FONTANA, G.J. ECKERT, and G.K. STOOKEY (*Oral Health Research Institute, School of Dentistry, Indiana University, USA*).

0660 Use of a Force Transducer during Clinical Caries Detection. P. HARRIS*, C.M. STANFORD, J.L. WAGNER, and G.W. THOMAS (*University of Iowa, Iowa City, USA*).

0661 Novel Clinical Design for the Assessment of Examiner Repeatability and Sensitivity for Detection of Caries Progression. P.A. WALTERS*, A.R. BIESBROCK, S.A. JACOBS, R.W. GERLACH, J.M. McCLARY, R.D. BARTIZEK, M.S. MAU, S.A. KELLY, and G.K. STOOKEY (*P&G, Cincinnati, OH, and IUPUI, Indianapolis, IN, USA*).

0662 Examiner Calibration Exercise for the Assessment of Radiographic Caries. J.M. McCLARY*, P.A. WALTERS, S.A. JACOBS, R.W. GERLACH, R.D. BARTIZEK, J.L. WINSTON, and A.R. BIESBROCK (*P&G, Cincinnati, OH, USA*).

Seq#: 82 Thursday, March 8, 3:45 pm - 5:00 pm
Poster Session, Exhibition Hall

Cariology Research - Natural Fluoride

0663 Incidence and Prevalence of Dental Caries in Children in Five Cities throughout Guatemala. L. ARCHILA*, P.A. WALTERS, R.D. BARTIZEK, R.W. GERLACH, J.M. McCLARY, S.A. JACOBS, and A.R. BIESBROCK (*UTSA, San Antonio, TX, and P&G, Cincinnati, OH, USA*).

0664 Fluoride Concentration in Mineral Water from Lindóia and Serra Negra, Brazil. F.M. LEVY*, T.T.C. RIBEIRO, M.A.R. BUZALAF, and J.R. de M. BASTOS (*Bauru Dental School, University of São Paulo, Brazil*).

Seq#: 83 Thursday, March 8, 3:45 pm - 5:00 pm
Poster Session, Exhibition Hall

Cariology Research - Cariogenicity

0665 Cariogenicity of Sweeteners Containing Lactose—in situ Study in Root Dentin. C.P. AIRES, C.M. TABCHOURY*, A.A. DEL BEL CURY, and J.A. CURY (*Faculty of Dentistry of Piracicaba, UNICAMP, Brazil*).

0666 In vitro Utilization of Fructooligosaccharides by Mutans Streptococci. M.A.R. BUZALAF*, M.M. LYNARDI, S.A. TORRES, and O.P.S. ROSA (*Bauru Dental School, University of São Paulo, Brazil*).

Seq#: 84 Thursday, March 8, 3:45 pm - 5:00 pm
Poster Session, Exhibition Hall

Oral Health Research - Manual and Powered Toothbrushes

0667 Comparative Clinical Efficacy of a Rotary and a Counter-rotating Powered Toothbrush. H.I. BADER* and R.T. ZAHRADNIK (*Harvard Dental School and ACTech, Boston, MA, USA*).

0668 Effects of Toothbrushes on Fluid Deposition into a Model Periodontal Pocket. C. MCINNES*, J.S. HILL, and M.R. JOHNSON (*Optiva Corporation, Snoqualmie, WA, USA*).

0669 In vitro Assay of Tooth Contact by Toothbrushes. J.S. HILL*, C. MCINNES, M.R. JOHNSON, and D.A. BALLARD (*Optiva Corporation, Snoqualmie, WA, USA*).

0670 A Laboratory Comparison of the Efficacy of Two Brush Heads. G.M. DRIESEN*, P.R. WARREN, and G. HELBIG (*Braun GmbH, Kronberg, Germany*).

0671 Braun D17 vs. Philips HX 2550: An Experimental Gingivitis Study. M.F. TIMMERMAN*, G.A. VAN DER WEIJDEN, M. PISCAER, Y. IJZERMANN, and U. VAN DER VELDEN (*Department of Periodontology, ACTA, The Netherlands*).

0672 Effects of Sonicare and Braun D17 on Experimentally Induced Gingivitis. G.A. VAN DER WEIJDEN*, M.F. TIMMERMAN, M. PISCAER, Y. IJZERMANN, and U. VAN DER VELDEN (*Department of Periodontology, ACTA, The Netherlands*).

0673 Laboratory Efficacy of Toothbrushes with Nylon 612 Bristles Containing Teflon. S.L. YANKELL, X. SHI, R.C. EMLING*, and C.F. NELSON (*UPA SDM, Philadelphia, PA, and DuPont Filaments, Wilmington, DE, USA*).

0674 Artificial Plaque Removal from Difficult-to-reach Areas by Toothbrushes. S.L. YANKELL*, X. SHI, R.C. EMLING, M. BOSMA, and L. BAZIN (*UPA SDM, Philadelphia, PA, USA; and SmithKline Beecham, London, England*).

0675 Laboratory Efficacy of Three Toothbrushes with Soft or Medium Texture. S.L. YANKELL, X. SHI*, and R.C. EMLING (*UPA SDM, Philadelphia, PA, and Int. Dent. Res. Ltd., Moorestown, NJ, USA*).

Seq#: 85 Thursday, March 8, 3:45 pm - 5:00 pm
Poster Session, Exhibition Hall

Mineralized Tissue - Bone/Cartilage Regulation

0676 Activity of Isoflavones with Human Estrogen Receptor β 1 in Osteoblastic and Mammary Epithelial Cells. B.G. CHRZAN* and P.G. BRADFORD (*Oral Biology, Pharmacology, and Toxicology, SUNY at Buffalo, USA*).

0677 PTH Regulation of RAMP3 Gene Expression in Osteoblastic Cells. E.T. PHELPS* and S. TETRADIS (*UCLA School of Dentistry, USA*).

0678 Expression Profiling of Genes Regulated by Chemically Modified Tetracycline-8 in Murine Osteoblastic Cells. K.L. KIRKWOOD*, L. ZIEGLER, and W. SIGURDSON (*SUNY at Buffalo, NY, USA*).

0679 UMR-106-01 BSP Osteoblast Mineralization is Associated with Increased Expression of Cbfa1. H. PERIN-PANAYAGAM*, K.R. HOLTMAN, R. ZAHARIAS, C.M. STANFORD, and G. SCHNEIDER (*University of Iowa, Iowa City, USA*).

0680 Difference in Osteogenic Effects of Vitamin D₃ on Normal Osteoblast Cells and Osteosarcoma Cell Lines. L. THALANKI, D. NATHANSON, D. COTTRELL, and L. CHOU* (*School of Dental Medicine, Boston University, MA, USA*).

0681 Stathmin Production in Growth Plate Chondrocytes is Regulated by Vitamin D₃ and rhTGF- β 1. T.W. HUMMERT*, Z. SCHWARTZ, V.L. SYLVIA, D.D. DEAN, and B.D. BOYAN (*University of Texas HSC at San Antonio, USA; and Hebrew University, Jerusalem, Israel*).

0682 Production of 17 β -estradiol by Growth Plate Chondrocytes is Gender- and Cell-maturation-dependent and Regulated by 1 α ,25(OH)₂D₃. I. GAY*, V.L. SYLVIA, D.D. DEAN, R. GOMEZ, Z. SCHWARTZ, and B.D. BOYAN (*University of Texas HSC, San Antonio, USA; and Hebrew University, Jerusalem, Israel*).

0683 A G-protein-dependent Pathway Mediates the Direct Effects of 1,25-(OH)₂D₃ on PKC Activity in Matrix Vesicles Produced by Growth Plate Chondrocytes. D. CASASOLA*, V.L. SYLVIA, D.D. DEAN, Z. SCHWARTZ, and B.D. BOYAN (*University of Texas HSC, San Antonio, USA; and Hebrew University, Jerusalem, Israel*).

0684 Characterization of PGE₂ Receptors (EP) and Their Role in the Effects of 1,25-(OH)₂D₃ on Growth Plate Chondrocytes. V.L. SYLVIA*, F. DEL TORO, Jr., R.R. HARDIN, D.D. DEAN, Z. SCHWARTZ, and B.D. BOYAN (*University of Texas HSC, San Antonio, USA; and Hebrew University, Jerusalem, Israel*).

0685 Induced Osteogenesis *in vitro* by Silicon, Calcium, and Phosphorus Ions. K. LYU*, D. NATHANSON, D. COTTRELL, and L. CHOU (*Goldman School of Dental Medicine, Boston University, MA, USA*).

0686 Studies of Murine Cbfa1 Promoter Activity *in vitro* and *in vivo*. Y. LU*, D. GUO, J. ZHANG, W. XU, and J. FENG (*School of Dentistry, University of Missouri-Kansas City and Kansas University Medical Center, USA*).

0687 Quantitative RT-PCR of Estrogen Receptors α/β from Human Alveolar Bone Cells. K.R. HOLTMAN*, R. ZAHARIAS, and C.M. STANFORD (*University of Iowa, Iowa City, USA*).

0688 Characterization of Osteoclasts in the oim/oim Mouse. J. GOKHALE, R. KAHOU, S.B. DOTY, D. DEMPSTER, and N.P. CAMACHO* (*Hospital for Special Surgery, New York, and Helen Hayes Hospital, W. Haverstraw, NY, USA*).

Seq#: 86 Thursday, March 8, 3:45 pm - 5:00 pm
Poster Session, Exhibition Hall

Microbiology/Immunology & Infection Control - Host:Pathogen Interactions

0689 Single-nucleotide Polymorphisms in β -defensin Genes in Different Ethnic Populations. R.J. JUREVIC*, P. CHRISMAN, and B.A. DALE (*University of Washington, Seattle, USA*).

0690 Association of Single-nucleotide Polymorphisms in β -defensin-1 with Caries Experience. M. TSUTSUI*, R.J. JUREVIC, N. WELLS, P. CHRISMAN, and B.A. DALE (*University of Washington, Seattle, USA*).

0691 Expression of *c-mpl* by Thrombopoietin through Protein Kinase C. M. SUNOHARA* and I. SATO (*Nippon Dental University, Tokyo, Japan*).

0692 Interaction of *Actinobacillus actinomycetemcomitans* with Neutrophils. P. PERMPANICH*, M.J. KOWOLIK, and D.M. GALLI (*IUSD, Indianapolis, USA*).

0693 *Porphyromonas gingivalis* Does Not Induce Cell Death in Endothelial Cells. B.R. DORN, W.A. DUNN, Jr., and A. PROGULSKE-FOX* (*University of Florida, Gainesville, USA*).

0694 A Fluorometric Assay to Measure Bacterial Adhesion to Epithelial Cells. T. CHEN*, L. BELLIVEAU, and M.J. DUNCAN (*The Forsyth Institute, Boston, MA, USA*).

0695 Toll-like Receptor Modulation in Human Gingival Epithelial Cells. C.L. DeSANTI*, R. MICKELSON, and A. WEINBERG (*Case Western Reserve University, Cleveland, OH, USA*).

0696 Calprotectin Expression Modulates the Morphology and Permeability of Epithelial Monolayers. K.F. ROSS*, M.A. RIDER, and M.C. HERZBERG (*University of Minnesota, Minneapolis, USA*).

0697 Immunization with RgpA Prevents *Porphyromonas gingivalis*-mediated Oral Bone Loss. F.C. GIBSON, III* and C.A. GENCO (*Section of Infectious Diseases, Department of Medicine, School of Medicine, Boston University, MA, USA*).

0698 Cytotoxicity of Lipopolysaccharide (LPS) from *P. gingivalis*, *P. intermedia*, and *E. coli*. S. DOGAN*, B. ROTHWELL, and W. GEURTSSEN (*Dental School, Medical University, Hannover, Germany; and University of Washington, Seattle, USA*).

0699 Beta-defensin-expressing Human Oral Epithelial Cells Kill Invading *P. gingivalis*. A. JOVANOVSКИ*, X.-M. QI, T.S. MCCORMICK, B.A. DALE, and A. WEINBERG (*Case Western Reserve University, Cleveland, OH, and University of Washington, Seattle, USA*).

0700 Effects of Porphyrins and Inorganic Iron on the Growth of *Prevotella intermedia*. S. FOLK* and K.-P. LEUNG (*US Army Dental Research Detachment, Great Lakes, IL, USA*).

0701 Monophosphoryl Lipid A Enhances Responses to Hemagglutinin B of *Porphyromonas gingivalis*. Q.-B. YANG*, L. LAMBERTY, S.M. MICHALEK, and J. KATZ (*University of Alabama at Birmingham, USA*).

0702 Calprotectin Protects Mucosal Epithelial Cells against Bacterial Invasion. K. NISAPAKULTORN*, K.F. ROSS, and M.C. HERZBERG (*School of Dentistry, University of Minnesota, Minneapolis, USA*).

Seq#: 87 Thursday, March 8, 3:45 pm - 5:00 pm
Poster Session, Exhibition Hall

Microbiology/Immunology & Infection Control - Modulation of Immune Function and Immunity

- 0703** Persistence of Human Mucosal Responses Following Nasal or Tonsillar Immunization with *Streptococcus mutans* Antigen. F.M. LI*, A.P. DASANAYAKE, G. TONG, S.M. MICHALEK, and N.K. CHILDERS (Department of Microbiology and School of Dentistry, University of Alabama at Birmingham, USA).
- 0704** Immunization with the Genetic Chimeric Protein SBR-GLU Results in Augmented Immune Responses. P. ZHANG*, C. JESPERGAARD, L. LAMBERTY, Y. HUANG, J. KATZ, and S.M. MICHALEK (University of Alabama at Birmingham, USA).
- 0705** Upper and Lower Respiratory Tract Inoculation Induces Optimal Reovirus-specific Immunity. K.C. CARVER*, S.R. CROWE, L. LONDON, and S.D. LONDON (Medical University of South Carolina, Charleston, USA).
- 0706** Antibody Reactivity of *Streptococcus mutans* Fimbrial Protein with Oral Bacteria. R.L. GREGORY* and K. SHENG (Indiana University, Indianapolis, USA).
- 0707** Alternate Mucosal Routes for Dental Caries Vaccine Delivery. A. LAM*, D.J. SMITH, L. BARNES, J.D. CLEMENTS, D.L. WISE, and M.A. TAUBMAN (The Forsyth Institute, Boston, MA, Tulane University, New Orleans, LA, and Cambridge Scientific, MA, USA).
- 0708** Mucosal Induction of IgA and IgG Immune Responses by GTF Peptide Vaccines. W.F. KING*, D.J. SMITH, L. BARNES, D.L. WISE, and M.A. TAUBMAN (The Forsyth Institute, Boston, and Cambridge Scientific Inc., MA, USA).
- 0709** Mutant *E. coli* Toxin is an Effective Mucosal Adjuvant for HDS Peptide Vaccine. L. BARNES*, D.J. SMITH, W.F. KING, J.D. CLEMENTS, and M.A. TAUBMAN (Forsyth Institute, Boston, MA, and Tulane University, New Orleans, LA, USA).
- 0710** Ovalbumin-specific T-cells Recognize *Lactobacillus murinus* Expressing an Ovalbumin T-cell Epitope in vivo. M. COSTALONGA*, D.R. CUE, P.P. CLEARY, and M.K. JENKINS (Departments of Preventive Sciences and Microbiology, University of Minnesota, Minneapolis, USA).
- 0711** Microarray Results from Diabetic vs. Normal Mice. S. CAI, L. SONG, Y. JIANG, S. AMAR, and D.T. GRAVES* (Department of Periodontology and Oral Biology, School of Dental Medicine, Boston University, MA, USA).
- 0712** Tobacco Extracts Decrease TAP-1 Protein Abundance and HLA Class I Expression. C.D. HAN*, Y. LIU, X. SUN, and J.A. MCCUTCHEON (College of Dentistry, New York University, USA).
- 0713** Doxycycline Alters Production of IL-10. J. JANDINSKI and M. PALLANTE* (UMDNJ, Newark, NJ, USA).
- 0714** FOSAMAX (Bisphosphonate) Modifies the Production of TNF- α . J. JANDINSKI, M. PALLANTE, M. RUSS*, B. SEIMEN, and A. LEE (UMDNJ, Newark, NJ, USA).
- 0715** Effects of G-CSF and PRF in Hepatoma Complement Component Secretion. B. HEINER*, H.A. LASSITER, R.C. FELDHOFF, and P.W. FELDHOFF (University of Louisville, KY, USA).
- 0716** Hypnosis, Differential Expression of T-cell Cytokines, and the Hypothalamo-Pituitary-Adrenal Axis. G.J. WOOD*, S. BUGHI, and H.H. ZADEH (University of Southern California, USA).

Seq#: 88 Thursday, March 8, 3:45 pm - 5:00 pm
Poster Session, Exhibition Hall

Periodontal Research - Animal Models, Systemic Diseases

- 0717** Moesin Knock-out Mice Exhibit a Reduced Inflammatory Response to LPS. K. OYAIZU, S. AMAR, I. IONTCHEVA*, and T.E. VAN DYKE (School of Dental Medicine, Boston University, MA, USA).
- 0718** Effect of *P. gingivalis* A7436 Infection on Endocrine and Immune Systems of Female BALB/C Mice. D. LIN*, P.N. MADIANOS, G. SARAH, C.M.E. CHAMPAGNE, and S. OFFENBACHER (COSD, University of North Carolina, Chapel Hill, USA).
- 0719** A Rat Model for Colonization by *Actinobacillus actinomycetemcomitans*. H. SCHREINER*, K. SINATRA, J. KAPLAN, D. FURGANG, and D. FINE (UMDNJ, Newark, USA).
- 0720** In utero Exposure to Periodontal Pathogens in Pre-term Infants. W.M. SUTTLE*, T. SHIMER, P.N. MADIANOS, K. DORMAN, S. WELLS, and S. OFFENBACHER (University of North Carolina, Chapel Hill, USA).
- 0721** Periodontitis and C-reactive Protein in Myocardial Infarction Patients. W. KADOMA*, I. MARRON, E.N. DELIARGYRIS, E. RICHE, C.M.E. CHAMPAGNE, P.N. MADIANOS, S. SMITH, J.D. BECK, and S. OFFENBACHER (Center for Oral & Systemic Diseases, UNC, Chapel Hill, USA).
- 0722** HLA-B27 Rats: Alveolar Bone Loss Correlates with Long Bone Density. D.N. TATAKIS* and E.P. PASCHALIS (Loma Linda University, CA, and Hospital for Special Surgery, New York, USA).
- 0723** Effects of Tobacco Smoke Components on Monocyte Activation. M.H. PERRY*, T.M. RANDOL, J.B. LEWIS, J.C. WATAHA, D. DICKINSON, G.B. CAUGHMAN, M.A. BILLMAN, and S.K. NELSON (Medical College of Georgia, Augusta, USA).
- 0724** Distribution of Metallothioneins (MTs) in Gingival Tissues of Smokers. L.M.A. GADALLA*, S. EL-MEADAWY, E. SHUREBA, and A. NAGIB (Mansoura Faculty of Dentistry, Mansoura University, Egypt).
- 0725** Impaired Lymphocyte Functions in Papillon-Lefèvre Syndrome. T. LUNDGREN*, R.S. PARHAR, S. RENVERT, and D.N. TATAKIS (Loma Linda University, USA; King Faisal Specialist Hospital, Saudi Arabia; and University of Kristianstad, Sweden).
- 0726** Clinicopathological Analysis of the Patients with Desquamative Gingival Lesions. K. ABE*, K. UYENO, T. KIKUCHI, and K. KANNO (Department of Periodontology, School of Dentistry, Iwate Medical University, Japan).
- 0727** Serum Levels of MMP-2, TIMP-2, and CK19 Fragment in Oral, Head, and Neck Squamous Cell Carcinoma. J. WINTON*, M. DABBOUS, L. HANEY, E. DOWECK, and K. ROBBINS (Health Science Center, University of Tennessee, Memphis, USA).
- 0728** Effects of a CMT on Complications of Type I Diabetes Mellitus (DM). M.E. RYAN*, R.C. COMANDUCCI, M.K. BOOKBINDER, H.M. LEE, N.S. RAMAMURTHY, and L.M. GOLUB (SUNY at Stony Brook, USA).
- 0729** c-myc Antisense Oligodeoxynucleotide Inhibits Hereditary Gingival Fibromatosis Fibroblast Proliferation. M. BABER*, D. TIPTON, and M. DABBOUS (Dental Research Center, University of Tennessee, Memphis, USA).
- 0730** A Clinical Assessment of Experimental Gingivitis in Young Smokers and Non-smokers. B.R. MOSQUERA, D.E. McLEOD, R.J. ACHTERBERG, and D.D. MILEY* (Saint Louis University, MO, and School of Dental Medicine, Southern Illinois University, Alton, USA).

Seq#: 89 Thursday, March 8, 3:45 pm - 5:00 pm
Poster Session, Exhibition Hall

Periodontal Research - Bone Grafts

0731 Multi-center Clinical Comparison of Xenograft and Xenograft/P-15 in Periodontal Defects. R.A. YUKNA, J.T. KRAUSER*, D.P. CALLAN, G.H. EVANS, R. CRUZ, and M. MARTIN (*LSU Dental School, New Orleans, N. Palm Beach, FL, and Little Rock, AR, USA*).

0732 Bioengineering of Malleable Bone Substitutes (Putty) for Endosseous Grafting. R.S. BHATNAGAR*, D.X. YU, and J.J. QIAN (*Department of Stomatology, School of Dentistry, University of California, San Francisco, USA*).

0733 Tissue-engineering of Bone Graft Material: Modifications of Calcium Sulfate. G. INTINI*, S. ANDREANA, J.E. MARGARONE, III, P.J. BUSH, and R. DZIAK (*University at Buffalo, NY, USA*).

0734 Three-year Follow-up of PepGen P-15™ in Human Infrabony Defects. R.A. YUKNA, J.T. KRAUSER, D.P. CALLAN, and E.T. MAYER* (*Louisiana State University Dental School, New Orleans, USA*).

0735 Calcium Phosphate Bone Cement Application in Periodontal Defects in Dogs. Y. SHIRAKATA*, S. ODA, A. KINOSHITA, S. KIKUCHI, and I. ISHIKAWA (*Tokyo Medical and Dental University, Japan*).

Seq#: 90 Thursday, March 8, 3:45 pm - 5:00 pm
Poster Session, Exhibition Hall

Dental Anesthesiology Research - Local Anesthesia and Pain Control

0736 Control of Formalin-induced Hyperalgesia by Intrathecal N-type Ca^{2+} Channel Blockade. O. NAKANISHI*, Y. IMAMURA, H. KAWAHARA, and S. SHIBA (*Kyushu Dental College, Kokurakita, Kitakyushu, Japan*).

0737 A Comparison of Ibuprofen and Acetaminophen for Orthodontic Pain. C.T. PARKS, L.A. RUNCK, L.S. MIRANDA*, K.A. SOUTHARD, K.A. BAKER, and J.R. JAKOBSEN (*University of Iowa, Iowa City, USA*).

0738 Hemodynamic Effects of Local Anesthetics in Children Undergoing Restorative Dentistry. J.G. MEECHAN*, B. COLE, and R.R. WELBURY (*University of Newcastle upon Tyne, and Newcastle Hospitals Trust, UK*).

0739 Pain Perceived by Needle-sticks with/without Injections Using Different-gauge Needles. M.P. CARR* and J.E. HORTON (*Ohio State University, Columbus, USA*).

0740 Penetration Resistance of Needles with a History of Multiple Use. M.D. NILL and C.B. HERMESCH* (*Wilford Hall USAF Medical Center and University of Texas Health Science Center-San Antonio, USA*).

Seq#: 91 Thursday, March 8, 3:45 pm - 5:00 pm
Poster Session, Exhibition Hall

Oral Medicine & Pathology - Tissue Permeability; Animal Models of Disease

0741 Phospholipase C Activity in Porcine Epidermis and Keratinized Oral Epithelium. S. LI*, C.A. SQUIER, and P.W. WERTZ (*University of Iowa, Iowa City, USA*).

0742 Role of Acylceramide in Stratum Corneum Lipid Organization. M. HOWARD*, J.F. LAFFOON, C.A. SQUIER, J.R. HILL, and P.W. WERTZ (*University of Iowa, Iowa City, USA*).

0743 Free Fatty Acids from Superficial Porcine Buccal Epithelium. D. GILBERT*, J.R. HILL, C.A. SQUIER, and P.W. WERTZ (*University of Iowa, Iowa City, USA*).

0744 Bioadhesive Polymers as Vehicles and Permeabilizers for Oral Mucosal Drug Delivery. M.J. KREMER*, S. SENEL, C.A. SQUIER, P.W. WERTZ, and J.R. HILL (*University of Iowa, Iowa City, USA*).

0745 Membrane-coating Granules in Smokeless Tobacco Treated Oral Epithelium. M. COLVARD*, S.H. ASHRAFI, and R. WOROWONGVASU (*College of Dentistry, University of Illinois at Chicago, USA*).

0746 Effects of Stress and Aging on Cutaneous Wound Healing. C.C. MURRAY*, T.L. GARINO, P.A. GUERRA, P.T. MARUCHA, J.F. SHERIDAN, and D.A. PADGETT (*Ohio State University, Columbus, USA*).

0747 Expression of Bax and Bcl-2 in mdx Mouse Temporal Muscle. M. MIZUTANI* and N. OHNO (*Department of Anatomy, School of Dentistry, Aichi-Gakuin University, Japan*).

0748 A Bovine Model of a Connective Tissue Disorder. S. BEIRAGHI, E. FELIX, G. SHERMAN, C. GWILT, J. WINTER-BOER, D.J. STEFFEN, P. BYERS, and M. GODFREY* (*University of Minnesota, Minneapolis; Medical Center, Veterinary Diag. Center, and Center for Human Molecular Genetics, University of Nebraska, Omaha; and University of Washington, Seattle, USA*).

Seq#: 92 Thursday, March 8, 3:45 pm - 5:00 pm
Poster Session, Exhibition Hall

Craniofacial Biology - Craniofacial Morphology and Development

0749 A Lateral Cephalometric Evaluation of Open-bite Malocclusion. D.I. PALLI, S.W. ROSENSTEIN, D.J. FERGUSON, G.G. SOTIROPOULOS, and J.R. WATERS* (*CADE, Saint Louis University, MO, USA*).

0750 Longitudinal Growth of Permanent Maxillary Canine Roots. B. GRIFFITHS*, R. STALEY, and B. ZIMMERMAN (*University of Iowa, Iowa City, USA*).

0751 An Evaluation of Patterns of Tooth Agenesis in Human Permanent Dentition Using a Web-based Approach. S.A. FRAZIER-BOWERS, M.R. SCOTT*, and R. D'SOUZA (*University of Texas Health Science Center at Houston, USA*).

0752 Over-retention of Primary Teeth in HIV-positive Pediatric Patients. D. BROWN, T. MEILLER, R. PAYNE*, W. FALKLER, and V. MEEKS (*BCDS University of Maryland, Baltimore, USA*).

0753 Zygoma Density and Thickness in Dentate and Edentulous Subjects. J. ARBAUGH*, J. PETERSON, and P.C. DECHOW (*Baylor College of Dentistry, Texas A & M University System Health Science Center, Dallas, USA*).

0754 Quantitative Evaluation of Changes in Trabecular Structure of Developing Human Mandible. A. WOJTOWICZ*, S. CHABEREK, A. KINSNER, A. MONTELLA, and K. OSTROWSKI (*Medical University Warsaw and Otwock Hospital, Poland; and Sassari University, Italy*).

0755 Elastic Properties of Craniofacial Bone of Adult Male Rhesus Macaques. T. HUYNH* and P.C. DECHOW (*Baylor College of Dentistry, Texas A & M University System Health Science Center, Dallas, USA*).

0756 Variations in Craniofacial Shape for Two Lineages of Rats. A.T. MOULLAS, C.V. COUTO*, J.M. PALOMO, G. CHAN, M.G. HANS, A.J. THOMAS, and K.P. STROHL (*Case Western Reserve University, Cleveland, OH, USA*).

- 0757** Early Nerve-Muscle Interactions Influence Jaw Muscle Architecture. J. MORRIS-WIMAN* and C.G. WIDMER (*Department of Orthodontics, Dental College, University of Florida, Gainesville, USA*).
- 0758** Osteocalcin Immunoreactivity during Osseous Regeneration. T. CHINO*, R.L. GREGORY, A.H. KAFRAWY, and M. SATO (*Indiana University, Indianapolis, USA; and University of Tokushima, Japan*).

Seq#: 93 **Friday, March 9, 8:00 am - 8:45 am**
Plenary Session, Grand Ballroom F

- 0759** 8:00 Electronic Mimicks of the Mammalian Senses of Taste and Smell. E.V. ANSLYN*, J.T. McDEVITT, J. SHEAR, and D. NEIKIRK (*University of Texas at Austin, USA*).

Seq#: 94 **Friday, March 9, 9:00 am - 11:00 am**
AADR Group-sponsored Symposia
Grand Ballroom B

Nutrition and Cariology Groups – Functional Foods for Oral Health Supported by Wm. Wrigley, Jr. Co., California Raisin Marketing Board, Hershey Foods, Nabisco Inc., Nestec Ltd., Philips Oral Healthcare, Prevention Mouthrinse, Procter & Gamble, The Natural Dentist, Tom's of Maine, Unilever Dental Research, and Wm. Wrigley, Jr. Co.

Chairpersons: C. Wu and P. Lingström

- 0760** 9:00 Functional Foods for Oral Health. C.D. WU*, N. FARNSWORTH, B. GUGGENHEIM, P.C. MOLAN, and W.B. ARMSTRONG (*University of Illinois-Chicago; University of Zürich, Switzerland; University of Waikato, New Zealand; and University of California-Irvine, USA*).
- 9:05 Functional Foods: Updates and New Developments. N.R. FARNSWORTH (*University of Illinois, Chicago, US*).
- 9:25 The Protective Effect of Milk Against Dental Caries. B. GUGGENHEIM (*University of Zürich, Switzerland*).
- 9:45 Honey for Oral Health. P.C. MOLAN (*University of Waikato, Hamilton, New Zealand*).
- 10:05 Can Consumption of Soy Bean Extract Prevent Cancer? W.B. ARMSTRONG (*University of California, Irvine, US*).
- 10:25 Phytochemicals/Botanicals: Foods and Oral Hygiene Products. C.D. WU (*University of Illinois, Chicago, US*).
- 10:45 Discussion

Seq#: 95 **Friday, March 9, 9:00 am - 11:00 am**
AADR Group-sponsored Symposia
Grand Ballroom F

Mineralized Tissue and Dental Materials Groups – Nanostructured, Molecular, and Self-assembled Materials: From Inspiration to Application

Chairperson: P. Messersmith and A. Veis

- 0761** 9:00 Nanostructured, Molecular, and Self-assembled Materials: From Inspiration to Application. P.B. MESSERSMITH* and A. VEIS (*Northwestern University, Evanston, IL, USA*).
- 9:05 Enamel Biomimetics. M. SARIKAYA (*University of Washington, Seattle, US*).
- 9:40 Nanoscience of Materials and its Implications for Future Biomaterials. S.I. STUPP (*Northwestern University, Evanston, IL, US*).
- 10:15 Nanocomposites: Concepts and Studies Presented to Show that Nanocomposites are a Great Hope for Substantially Improving Dental Restoratives. B. CULBERTSON (*Ohio State University, Columbus, US*).
- 10:50 Discussion

Seq#: 96 **Friday, March 9, 9:00 am - 11:00 am**
Oral Session, Columbus Hall C

Behavioral Sciences/Health Services Research - Access to Care and Utilization of Services

Chairpersons: M. Macek and G. Gilbert

- 0762** 9:00 Usual Source of Medical Care and Dental Visits among Adults. M.D. MACEK*, D.M. MALVITZ, E.D. BELTRÁN, and S.A. LOCKWOOD (*University of Maryland Dental School, Baltimore, and Centers for Disease Control and Prevention, Atlanta, GA, USA*).
- 0763** 9:15 An ABCD Program to Increase Access to Dental Care for Low-income Rural Children. T. KAAKKO, E. SKARET, T. GETZ, P.P. HUJOEL, D. GREMBOWSKI, C.S. MOORE, and P. MILGROM* (*University of Washington, Seattle, USA*).
- 0764** 9:30 Use of Specific Dental Service Categories by Dentate Adults during a 24-month Period. G.H. GILBERT*, B.J. SHELTON, and R.P. DUNCAN (*University of Alabama at Birmingham and University of Florida, Gainesville, USA*).
- 0765** 9:45 Access to Dental Care for Special Patients. A.J. NOWAK* and C. LEWIS (*University of Iowa and University of Washington, USA*).
- 0766** 10:00 The Changing Face of Orthodontics: A Marketing Survey. S. WILSON and J. BROWN BRYANT* (*College of Dentistry, Howard University, Washington, DC, USA*).
- 0767** 10:15 Adult Orthodontic Treatment in African-American Patients—Motivational Factors. B. GRIFFIN*, M.R. INGLEHART, and A. WANDERA (*University of Michigan, Ann Arbor, USA*).
- 0768** 10:30 Factors Related to Dental Sealant Utilization among Alabama Medicaid Children. S. PHILIP*, A.P. DASANAYAKE, Y. LI, K. KIRK, J. BRONSTEIN, and N.K. CHILDERS (*Schools of Dentistry & Public Health, University of Alabama at Birmingham, USA*).
- 0769** 10:45 Community Health Centres of Toronto: Determining Clients' Dental Service Utilization. G. ASLANYAN*, S. RUDIN, and H.P. LAWRENCE (*University of Toronto and George Brown City College, Canada*).

Seq#: 97 **Friday, March 9, 9:00 am - 11:00 am**
Poster Discussion Session
Grand Ballroom C

Behavioral Sciences/Health Services Research - Methods in Health Services Research

Chairperson: E. Beltrán and M. Rosa

- 0770** 9:20 Recording of Enamel Hypoplasia and ECC at the D1-D4 Levels. P. NIÑO DE GUZMAN*, G.E. MINAH, D.B. JODREY, N. TINANOFF, and M.-R. WATSON (*Dental School, University of Maryland, Baltimore, USA; and Peruvian University Cayetano Heredia, Peru*).
- 0771** 9:30 Validity of Various Methods of Scoring Visible Dental Plaque as ECC Risk Measure. M.-R. WATSON* (*Dental School, University of Maryland, Baltimore, USA*).
- 0772** 9:40 The Delphi Methodology and Its Application in Trends in Dentistry. R.C. RANDALL*, N.H.F. WILSON, and M.M.A. VRIJHOEF (*University of Manchester, UK; and 3M Dental, Cergy, France*).
- 0773** 9:50 Modified Dean's Index Applied to Upper Anterior Teeth & 1st Premolars: Estimation of Fluorosis Prevalence and Severity. E.D. BELTRÁN*, S.O. GRIFFIN, R. BÁEZ, and S. ESTUPIÑÁN (*CDC, Atlanta, WHO Collaborating Center at UTHSCSA, USA; and PAHO*).

0774 10:00 Random Model of Caries Progression Based on the Wiener Process. D.T. KOPYCKA-KĘDZIERAWSKI*, M.E. MOSS, A.W. KĘDZIERAWSKI, H. LI, and C. MEYEROWITZ (University of Rochester and SUNY Geneseo, NY, USA).
10:10 Discussion

Seq#: 98 Friday, March 9, 9:00 am - 11:00 am
Oral Session, Columbus Hall G

Craniofacial Biology - Craniofacial Development

Chairpersons: M. Hans and C. Evans

0775 9:00 Characterization of Sutural Bone Strain upon Controlled Tensile Forces. J.R. NUDERA*, X. WANG, and J.J. MAO (Departments of Orthodontics & Bioengineering, University of Illinois, Chicago, USA).

0776 9:15 A Model of Controlled Compressive Loading of Cranial Sutures. R. KOPHER* and J.J. MAO (Departments of Orthodontics & Bioengineering, University of Illinois, Chicago, USA).

0777 9:30 Healing of Rabbit Calvarial Defects Using Caprotite Bone Scaffolds. M.P. MOONEY*, S.M.S. BIDIC, J.W. CALVERT, K. MARRA, P. KUMTA, P. CAMPBELL, R. MITCHELL, W. WIGGINTON, A.A. EL-GHERIANI, J.O. HOLLINGER, and L. WEISS (University of Pittsburgh and Carnegie Mellon University, Pittsburgh, PA, USA).

0778 9:45 Effects of Neonatal Unilateral Nasal Obstruction on Rat Craniofacial Development. A.T. MOULLAS, G. CHAN*, J.M. PALOMO, M.G. HANS, A.J. THOMAS, and K.P. STROHL (CWRU Schools of Medicine and Dentistry, Cleveland, OH, USA).

0779 10:00 A Three-dimensional Culture System Supports Early Craniofacial Development. N. HORN*, D. MONTUFAR-SOLIS, and P.J. DUKE (Houston Dental Branch, University of Texas Health Science Center, USA).

0780 10:15 Effects of Shear on Chondrocyte Differentiation: Comparison between a Fluid Flow System and a Rotating Bioreactor. A.G. HOOVER*, D. MONTUFAR-SOLIS, and P.J. DUKE (Houston Dental Branch, University of Texas Health Science Center, USA).

0781 10:30 The Effects of Mechanical Stresses on Rat Epithelial Rests of Malassez. N.F. TALIC*, A.E. ZAKI, J.C. DANIEL, and C.A. EVANS (University of Illinois, Chicago, USA).

10:45 Discussion

Seq#: 99 Friday, March 9, 9:00 am - 11:00 am
Oral Session, Regency C

Dental Materials - Resin Systems, Models, and Related Topics

Chairpersons: C. Bowman and G. Gassman

0782 9:00 Network Formation of BisGMA- and UDMA-based Resin Systems. S.H. DICKENS* and C.J.E. FLOYD (ADAHF Paffenbarger Research Center, NIST, Gaithersburg, MD, USA).

0783 9:15 Quantum Mechanically Derived QSPR Models for Polymerization Expansion. A.J. HOLDER*, J.A. MORRILL, J.D. EICK, and C.C. CHAPPELOW (University of Missouri-Kansas City and Midwest Research Institute, USA).

0784 9:30 Reactivity of Methacrylate Homopolymerization Calculated by Semi-empirical Computational Methods. J.E. CODE*, A.J. HOLDER, J.A. MORRILL, and J.D. EICK (University of Missouri-Kansas City, USA).

0785 9:45 Adhesive Systems for Low-stress Oxirane-containing Photocatalytic Composites. C.C. CHAPPELOW*, C.S. PINZINO, J.E. CODE, L. JEANG, M.D. POWER, and J.D. EICK (University of Missouri-Kansas City and Midwest Research Institute, USA).

0786 10:00 Injectable Hydrogel Matrices Designed for Repair of Craniofacial Bone Defects. C.K. KUO* and P.X. MA (University of Michigan, Ann Arbor, USA).

0787 10:15 The Effects of Heterogeneity and Curing Temperature on the Mechanical Properties of Light-cured Resins. H. LU, L.G. LOVELL, and C.N. BOWMAN* (University of Colorado, Boulder, USA).

0788 10:30 Influence of Resin Eluates on CD4+ and CD8+ Lymphocyte Migration. G. GASSMANN*, F. ENTSCHLADEN, K.S. ZAENKER, and W.-D. GRIMM (University of Witten/Herdecke, Germany).

0789 10:45 Modifying Dental Resins with Monomers Based on Dimer Acid. J.W. STANSBURY* (University of Colorado Health Sciences Center, Denver, CO, USA).

Seq#: 100 Friday, March 9, 9:00 am - 11:00 am
Oral Session, Regency B

Dental Materials - Polymer Materials: Photopolymerization II

Chairpersons: J. Ferracane and R. Sakaguchi

0790 9:00 Effect of Light Intensity on Tan δ Onset during Cure of Composites. R.L. SAKAGUCHI* (Oregon Health Sciences University, Portland, USA).

0791 9:15 Depth of Cure with High-power and Ramped Curing Lights. P. JAIN, A. PERSHING*, and G.P. STEWART (SIU School of Dental Medicine, Alton, USA).

0792 9:30 Is It the Light or Is It the Material? J. KANCA, III* (Middlebury, CT, USA).

0793 9:45 Polymerization Stress of Composites Containing Bonded or Non-bonded Microfillers. J.R. CONDON* and J.L. FERRACANE (Oregon Health Sciences University, Portland, USA).

0794 10:00 Curing Light Intensity Effects on the Mechanical Behavior of Commercial Dental Composites. A.J. ST-GEORGES*, D.E. RUDDLELL, E.J. SWIFT, Jr., J.Y. THOMPSON, and H.O. HEYMANN (University of North Carolina, Chapel Hill, USA).

0795 10:15 Flexural Strength vs. Conversion vs. Initiation Rate for BisGMA/TEGDMA. S.M. NEWMAN*, L.G. LOVELL, M.M. DONALDSON, and C.N. BOWMAN (University of Colorado, Boulder/Denver, USA).

10:30 Discussion

Seq#: 101 Friday, March 9, 9:00 am - 11:00 am
Oral Session, Regency A

Dental Materials - Corrosion of Dental and Orthodontic Alloys

Chairpersons: P. Monaghan and R. Kusy

0796 9:00 Deterioration of Rotary Nickel-Titanium Files: A SEM Study. T.A. SVEC* and J.M. POWERS (Houston Biomaterials Research Center, University of Texas-Houston Dental Branch, USA).

0797 9:15 Electro-erosion SEM Analysis between Titanium and Alloys in Implant Prosthodontics. F. DI CARLO*, M. CASSETTA, S. CAPUTI, and E. CASTIGLIONE (Dental School, La Sapienza University, Rome, Italy).

0798 9:30 Surface Area Ratio Effects on Galvanic Corrosion of Titanium Couples. Y. OSHIDA*, I. GARCIA, M. ITO, and P. MONAGHAN (Indiana University, Indianapolis, USA; Matsumoto Dental University, Nagano, Japan; and Ohio State University, Columbus, USA).

0799 9:45 Pd Ion Release from As-cast and Oxidized High-Pd Ceramic Alloys. N.K. SARKAR, D. BERZINS, A. PRASAD, I. KAWASHIMA*, and H. ONO (LSU School of Dentistry, New Orleans, Jeneric-Pentron Incorporated, Wallingford, CT, USA; and Health Sciences University of Hokkaido, Japan).

0800 10:00 Corrosion Potential of Pd-Ag Alloys and the Effect of Copper. K. KRAJEWSKI*, M. MAREK, and L. JOSKA (*Georgia Institute of Technology, Atlanta, USA; and Institute of Chemical Technology, Prague, Czech Republic*).

0801 10:15 Electrochemical Impedance Spectroscopy Study of High-palladium Alloys at Open-circuit Potential. D. SUN*, P. MONAGHAN, W.A. BRANTLEY, W.M. JOHNSTON, and G.S. FRANKEL (*Ohio State University, Columbus, USA*).

0802 10:30 EIS Study of High-Palladium Alloys at Elevated Corrosion Potentials. D. SUN, P. MONAGHAN*, W.A. BRANTLEY, G.S. FRANKEL, and W.M. JOHNSTON (*Ohio State University, Columbus, USA*).

0803 10:45 ICP/MS Measurement of Elemental Release from Two Palladium-based Dental Casting Alloys. E. TUFEKCI*, J.C. MITCHELL, J.W. OLESIK, W.A. BRANTLEY, and P. MONAGHAN (*Ohio State University, Columbus, USA*).

Seq#: 102 Friday, March 9, 9:00 am - 11:00 am
Oral Session, Columbus Hall I

Diagnostic Systems - Radiography II

Chairpersons: C. Hildebolt and L. Otis

804 9:00 Insight, Ektaspeed Plus, and Ultra-speed Films for Caries Detection. J.B. LUDLOW*, M. ABREU, Jr., and A. MOL (*School of Dentistry, University of North Carolina, Chapel Hill, USA*).

0805 9:15 Printed Direct Digital and Conventional Images for Detecting Proximal Caries. S.D. JACOBS, B.J. POTTER, S.M. ADAIR*, and T.E. SCHAFER (*Medical College of Georgia, Augusta, USA*).

0806 9:30 A Comparison of F-speed Film and Digital Imaging System Using Caries Diagnosis. H. LIANG*, R. CEDERBERG, and N.L. FREDERIKSEN (*Baylor College of Dentistry, TAMUSHSC, Dallas, USA*).

0807 9:45 Manual vs. Automated Computer-aided Proximal Dental Caries Assessment. B.-C. KANG*, J.P. SCHEETZ, and A.G. FARMAN (*University of Louisville, KY, USA; and Dental College, Chonnam University, South Korea*).

0808 10:00 Radiation to the Brain from Intra-oral Radiography in the US, 1920-1993. M.T. DRANGSHOLT*, L.G. HOLLENDER, and W.T. LONGSTRETH, Jr. (*Oral Medicine, Neurology, & Epidemiology, University of Washington, Seattle, USA*).

0809 10:15 Radiographic Findings in Institutionalized Severely and Profoundly Cognitively Impaired Adults. E. WARR*, H. HOOD, and A.G. FARMAN (*School of Dentistry, University of Louisville, and Hazelwood Clinic, Louisville, KY, USA*).

0810 10:30 Pre-operative Implant Site Assessment in Southeast Michigan. R.C. BEASON* and S.L. BROOKS (*University of Michigan, Ann Arbor, USA*).

0811 10:45 DVT-based Pre-operative Localization of the Inferior Alveolar Nerve. E. HIRSCH*, H.-L. GRAF, and A. HEMPRICH (*University of Leipzig, Germany*).

Seq#: 103 Friday, March 9, 9:00 am - 11:00 am
Oral Session, Columbus Hall A

Geriatric Oral Research - Diagnosis and Symptoms of Oral Conditions in Older Adults

Chairpersons: H. A. Kiyak and D. Berkey

0812 9:00 Panoramic Radiographic Findings Suggest Differences in Pathology in Older Subjects by Ethnicity (T.E.E.T.H. Study). L.G. HOLLENDER*, R.E. PERSSON, V. POWELL, M.I. MacENTEE, P.P. HUJOEL, C.C.L. WYATT, G.R. PERSSON, and H.A. KIYAK (*University of Washington, Seattle, USA; and University of British Columbia, Canada*).

0813 9:15 Panoramic Radiographs Suggest Gender Differences in Pathology in Older Subjects (T.E.E.T.H. Study). R.E. PERS-SON*, L.G. HOLLENDER, V. POWELL, M.I. MacENTEE, P.P. HUJOEL, C.C.L. WYATT, H.A. KIYAK, and G.R. PERSSON (*University of Washington, Seattle, USA; and University of British Columbia, Vancouver, Canada*).

0814 9:30 Maxillary Interdental and Skeletal Bone Density Relationships. T.E. SOUTHARD*, K.A. SOUTHARD, and S.L. HILLIS (*University of Iowa, Iowa City, USA*).

0815 9:45 Bone Loss in the Edentulous Mandible and Maxilla. M. DAGENAIS*, M. VILLAFRANCA, E. KLEMETTI, and J.S. FEINE (*McGill University, Montreal, Canada*).

0816 10:00 Salivary Analysis and Caries Risk in Community-dwelling Elders. B.J. HIRST, R.E. PERSSON, L.V. POWELL, and H.A. KIYAK* (*University of Washington, Seattle, USA*).

0817 10:15 Comparison of Periodontal Attachment Loss in Xerostomic and Healthy Individuals. A.S. PAPAS* and G. MARTUSCELLI (*School of Dental Medicine, Tufts University, Boston, MA, USA*).

0818 10:30 Elder Abuse in Arizona: Dental Provider Knowledge and Training Issues. D.B. BERKEY*, R.G. BERG, J.M.W. TANG, and D. ALTMAN (*University of North Carolina at Chapel Hill, University of Colorado, and Arizona Department of Health Services, USA*).

10:45 Discussion

Seq#: 104 Friday, March 9, 9:00 am - 11:00 am
Oral Session, Columbus Hall K

Microbiology/Immunology & Infection Control - Periodontal Infections—Local and Systemic Factors

Chairpersons: F. Nichols and Y. Jiang

0819 9:00 *Actinobacillus actinomycetemcomitans* Induces T-cell Apoptosis via Fas/FasL Pathway. A. NALBANT* and H.H. ZADEH (*Department of Periodontology, USC, LA, USA*).

0820 9:15 FDC, CD21 Ligand, and Responses to *A. actinomycetemcomitans* and *P. gingivalis*. M.A. FAKHER*, J. WU, D. QIN, S.E. BARBOUR, H.A. SCHENKEIN, and J.G. TEW (*CRCPD, MCV/VCU, Richmond, USA*).

0821 9:30 Bacteria Induce Osteoclastogenesis via an Osteoblast-independent Pathway. Y. JIANG*, C. MEHTA, and F. ALSULAIMANI (*Department of Endodontics, School of Dental Medicine, Boston University, MA, USA*).

0822 9:45 Bacterial Fatty Acids Recovered in Lipids from Carotid Endarterectomy Samples. F.C. NICHOLS* and J. GALLAGHER (*School of Dental Medicine, University of Connecticut, and Hartford Hospital, USA*).

0823 10:00 Identification of Periodontal Bacteria in Periodontitis-susceptible P-E-Selectin Knockout Mice. L.L. MARK*, F.E. DEWHIRST, J.L. GALVIN, S.K. BOCHES, B.J. PASTER, R. NIEDERMAN, and P. STASHENKO (*The Forsyth Institute, Boston, MA, USA*).

0824 10:15 *In situ* Hybridization of IL-1 α , IL-1 β , and KGF-1 in Early Wounds of Restrained Mice. A.M. MERCADO*, N. QUAN, D.A. PADGETT, J.F. SHERIDAN, and P.T. MARUCHA (*Ohio State University, Columbus, USA*).

0825 10:30 Stress Modulation of Phagocytic Cell Recruitment during Cutaneous Wound Healing. I.G. ROJAS*, A.M. MERCADO, D.A. PADGETT, J.F. SHERIDAN, and P.T. MARUCHA (*Ohio State University, Columbus, USA*).

0826 10:45 Effect of Dendritic Cells (DC) on IgG2 Production in LJP. S.E. BARBOUR*, M.A. FAKHER, S. AL-DARMAKI, T.H. CAVEN, H.A. SCHENKEIN, and J.G. TEW (*CRCPD, MCV/VCU, Richmond, USA*).

Seq#: 105 Friday, March 9, 9:00 am - 11:00 am
Oral Session, Regency D

Oral Medicine & Pathology - Molecular Oncology

Chairpersons: R. Taichman and S. Bagchi

0827 9:00 Oral Cancer Cell Gene Expression Profiling Using High-throughput Analysis. R. TODD*, H. OHYAMA, I. ALEVI-ZOS, R.B. DONOFF, Y. KOHNO, J. WARRINGTON, and D.T.W. WONG (*Harvard School of Dental Medicine, Boston, MA, and Affymetrix Headquarters, Santa Clara, CA, USA*).

0828 9:15 Oligonucleotide Microarray Gene Profiling in Oral Carcinoma Cell Lines. W. ZACHARIAS*, D.M. MILLER, and N. VIGNESWARAN (*University of Louisville, and Houston Dental Branch, University of Texas, USA*).

0829 9:30 Ubiquitination and Proteolysis of Tumor Suppressor Rb in HPV-transformed Cells. J. WANG, A. SAMPATH, B. YU, and S. BAGCHI* (*University of Illinois at Chicago, USA*).

0830 9:45 Human Papillomavirus in Oral Cancer Lymph Node Metastases. K.F. SUMMERGILL*, E.M. SMITH, L.P. TUREK, and T.H. HAUGEN (*Veterans Affairs Medical Center and University of Iowa, Iowa City, USA*).

0831 10:00 Allelic Loss in Leukoplakia at Former Cancer Site Predicts Recurrence. M.P. ROSIN*, C.F. POH, W.L. LAM, X. CHENG, J. EPSTEIN, K. BEREAN, S. DURHAM, J. HAY, M. MORRIS, T. ZENG, X. LIU, N.D. LE, and L. ZHANG (*British Columbia Cancer Agency, Vancouver, Canada*).

0832 10:15 Mechanisms of Resistance of Oral Tumors to Cytotoxic Immune Effectors. A. JEWETT*, M. WANG, and M. PARK (*UCLA School of Dentistry, Los Angeles, USA*).

0833 10:30 Expression of the $\alpha\beta 6$ Integrin Enhances Oral SCC Invasion. M. BUT*, X. LI, and D.M. RAMOS (*University of California, San Francisco, USA*).

0834 10:45 The Role of SDF-1/CXCR4 in Prostate Cancer Bone Metastases. R.S. TAICHMAN*, S. CHANG, L.K. McCAULEY, and N.S. TAICHMAN (*School of Dentistry, University of Michigan, Ann Arbor, and School of Dental Medicine, University of Pennsylvania, Philadelphia, USA*).

Seq#: 106 Friday, March 9, 9:00 am - 11:00 am
Oral Session, Grand Ballroom A

Periodontal Research - Antimicrobial Therapy

Chairpersons: R. Genco and T. Rams

0835 9:00 Subject-based Occurrence of Antibiotic-resistant Periodontal Pathogens. T.E. RAMS* and D. FEIK (*School of Dentistry, Temple University, Philadelphia, PA, USA*).

0836 9:15 Effects of Combined Therapies on Periodontal Disease. E. ARGUELLO*, A.D. HAFFAJEE, M. THOMPSON, G. TORRESYAP, K. GRIMMETT, D. GUERRERO, and S.S. SOCRANSKY (*The Forsyth Institute, Boston, MA, USA*).

0837 9:30 Effect of Periodontal Treatment on Diabetes Glycemic Control. S.G. GROSSI*, F. SKREPCINSKI, J.J. ZAMBON, H. REYNOLDS, A. HO, and R.J. GENCO (*Department of Oral Biology, SUNY at Buffalo, and US Public Health Service, Phoenix, AZ, USA*).

0838 9:45 Effect of Locally Delivered Microencapsulated Minocycline (MPTS) in Patients with Periodontitis Who Are Smokers. R. WILLIAMS, D. PAQUETTE, S. OFFENBACHER, E. SANTUCCI, and J. LESSEM* (*University of North Carolina, and OraPharma, Inc., Warminster, PA, USA*).

0839 10:00 Monitoring Disease Progression and Treatment Effects Utilizing Bone-resorptive Markers. R.J. ORINGER*, K. AL-SHAMMARI, W.A. ALDREDGE, V.J. IACONO, R.M. EBER, H.-L. WANG, and W.V. GIANNOBILE (*SUNY at Stony Brook, NY, and University of Michigan, Ann Arbor, USA*).

0840 10:15 Local Tetracycline Fiber Therapy in Early Onset Periodontitis. J.A. BURMEISTER*, J.C. KHARMOUCHE, and J.C. GUNSOLLEY (*Virginia Commonwealth University, Richmond, and University of Maryland, Baltimore, USA*).

0841 10:30 Efficacy of Controlled-release Subgingival Chlorhexidine Administration to Enhance Periodontal Regeneration. M.K. JEFFCOAT, M.S. REDDY*, N.C. GEURS, K.G. PALCANIS, T.W. WEATHERFORD, and R.D. FINKELMAN (*School of Dentistry, University of Alabama, Birmingham, and AstraZeneca LP, Westborough, MA, USA*).

0842 10:45 Frequency of Bacteremia Following Different Modalities of Periodontal Treatment. R.J. GENCO*, S.G. GROSSI, J.J. ZAMBON, H. REYNOLDS, A. HO, and S. GARRETT (*Department of Oral Biology, SUNY at Buffalo, and Atrix Laboratories, USA*).

Seq#: 107 Friday, March 9, 9:00 am - 11:00 am
Oral Session, Columbus Hall E

Pharmacology, Therapeutics, & Toxicology - Therapeutics and Oral Tissues

Chairpersons: D. Donaldson and P. Moore

0843 9:00 Evaluation of Ibuprofen Liguigel and an Aspirin/Acetaminophen/Caffeine Combination. L.M. LEVIN*, E.V. HERSH, S.A. SECRETO, S. JOHNSON, S.A. COOPER, and G. DOYLE (*University of Pennsylvania, Philadelphia, and Whitehall-Robins Healthcare, Madison, NJ, USA*).

0844 9:15 Ibuprofen (IBU) and Celecoxib (CLX)—Comparison of Analgesic Effects. J. FRICKE, G. DOYLE*, W. THODEN, L. MARINUCCI, and S.A. COOPER (*PPD Pharmacology, Austin, TX, and Whitehall-Robins Healthcare, Madison, NJ, USA*).

0845 9:30 A Chemically Modified Tetracycline is a Surprising New Antifungal Agent. Y. LIU*, M.E. RYAN, H.M. LEE, G. TORTORA, S. SIMON, P.J. TEMPRO, and L.M. GOLUB (*SUNY at Stony Brook and Buffalo, USA*).

0846 9:45 Comparative Evaluation of an Adjunctive Oral Irrigation in Diabetics. S. AL-MUBARAK*, S.G. CIANCIO, A. ALJADA, H. AWA, W. HAMOUDA, H. GHANIM, J.J. ZAMBON, P. DANDONA, T. BOARDMAN, and C. ROSS (*SUNY at Buffalo, NY, USA*).

0847 10:00 Melatonin Increases Bone Mass by Suppressing Bone Resorption in Mice. H. KOYAMA*, O. NAKADE, Y. TAKADA, and K.-H.W. LAU (*Health Sciences University of Hokkaido, Japan; Loma Linda University, and VAMC, Loma Linda, CA, USA*).

0848 10:15 The Cannabinoid Receptor Agonist WIN 55,212-2 Attenuates Muscle Hyperalgesia Associated with Osteolytic Tumor Growth. D.L. CROFT*, B.D. NORSTED, P.W. WACNIK, L.J. KEHL, G.L. WILCOX, D.A. SIMONE, and D.T. HAMAMOTO (*University of Minnesota, Minneapolis, USA*).

0849 10:30 The Cannabinoid Receptor Agonist WIN 55,212-2 Attenuates Carrageenan-evoked Muscle Hyperalgesia. B.D. NORSTED*, D.L. CROFT, P.W. WACNIK, D.T. HAMAMOTO, G.L. WILCOX, D.A. SIMONE, and L.J. KEHL (*University of Minnesota, Minneapolis, USA*).

0850 10:45 Diet Drugs and Cardiac Valvulopathy: A Survey of Dental Patients. R.S. RUDIN* and W.M. CARPENTER (*School of Dentistry, University of the Pacific, San Francisco, CA, USA*).

Seq#: 108 Friday, March 9, 9:00 am - 11:00 am
Oral Session, Toronto

Prosthodontics Research - Reinforced Composite Restorations, Provisional Resin Fracture Resistance and Color Change, Resin Bond Strength to Ceramic

Chairpersons: F. Tung and R. Lang

0851 9:00 Fracture Resistance of Posterior Metal-free Polymer Crowns. F. LEHMANN*, P. RAMMELSBERG, and G. EICKEMEYER (*Department of Prosthodontics, University of Munich, Germany*).

0852 9:15 Clinical Evaluation of Metal-free Polymer Crowns in Anterior and Posterior Quadrants. P. RAMMELSBERG*, G. EICKEMEYER, A. DYLLA, and S. LIMBACH (*Department of Prosthodontics, University of Munich, Germany*).

0853 9:30 Veneer Layer Fiber Incorporation of Fixed Prosthodontic Fiber-reinforced Composite. S.R. DYER* and R.C. FARNUM (*University of Texas Health Science Center at San Antonio, USA*).

0854 9:45 Effect of Fiber Reinforcement on Flexural Strength of Composite. H.E. STRASSLER, V. KARBHARI, and D. RUDO* (*University of Maryland Dental School, Baltimore, University of California-San Diego, La Jolla, and Ribbond, Seattle, WA, USA*).

0855 10:00 The Fracture Resistance of Provisional Crown & Bridge Restoration Materials. R. LANG*, M. ROSENTRITT, M. BEHR, and G. HANDEL (*Department of Prosthetic Dentistry, University of Regensburg, Germany*).

0856 10:15 Color Change of Materials Used to Fabricate Provisional Prosthodontic Restorations. D.R. HASELTON and A.M. DIAZ-ARNOLD* (*University of Iowa, Iowa City, USA*).

0857 10:30 Shear Bond Strength of Resin Cements to All Ceramics. C.H. PAMEIJER* (*University of Connecticut, Farmington, USA*).

0858 10:45 Bond Strength of Resin Composite on 3G Optimal Pressable Ceramic. F. TUNG*, D. ESTAFAN, R. PRASAD, and S. JIN (*College of Dentistry, New York University, USA*).

Seq#: 109 Friday, March 9, 9:00 am - 11:00 am
Oral Session, Grand Ballroom D

Salivary Research - Cell Signaling/Salivary Function

Chairpersons: M. Mozaffari and L. Baccaglini

0859 9:00 Reduced Submandibular Gland Muscarinic Receptors in a Mouse ACHE Knockout Model. F.J. DOWD*, W. ZENG, O. LOCKRIDGE, P.W. ABEL, and M.A. SCOFIELD (*Creighton University and University of Nebraska Medical Center, Omaha, USA*).

0860 9:15 Cyclic amP-receptor Protein (cARP) Isoform Distribution in Salivary Glands. M.I. MEDNIEKS*, M. PILUDU, A. RIVA, and A.R. HAND (*University of Illinois, Chicago, USA; University of Cagliari, Italy; and University of Connecticut, Farmington, USA*).

0861 9:30 Regulation of cAMP Synthesis and Degradation by Arachidonic Acid. E.L. WATSON*, K.L. JACOBSON, J. SINGH, and S. OTT (*University of Washington, Seattle, USA*).

0862 9:45 Determination of the Taurine Content of the Submandibular Gland in the Rat: Effects of Cholinergic Drugs. M.S. MOZAFFARI* (*Department of Oral Biology and Maxillofacial Pathology, MCG School of Dentistry, Augusta, USA*).

0863 10:00 Mechanical Modulation of Secretory Protein Expression in Oral Fluid. T.R. CROSBY*, J.C. BURKE, C.A. EVANS, and M.I. MEDNIEKS (*University of Illinois, Chicago, USA*).

0864 10:15 Lymphocytic Response to an Oral Glucose Tolerance Test in Primary Sjögren's Syndrome. L. BACCAGLINI*, V. SANKAR, P.D. MITTAL, M. BROWN, B.J. BAUM, and S.R. PILLEMER (*GTTB, NIDCR, NIH, Bethesda, MD, USA*).

0865 10:30 Salivary Immunization with pDNA-cationic Lipoplexes Confers Systemic, Not Mucosal, Protection. V. SANKAR*, J.C. ATKINSON, D. AFRAMIAN, L. BACCAGLINI, C.J. WHEELER, and B.J. BAUM (*NIDCR/NIH, Bethesda, MD, University of Maryland, Baltimore, and Vical Inc., San Diego, CA, USA*).

10:45 Discussion

Seq#: 110 Friday, March 9, 11:00 am - 12:15 pm
Poster Session, Exhibition Hall

Pulp Biology - Dentin/Pulp Complex

0866 SEM Study of a New Endodontic Root Canal Sealer. C. BECCE* and C.H. PAMEIJER (*Savona, Italy; and University of Connecticut, Farmington, USA*).

0867 Influences of Dental Resin Components on Dentin/Pulp Complex. S. MIYAKOSHI*, T. INOUE, S. MURAKAMI, K. MATSUZAKA, and M. SHIMONO (*Department of Pathology, OHSC, Tokyo Dental College, Chiba, Japan*).

0868 Biocompatibility of Endodontic Materials: Guinea Pig Bony Tissue Response to Retrograde Obturation Materials. C.J.A. SOUSA*, M.A. VERSIANI, E.A. PASCON, and K. LANGE-LAND (*UFU, MG, Unifran, SP Brazil; and University of Connecticut, USA*).

0869 Biocompatibility of Endodontic Materials: Guinea Pig Bony Tissue Response to Polyurethane Resin Derived from Castor Bean Oil. E.A. PASCON*, C.J.A. SOUSA, and K. LANGE-LAND (*Unifran, SP, UFU, MG, Brazil; and University of Connecticut, USA*).

0870 Histopathological Effect of Laser Irradiation and Direct-capping with Adhesive Resin. Y. KATOH* and Y. KITAMURA (*School of Dentistry, Nippon Dental University at Niigata, Japan*).

0871 *In vivo* Evaluation of Human Pulp Sensitivity after Nd:YAG Laser Irradiation. H. YAMAGUCHI*, C.F. COX, K. KOBAYASHI, and T. ARAI (*Departments of Periodontics and Endodontics, Tsurumi University, Yokohama, Japan; and UCLA Dental School, USA*).

0872 Expression of Connexin 32 and 43 in Human Dental Pulp Fibroblasts. N. IBUKI*, Y. YAMAOKA, Y. SAWA, S. YOSHIDA, and T. KAWASAKI (*Hokkaido University, Sapporo, Japan*).

0873 Expression of the Dentinogenic Activity of Dental Pulp. M. SHIMONO*, M. SUZUKI, and T. INOUE (*Department of Pathology and Department of Periodontology, Oral Health Science Center, Tokyo Dental College, Chiba, Japan*).

0874 Retrograde Labeling of Pulpal Afferents with Minimal Pulpal Injury. Y. PAN* and J. NAFTEL (*University of Mississippi Medical Center, Jackson, USA*).

0875 Aspiration of Pulp Cells into Vital Dentin: Is Healing Delayed? C.F. COX*, J. KANCA, III, A.A. HAFEZ, and H. YAMAGUCHI (*Restorative Dentistry, UCLA Dental School; Middlebury, CT, USA; and Tsurumi University, Japan*).

0876 Vascular Changes in Dental Pulp Following Orthodontic Tooth Movement. A.M. ALHADLAQ*, S.H. ASHRAFI, C.A. EVANS, and A.E. ZAKI (*University of Illinois at Chicago, USA*).

0877 Antimicrobial Effectiveness of Sodium Hypochlorite and Chlorhexidine as Endodontic Irrigants. C.A.G. SILVA and L.L. BAMMANN* (*ULBRA, Canoas, RS, Brazil*).

0878 NK Cell Activities Contribute to Disseminating Endodontic Infections in SCID Mice. L. HOU*, B. VAAGE, and P. STASHENKO (*The Forsyth Institute, Boston, MA, USA*).

0879 The Success of Root Canal Therapy in Young Permanent Molars. J. CHRISTENSEN*, S. CLARK, P.D. ELEAZER, and B. GLICK (*University of Louisville, KY, USA*).

Seq#: 111 Friday, March 9, 11:00 am - 12:15 pm
Poster Session, Exhibition Hall

Prosthodontics Research - General

- 0880** Handpiece Design and Dental Cutting. S.C. SIEGEL* and J.A. VON FRAUNHOFER (*Dental School, University of Maryland, Baltimore, USA*).
- 0881** Chemo-mechanical Effects in Dental Cutting. J.A. VON FRAUNHOFER*, S.C. SIEGEL, and S. FELDMAN (*Dental School, University of Maryland, Baltimore, USA*).
- 0882** Air Turbine and Electric Motor Handpiece Effects on Pulpal Temperature. S.L. EIKENBERG* (*US Army Dental Research Detachment, Great Lakes, IL, USA*).
- 0883** Smear Layer Response to Viscous Hemostatic Agents. C.M. IREGUI, B.A. SCHLUETER*, S.E. RIEKEN, and M.F. LAND (*School of Dental Medicine, Southern Illinois University, Alton, USA*).
- 0884** Temperature Transmission of High-output Light-curing Units through Dentin. R.W. LONEY* and R.B.T. PRICE (*Dalhousie University, Halifax, NS, Canada*).
- 0885** Prevalence of Oral Tori in Subjects Requiring Prosthodontic Care. A. SAMANT, N. AGNIHOTRI*, J. AGNIHOTRI, J. MARTIN, and M. JANAL (*New Jersey Dental School, UMDNJ, Newark, USA*).
- 0886** Masticatory Cycle and Hardness of Food in Complete Denture Wearers. E.L. DOMINGUEZ*, L. RODRIGUEZ, and D.A. PAREDES (*Universidad Peruana Cayetano Heredia, Lima, Perú*).
- 0887** Influence of Occlusal Vertical Dimension Change in Complete Denture Wearers. C.C. ZUIKO*, C. PUELLES, and D.A. PAREDES (*Universidad Peruana Cayetano Heredia, Lima, Perú*).
- 0888** Masticatory Muscle Activity after the Use of an Anterior Jig. R.J. MIRANDA and D.A. PAREDES* (*Universidad Peruana Cayetano Heredia, Lima, Perú*).
- 0889** The Neuroendocrine Responses during the Application of an Occlusal Appliance. Y. ITO*, T. TAKEICHI, and L.M. RUCKER (*Aichi-Gakuin University, Nagoya, Japan; and University of British Columbia, Vancouver, Canada*).
- 0890** Evaluation of Interproximal Contact Force during Clenching by Dental Prescale®. K. KASAHARA*, H. MIURA, H. KATO, I. ARAI, M. KAKU, T. KANNO, A. TOKUDA, K. WATANABE, and R.M. FOXTON (*Tokyo Medical and Dental University, Japan*).
- 0891** Accuracy of the SAM Face Bow and the Anatomic Accurate Reproducible Transfer (AART) Technique. R.A. SHAPIRO, D.J. FERGUSON, J.O. BAUER, K.C. WALDE, and S.L. NELSON* (*CADE, Saint Louis University, MO, USA*).
- 0892** Comparison of Stone Casts Using Calipers and an Optical Digitizer. M.E. BROSKY*, I.J. PESUN, L. LI, R. DeLONG, and J.S. HODGES (*University of Minnesota, Minneapolis, USA*).
- 0893** Effects of Non-axial Load on Cervical Lesions. L.A. LITONJUA*, P.J. BUSH, T.S. TOBIAS, and R.E. COHEN (*State University of New York at Buffalo, USA*).
- 0894** In vitro Corrosion of Three High-palladium Casting Alloys in Five Media. D. SUN, P. MONAGHAN, W.A. BRANTLEY, W.M. JOHNSTON, and L.A. KNOBLOCH* (*Ohio State University, Columbus, USA*).
- 0895** Effect of Light Application on an In-office Bleaching Gel. Y. LI*, S. CARTWRIGHT, M. LEZAMA, W. ZHANG, and R. FELLER (*Loma Linda University, CA, USA*).

Seq#: 112 Friday, March 9, 11:00 am - 12:15 pm
Poster Session, Exhibition Hall

Dental Materials - Bonding to Glass Ionomers, Metal, Enamel, and Other Substrates

- 0896** Bond Strength to Enamel Using Three Different Conditioner Treatments. C.M. SILVA, R.L. CARVALHO, and J.L.N. ARAÚJO* (*Federal University of Pará, Brazil*).
- 0897** Bond Strengths with Acidic Primers to Polished and Unpolished Enamel. R.G. STRATMANN, J.M. POWERS, and M. MESSERSMITH* (*Houston Dental Branch, University of Texas, USA*).
- 0898** Microtensile Bond Strength of Self-etching Primer to Human Teeth. L. PINZON*, K.L. O'KEEFE, and J.M. POWERS (*Houston Biomaterials Research Center, Houston Dental Branch, University of Texas, USA*).
- 0899** Tensile Bond Strength of Self-etching Primer to Human Teeth. J.M. POWERS* and C. KAADEN (*Houston Biomaterials Research Center, Houston Dental Branch, University of Texas, USA*).
- 0900** Bond Strength of Self-etching Systems to Dental Hard Tissues. C. KAADEN*, J.M. POWERS, K.H. FRIEDL, and G. SCHMALZ (*Houston Dental Branch, University of Texas, USA; and Operative Dentistry and Periodontology, Dental School, University of Regensburg, Germany*).
- 0901** Bond Strength of Surface-treated Titanium Dioxide Opaque Resin Composite. K. YOSHIDA*, I. WATANABE, K. KAMADA, Y. TAIRA, T. SAWASE, and M. ATSUTA (*School of Dentistry, Nagasaki University, Japan*).
- 0902** Shear Bond Strength of Flowable Composite as a Repair Material. W.H. SMITH* and D.A. GIVAN (*School of Dentistry, University of Alabama, Birmingham, USA*).
- 0903** Repair Potential of a Highly Dense Composite Using Different Adhesives. W.L. DIAS*, A.V. RITTER, and E.J. SWIFT, Jr. (*University of North Carolina at Chapel Hill, USA*).
- 0904** Influence of Surface Conditioning on Resin-to-Ceramic Bonding. H. WICKOP*, A. TOBIES, B. WÖSTMANN, and P. FERGER (*Department of Prosthodontics, Justus-Liebig-University Giessen, Germany*).
- 0905** Shear Bond Strengths of Bonding Systems to Composite and Compomer. C.A. SNELL*, S.S. KHAJOTIA, and M.G. DUNCANSON, Jr. (*College of Dentistry, University of Oklahoma, Oklahoma City, USA*).
- 0906** Bending Bond Strength of Prosthetic Composites in Repair Restoration. Y. KAWAMOTO*, N. HINOKIYAMA, Y. KAKEHASHI, T. IGARASHI, M. SAITOH, and M. NISHIYAMA (*School of Dentistry, Nihon University, Tokyo, Japan*).
- 0907** Bonding Composite Resin to Denture Teeth. L.T. LE*, R.R. SEGHI, E. PAPAZOGLOU, and P. MONAGHAN (*Ohio State University, Columbus, USA; and University of Athens, Greece*).
- 0908** Microtensile Interfacial Bond Strength of a Composite to Glass Ionomers. R.A. HOUSTON*, D.C.N. CHAN, and D.H. PASHLEY (*Departments of Oral Rehabilitation and Physiology, Medical College of Georgia, Augusta, USA*).
- 0909** Effect of Eccentric Load Cycling on Microleakage of Class V Flowable and Packable Composite Resin Restorations. K.-T. JANG*, D.H. CHUNG, D.H. SHIN, and F. GARCÍA-GODOY (*University of Texas Health Science Center at San Antonio, and Biomaterials Research, Tufts University, Boston, MA, USA*).
- 0910** Bond Strength and Microleakage of Three Enamel/Dentin Adhesive Systems. K. YAMAMOTO*, Y. HATSUOKA, K. NARIKAWA, and M. INOUE (*Department of Operative Dentistry, Osaka Dental University, Japan*).

Seq#: 113 Friday, March 9, 11:00 am - 12:15 pm
Poster Session, Exhibition Hall

Dental Materials - Adhesive Surface Analysis, Sealants

0911 Effect of Dentin Surface Texture on Film Thickness of Adhesive Bonding Resin. J. SINGH*, O.M. EL-MOWAFY, W.A. EL-BADRAWY, and D. EL-SHEIKH (*Faculty of Dentistry, University of Toronto, Ontario, Canada*).

0912 Surface Variability of Permanent Dentin: Effects of Bur Type and Acidic Treatment. J. ALMEIDA*, M.C. PETERS, J.E. NÖR, and S.I. MYAKI (*School of Dentistry, University of Michigan, Ann Arbor, USA; and UNESP-São José dos Campos, Brazil*).

0913 Effect of Bur Type on Smear Layer Removal in Primary Teeth. S.I. MYAKI*, M.C. PETERS, J. ALMEIDA, and J.E. NÖR (*School of Dentistry, UNESP-São José dos Campos, Brazil; and University of Michigan, Ann Arbor, USA*).

0914 Effects of Finishing Type and Time to Procedure on Marginal Sealing Ability. G.C. LOPES, E.A.V. MAIA*, L.C.C. VIEIRA, M.A.C. ANDRADA, and M. FRANKE (*Universidade Federal de Santa Catarina, Brazil*).

0915 Effect of Sandblasting on Enamel and Dentin Bonding. H. KAJIHARA*, Y. KATSUREN, Y. MINESAKI, T. TANAKA, and S. SUZUKI (*University of Alabama, USA; and University of Kagoshima, Japan*).

0916 Bond Strength of Pit and Fissure Sealants with and without Adhesive Resin to Deciduous Enamel. A. FERNANDEZ, J.D. LAFUENTE, and T. RAMIREZ* (*School of Dentistry, University of Costa Rica, San José*).

0917 Effects of Drying Agent and Primer on Sealant Penetration. K.B. FRAZIER* and J.C. WATAHA (*Medical College of Georgia, Augusta, USA*).

Seq#: 114 Friday, March 9, 11:00 am - 12:15 pm
Poster Session, Exhibition Hall

Dental Materials - Tooth Whitening I

0918 Multi-center Clinical Study to Compare the Effectiveness of Dental Bleaching Agents. P.A. BURGIO* (*3M Dental Products Division, St. Paul, MN, USA*).

0919 Time-dependent Composition of Tooth Bleaching Systems *in vivo*. T. WILLE, I.J. PESUN*, E.C. COMBE, G.C. LINDQUIST, and J.S. HODGES (*School of Dentistry, University of Minnesota, Minneapolis and 3M Dental Products Division, St. Paul, USA*).

0920 Use of Peroxide-containing Polyethylene Strips: Effect of Dosing Duration on Initial and Sustained Shade Change. R.W. GERLACH, K.L. CAMPOLONGO, P.D. HOKE, and X. ZHOU* (*The Procter & Gamble Co., Mason, OH, USA*).

0921 Clinical Evaluation of a Novel "Trayless" Tooth-whitening System. E.J. SWIFT, Jr.*, H.O. HEYMAN, A.V. RITTER, B.T. ROSA, and A.D. WILDER, Jr. (*University of North Carolina, Chapel Hill, USA*).

0922 Impact of Prior Toothbrushing on Whitening Strip Clinical Response. R.W. GERLACH, M.E. JEFFERS, P.S. PERNIK*, P.A. SAGEL, and X. ZHOU (*The Procter & Gamble Co., Mason, OH, USA*).

0923 Demographic Variables and Tooth Color: Evidence from 12 Randomized Clinical Trials. R.D. GIBB*, X. ZHOU, P.A. SAGEL, and R.W. GERLACH (*The Procter & Gamble Co., Mason, OH, USA*).

0924 Post-orthodontic Tooth Whitening. K.J. DONLY*, R.W. GERLACH, A. SEGURA, P.A. WALTERS, and X. ZHOU (*Dental School, University of Texas Health Science Center at San Antonio, and The Procter and Gamble Company, Cincinnati, OH, USA*).

0925 Clinical Evaluation of a New Chairside and Take-home Bleaching System. A. PAPATHANASIOU*, D. BARDWELL, and S. KASTALI (*School of Dental Medicine, Tufts University, Boston, MA, USA*).

0926 Clinical Evaluation of a Light- to Heat-activated Bleaching System. S. KASTALI*, A. PAPATHANASIOU, R. PERRY, and G. KUGEL (*School of Dental Medicine, Tufts University, Boston, MA, USA*).

Seq#: 115 Friday, March 9, 11:00 am - 12:15 pm
Poster Session, Exhibition Hall

Dental Materials - Release Kinetics, Degradation, Biological and Other Related Aspects

0927 Targeted Drug Release by a Novel Polymeric Device Based on EVA (Ethylene Vinyl Acetate) for Periodontal Condition. S. GENG*, D. LIN, and S. KALACHANDRA (*School of Stomatology, Beijing Medical University, P.R. China; COSD, University of North Carolina, Chapel Hill, and Virginia Tech, Blacksburg, USA*).

0928 Cell Survival and Cytokine Expression by Dental Cells Treated with a Liquid Crystal Resin Monomer. E.J. BOLAND*, D.L. CARNES, M. MacDOUGALL, N. SATSANGI, and B.K. NORLING (*University of Texas Health Science Center, San Antonio, USA*).

0929 Determining Sorption and Solubility of Soft Denture Liners. S. SAYEK* and P.L. MILLSTEIN (*University of Texas, San Antonio, USA*).

0930 Measurement of Fluoride Ions Released from Dentin Adhesives in Two Different Solutions. S. PHANTHAVONG*, H. SONODA, T. NIKAIDO, P.N.R. PEREIRA, and J. TAGAMI (*Tokyo Medical & Dental University, Japan; and University of North Carolina at Chapel Hill, USA*).

0931 Biocompatible Oxirane-based Dental Composites. E.L. KOSTORYZ*, J.D. EICK, S.M. ROZZI, C.C. CHAPPELOW, A.G. GLAROS, D.W. JACOBS, J.D. OXMAN, and D.M. YOURTEE (*UMKC and 3M Dental Products Division, St. Paul, MN, USA*).

0932 Comparative DNA Damage Analysis of Two Structurally Different Dental Resins. W.G. BROCKMANN*, L.A. WETMORE, E.L. KOSTORYZ, J.D. EICK, and D.M. YOURTEE (*University of Missouri-Kansas City, USA*).

0933 Inhibition of Human Monocyte Interleukin 1 β Production by an Aminomethacrylate. G.S. SCHUSTER* and G.B. CAUGHMAN (*Medical College of Georgia, Augusta, USA*).

0934 Effect of Polymerization Initiator Benzoyl Peroxide on Lipid Metabolism. R.A. DATAR* and G.S. SCHUSTER (*Medical College of Georgia, Augusta, USA*).

0935 Cytotoxicity of Bis-GMA, Its Precursors and Degradation Products. C.A. LEFEBVRE*, G.S. SCHUSTER, F.A. RUEGGERBERG, J.W. STANSBURY, and G.B. CAUGHMAN (*MCG School of Dentistry, Augusta, GA, and UCHSC School of Dentistry, Denver, CO, USA*).

0936 Synthesis of Mussel Adhesive Decapeptide-Polyethylene Glycol Bioconjugates. B.-H. HU, J.S. FRIEDSTAT*, C.L. MIAW, and P.B. MESSERSMITH (*Northwestern University, Evanston, and American Dental Association, Chicago, IL, USA*).

0937 Synthesis of DOPA-modified Polymer Hydrogels. B.P. LEE*, K. HOLIAN, T. KWAN, P. MADHAV, and P.B. MESSERSMITH (*Northwestern University, Evanston, IL, USA*).

0938 Thermally Triggered Formation of Mineralized Collagen Gel. A.W. PEDERSON* and P.B. MESSERSMITH (*Northwestern University, Evanston, IL, USA*).

0939 Distribution and Excretion of Dental Composite Component TEGDMA in Guinea Pigs. F.X. REICHL*, J. DURNER, K.-H. KUNZELMANN, R. HICKEL, W.R. HUME, K. KEHE, U. WALTHER, and W. FORTH (*University of Munich, Germany*).

0940 Effect of Chewing Tobacco on Color of Anterior Restoratives. M.M. WINKLER*, J. WEATHERSBY, X. XU, and J.O. BURGESS (*School of Dentistry, LSUHSC, New Orleans, USA*).

0941 Comparative Investigation of Residual Monomer/Additive Release from Light-cured Composites, Compomers, and Ormocers. J. DURNER*, W. SPAHL, F.X. REICHL, K.-H. KUNZELMANN, and R. HICKEL (*University of Munich, Germany*).

Seq#: 116 Friday, March 9, 11:00 am - 12:15 pm
Poster Session, Exhibition Hall

Dental Materials - Polymer Materials: Mechanical Properties

0942 Compressive Profiles of "Flowable" Restoratives. E.F. HUGET* (*Department of Restorative Dentistry, University of Tennessee, Memphis, USA*).

0943 Strength and Fatigue Characterization of a Resin-based Composite—Two Different Testing Techniques. U. LOHBAUER*, U. DAHL, N. KRÄMER, and A. PETSCHT (*Policlinic of Operative Dentistry, University of Erlangen, Germany*).

0944 Fracture Toughness of Fluoride-releasing Restorative Materials. H. NAKAJIMA*, K. KURAMOCHI, T. YAMAGA, A. MORIYAMA, T. HOSHINO, and Y. HIBINO (*Meikai University School of Dentistry, Sakado, Saitama, Japan*).

0945 Flexural Strength of a Composite with or without Fiber Reinforcement. M. POLONIATO, V.N. GOMES*, T.R. FREITAS, and J.F.F. SANTOS (*Department of Dental Materials, University of São Paulo, Brazil*).

0946 Cyclic and Static Loading of Fiber-reinforced Resin. M.S. BAPNA* and J.L. DRUMMOND (*Department of Restorative Dentistry, University of Illinois at Chicago, USA*).

0947 Fracture Strength of Tooth to Implant-supported FRC-FPDs. S. GOLLWITZER*, M. BEHR, and M. ROSENTRITT (*Department of Prosthodontics, University of Regensburg, Germany*).

0948 Fracture Strength of Teeth Restored with Ceramic and Indirect Resin Inlays. C.J. SOARES*, M. GIANNINI, and L.R.M. MARTINS (*Federal University of Uberlandia-Minas Gerais and UNICAMP-Piracicaba, Brazil*).

0949 Fracture Strengths of Crowns Veneered with Composites of Different Viscosities. T. KURETZKY*, B. BURGER, and B. GANGNUS (*ESPE Dental AG, Seefeld, Germany*).

0950 Effects of Five Thermal Stressing Regimens on the Flexural and Bond Strengths of Resin Composite. D.C. SMISSON*, K.E. DIEFENDERFER, and J.M. STROTHER (*Naval Postgraduate Dental School, Bethesda, MD, and Naval Dental Research Institute, Great Lakes, IL, USA*).

0951 Properties Evaluation of Composites Containing Fluorinated Monomethacrylate Diluent. A. TIBA* and L. SHARP (*Bisco, Inc., Schaumburg, IL, USA*).

0952 Mechanical Properties of Resin-based Core Build-up Materials in Self-cure Mode. T.T. NGUYEN*, X.J. QIAN, and E. SHELLARD (*Kerr Corporation, Orange, CA, USA*).

0953 Physical Properties of Composite Material for Crown & Bridge Applications. T. UENO*, T. SAKUMA, M. KATSU, and N. NAKAGAKI (*GC Corporation, Tokyo, and GC Dental Products Corporation, Aichi, Japan*).

0954 Flexural and Compressive Strength of Core-build Materials. J. WEATHERSBY*, X. XU, M.M. WINKLER, and J.O. BURGESS (*School of Dentistry, LSUHSC, New Orleans, USA*).

0955 Flexure Properties and Thickness Effects for Restorative Composites. A.J. GOLDBERG, K.A. HASER*, and M.A. FREILICH (*University of Connecticut Health Center, Farmington, USA*).

0956 Flexure Mechanical Properties of Flowable Composites. J. MANHART, N. ILIE, P. DULLIN, B. JELEN*, H.Y. CHEN, K.-H. KUNZELMANN, and R. HICKEL (*Department of Restorative Dentistry, Dental School of the LMU, Munich, Germany*).

Seq#: 117 Friday, March 9, 11:00 am - 12:15 pm
Poster Session, Exhibition Hall

Dental Materials - Corrosion, in vitro and in vivo Evaluation of Dental Alloys

0957 Galvanic Corrosion of Dental Implant Materials. I. GARCIA*, Y. OSHIDA, C. ANDRES, S. HOVIJITRA, T. BARCO, and D. BROWN (*School of Dentistry, Indiana University, Indianapolis, USA*).

0958 Analysis of Rampant Corrosion in Stainless Steel Retainers of Orthodontic Patients. R.P. KUSY*, W.W. AMBROSE, L.A. LAVANIER, J.G. NEWMAN, and J.Q. WHITLEY (*University of North Carolina, Chapel Hill, and Physical Electronics Labs, Eden Prairie, MN, USA*).

0959 Effects of Surface Conditions on Corrosion of Cast Titanium Alloys. T. SHAFER*, Z. CAI, M.E. NUNN, I. WATANABE, and T. OKABE (*Baylor College of Dentistry, Texas A & M University System Health Science Center, Dallas, USA; and School of Dentistry, Nagasaki University, Japan*).

0960 New in vitro Test System Combining Cell Culture and Corrosion Techniques. R.L.W. MESSER*, D. KIMBROUGH, G. AUSTIN, and R. VENUGOPALAN (*Medical College of Georgia and University of Alabama at Birmingham, USA*).

0961 Laser Ablation to Assess Tissue Nickel Adjacent to Implants. N.L. O'DELL*, B. SINGH, J.C. WATAHA, G.M. WHITFORD, P.E. LOCKWOOD, and M. GHAZI (*Medical College of Georgia, Augusta, and Georgia State University, Atlanta, USA*).

0962 Dietary Methylmercury Exposure in the Casa Pia Trial. C. EVENS*, T.A. DeROUEN, J.S. WOODS, L. LIANG, H.S. LUIS, P.L. SIMMONDS, J. LEITÃO, M. BERNARDO, M. REDFORD, and M.D. MARTIN (*University of Washington, Seattle, USA; University of Lisbon, Portugal; and NIDCR, Bethesda, MD, USA*).

0963 Toothbrushing Alters the in vitro Cytotoxicity of Dental Casting Alloys. J.C. WATAHA*, P.E. LOCKWOOD, and S.K. NELSON (*Medical College of Georgia, Augusta, USA*).

0964 Influence of Serum Dental Alloy Eluates on T-lymphocyte Locomotion. W.-D. GRIMM*, F. ENTSCHLADEN, G. GASSMANN, and K.S. ZÄNKER (*University of Witten/Herdecke, Germany*).

0965 Long-term Exposure of Monocytes to Materials Alters TNF- α Secretion. K.R. VOLKMANN*, M. NODA, J.C. WATAHA, P.E. LOCKWOOD, and H. SANO (*Medical College of Georgia, Augusta, USA; and Hokkaido University, Sapporo, Japan*).

0966 Low-dose Exposures of Metal Ions Alter Monocyte Sensitivity in vitro. M. NODA*, J.C. WATAHA, P.E. LOCKWOOD, K.R. VOLKMANN, and H. SANO (*Medical College of Georgia, Augusta, USA; and Hokkaido University, Sapporo, Japan*).

0967 LPS Bound to Dental Alloy Surfaces Activates Monocytes. S.K. NELSON*, J.C. WATAHA, and P.E. LOCKWOOD (*Medical College of Georgia, Augusta, USA*).

0968 Metal Ions Alter Monocyte Response to Lipopolysaccharide. J.B. LEWIS*, J.C. WATAHA, T.M. RANDOL, and P.E. LOCKWOOD (*Medical College of Georgia, Augusta, USA*).

Seq#: 118 Friday, March 9, 11:00 am - 12:15 pm
Poster Session, Exhibition Hall

Dental Materials - Impression Materials, Gypsum, Investments

0969 Surface Character of Alginate Impressions Exposed to Various Surface Pre-treatments. M.P. KLEPCZYK*, C.M. MINKE, and D.F. MURCHISON (*Wilford Hall Medical Center, San Antonio, TX, USA*).

0970 Analysis of Detail Reproduction from Dental Models. S.C. DIAS*, H. PANZERI, D.M. RODRIGUES, A.B.E. CATIRCE, and J.A. AGNELLI (*University of Ribeirão Preto, USP, São Paulo, Brazil*).

0971 Changes of Internal Pressure during Corrective Impression Procedures. M. GOTTWALD*, A. SCHULZ, J. HUISMANN, and W. NIEDERMEIER (*School of Oral Medicine, University of Cologne, Germany*).

0972 A Comparative Study of Two New Polyether Impression Materials. U. LAMMERT*, S. NAVE, B. WÖSTMANN, and P. FERGER (*Department of Prosthodontics, Justus-Liebig-University, Giessen, Germany*).

0973 Comparing Two Methods of Fabricating Casts from Double-arch Impressions. J.E. KEY*, K.B. FRAZIER, J.S. BLALOCK, and M.H. PARKER (*Medical College of Georgia, Augusta, USA*).

0974 Setting Dimensional Changes in Manually and Mechanically Spatulated Gypsum Products. C.L. WARNER*, R.T. PROBST, S.S. KHAJOTIA, and M.G. DUNCANSON, Jr. (*College of Dentistry, University of Oklahoma, Oklahoma City, USA*).

0975 Type IV Gypsum Abrasion Testing: Ridge vs. Flat Surfaces. M. BRONSON* and T.J. LINDQUIST (*University of Iowa, Iowa City, USA*).

0976 Edge Wear of Resin-containing, Type IV, and Type V Dental Stones. P.L. PEIRCE*, A.G. WEE, W.M. JOHNSTON, and P. MONAGHAN (*College of Dentistry, Ohio State University, Columbus, USA*).

0977 Behavior Analysis of Dental Models Submitted to Tension. S.C. DIAS, H. PANZERI*, D.M. RODRIGUES, A.B.E. CATIRCE, and J.A. AGNELLI (*University of Ribeirão Preto, USP, São Paulo, Brazil*).

0978 Study on Phosphate-bonded Investments without Ammonia Gas Release. Y. TAMAKI*, A. OZAWA, Z. ZHANG, and T. MIYAZAKI (*School of Dentistry, Showa University, Tokyo, Japan*).

Seq#: 119 Friday, March 9, 11:00 am - 12:15 pm
Poster Session, Exhibition Hall

Diagnostic Systems - Occlusion/Ortho/TMJ

0979 The Mean Sagittal Masticatory Incisal Path Compared with Calculated Hinge Axes. J.C. RADKE*, R. GARCIA, Jr., and R.L. KETCHAM (*BioResearch Associates, Inc., Milwaukee, WI, USA*).

0980 Extra-oral Non-radiographic Determination of Frankfort Mandibular Angle. W.E. DANDO*, G.V. KEATING, and A.J. MASKERONI (*Naval Postgraduate Dental School, Bethesda, MD, USA*).

0981 Orthodontic Correction of Transverse Arch Asymmetries. J. KUSNOTO*, C.A. EVANS, E.A. BEGOLE, and A. OBREZ (*University of Illinois at Chicago, USA*).

0982 WITHDRAWN

0983 TENS-induced Trajectory of Closure Compared with Voluntary Tapping. J.C. RADKE, D.G. JOHNSON*, G.J. KAMYSZEK, R.S. KULL, B. GLASSMAN, and N.L. GETTER (*BioResearch Associates, Inc., Milwaukee, WI, USA*).

0984 Quantitative Geometric Assessment of the Medio-lateral TMJ Disc Position. Y.J. CHEN, L.M. GALLO*, and S. PALLA (*Center for Dental and Oral Medicine and Maxillofacial Surgery, University of Zürich, Switzerland*).

0985 Small Surface CCD-based Imaging of the TMJ. P.J. KELLY*, W.C. SCARFE, and A.G. FARMAN (*Hospital and Surgical Dentistry, University of Louisville, KY, USA*).

Seq#: 120 Friday, March 9, 11:00 am - 12:15 pm
Poster Session, Exhibition Hall

Geriatric Oral Research - Salivary Response to Disease, Iatrogenic Effects, and Impact of Treatment

0986 Age Differences in Xerostomia Responses to Short- and Long-term Salivary Inhibition. L.A. WALSH*, E.M. GHEZZI, and J.A. SHIP (*School of Dentistry, University of Michigan, Ann Arbor, School of Dentistry, University of North Carolina, Chapel Hill, and College of Dentistry, New York University, USA*).

0987 Assessing Supersaturated Calcium Phosphate Rinse in Preventing and Remineralizing Caries. M. SINGH*, A.S. PAPAS, and E. JOHANSEN (*School of Dental Medicine, Tufts University, Boston, MA, USA*).

0988 Effect of a 0.12% Chlorhexidine Rinse on Salivary Lactobacilli and Mutans Streptococci. L.V. POWELL*, R.E. PERSSON, H.A. KIYAK, and R.J. LAMONT (*University of Washington, Seattle, USA*).

0989 Clinical Effectiveness of Itraconazole in a Tissue Conditioner for Treating Candidiasis. C.K.W. CHOW* and D.W. MATEAR (*University of Toronto, Canada*).

0990 Specific Medications, Hyposalivation, and Xerostomia among a 79+-year-old Cohort. S.D. THOMPSON*, C.A. WATKINS, C.L. MAREK, D. WANG, H.J. COWEN, and J.J. WARREN (*College of Dentistry, University of Iowa, Iowa City, USA*).

0991 Toxicity to Salivary Glands and Xerostomia in Oral Cancer Patients Undergoing Parotid-sparing Radiotherapy. J.A. SHIP*, J.G. MALOUF, and A. EISBRUCH (*NYU College of Dentistry, and Department of Radiation Oncology and School of Dentistry, University of Michigan, Ann Arbor, USA*).

0992 Five-year Follow-up of Parotid Function in Radiotherapy Patients. C.E. ARAGON*, J.G. MALOUF, A. EISBRUCH, and J.A. SHIP (*School of Dentistry and Medical Center, University of Michigan, Ann Arbor, and NYU College of Dentistry, USA*).

0993 Long-range Parotid Recovery in Oral Cancer Patients Following Parotid-sparing Radiotherapy. J.G. MALOUF*, A. EISBRUCH, and J.A. SHIP (*School of Dentistry and Department of Rad. Oncol., University of Michigan, Ann Arbor, and Department of Oral Medicine, New York College of Dentistry, USA*).

Seq#: 121 Friday, March 9, 11:00 am - 12:15 pm
Poster Session, Exhibition Hall

Behavioral Sciences/Health Services Research - Assessing Oral Health Risk

0994 Receipt of Services in 60+ Patients by Caries Risk Classification. J. BADER*, D.A. SHUGARS, B.A. WHITE, and G. MAUPOMÉ (*Operative Dentistry, UNC School of Dentistry, Chapel Hill, and KPNW Center for Health Research, Portland, OR, USA*).

0995 Caries Risk Assessment in Practice. M.J. GOODMAN*, D.B. RINDAL, and W.A. RUSH (*HealthPartners Research Foundation, Minneapolis, MN, USA*).

0996 Association among Self-reported Oral Health Status, Satisfaction, and Risk Status. B.A. WHITE*, G. MAUPOMÉ*, J. BADER, and D.A. SHUGARS (*KPNW Center for Health Research, Portland, OR, and UNC School of Dentistry, Chapel Hill, USA*).

0997 Receipt of Services in 60+ Patients by Periodontal Risk Classification. G. MAUPOMÉ*, B.A. WHITE, D.A. SHUGARS, and J. BADER (*KPNW Center for Health Research, Portland, OR, and Operative Dentistry, UNC School of Dentistry, Chapel Hill, USA*).

Seq#: 122 Friday, March 9, 11:00 am - 12:15 pm
Poster Session, Exhibition Hall

Behavioral Sciences/Health Services Research - Pain Management, Fear, Anxiety

0998 Evaluation of Surgical Pain Management from a Pediatric Dental Perspective. C.D. GRICE*, J. ZOLLER, C.L. HARDIN, E.P. TAGGE, and S.D. LONDON (*Medical University of South Carolina, Charleston, USA*).

0999 Psychological Factors and the Perception of Pain during Dental Treatment. J. MAGGIAS* and D. LOCKER (*University of Toronto, Canada*).

1000 Characterizing Dental Anxiety Based on Fear and Avoidance Behavior. L.J. DEMPSTER*, D. LOCKER, D.L. STREINER, and R.P. SWINSON (*University of Toronto, Baycrest Centre for Geriatric Care, and McMaster University, Ontario, Canada*).

1001 Family Factors and Children's Dental Fear. D.O. WATSON*, M.R. INGLEHART, and R.J. FEIGAL (*University of Michigan, Ann Arbor, USA*).

1002 Dental Anxiety among Saudi Adolescents. T. ALKHADRA*, A. KOERBER, S. FADAVI, and I.C. PUNWANI (*CADE, Saint Louis University, MO, and University of Illinois at Chicago, USA*).

1003 Stress, Anxiety, and Children's Dental Pain. G.A. LAMARCA* and A.M. MONTEIRO DA SILVA (*Gama Filho University, Rio de Janeiro, Brazil*).

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Poster Session, Exhibition Hall

Educational Research - Educational Methodology

1004 Evaluation of Dental Student Pre-clinical Competencies in a Periodontics Course. C. MACHUCA, B. GOBERNA, G. MACHUCA, L. LOPEZ*, and P. BULLON (*School of Dentistry, University of Seville, Spain; and School of Dentistry, University of Puerto Rico*).

1005 General Dentists' MEDLINE Use and Satisfaction with Critical Incident Search. W.S. BORGNACKE*, L.V. NYQUIST, and W.P. LANG (*University of Michigan, Ann Arbor, USA*).

1006 Longitudinal Evaluation of Pre-doctoral Clinical Orthodontics at Oklahoma University. P.J. POWER* and G.F. CURRIER (*College of Dentistry, University of Oklahoma, Oklahoma City, USA*).

1007 Applicants' Opinions about the Selection Process for Oral Surgery Programs. T.A. SMITH*, R.D. MARCIANI, and L.J. HEATON (*University of Kentucky, Lexington, and University of Cincinnati, OH, USA*).

1008 Creation of Teeth for Teaching Esthetic Dentistry Pre-clinically. P. MONAGHAN, L.T. LE, R.R. SEGHI, and C. MASON* (*Ohio State University, Columbus, USA*).

1009 Bonding Composite Resin to Typodont Teeth. S. MOLDOVAN*, L.T. LE, A.G. WEE, R.R. SEGHI, and P. MONAGHAN (*College of Dentistry, Ohio State University, Columbus, USA*).

Seq#: 124 Friday, March 9, 11:00 am - 12:15 pm
Poster Session, Exhibition Hall

Cariology Research - Caries Risk, Turner's Teeth

1010 Association between Biomarkers of AIDS Disease Progression and Dental Caries in HIV-infected Children. E.M. NELSON*, W.J. PSOTER, N. TOFSKY, and R.V. KATZ (*NYU College of Dentistry and UMDNJ-Dental School, USA*).

1011 Caries Susceptibility and Genetic Polymorphisms in Acidic Proline-rich Salivary Proteins. D.C. YOUNG*, D.K. AMENT, D.F. STARK, and R.L. SLAYTON (*University of Iowa, Iowa City, USA*).

1012 Bacterial Challenge and Caries Risk in Fluoridated and Non-fluoridated Communities. S.A. MUNDORFF-SHRESTHA*, H.M. PROSKIN, and R.J. BILLINGS (*University of Rochester Eastman Dental Center, NY, USA*).

1013 Caries and *Streptococcus mutans* Prevalence in Iowa Head Start Children. N.E. NAUMAN*, R.L. SLAYTON, K. WEBER-GASPARONI, R.M. BURKE, D.K. AMENT, and D.F. STARK (*University of Iowa, Iowa City, USA*).

1014 Validity of Log Transformation of Bacterial Counts. H.W. WIENER*, A.P. DASANAYAKE, Y. LI, K. KIRK, D. HURST, S. VERMUND, and P.W. CAUFIELD (*Schools of Dentistry and Public Health, University of Alabama at Birmingham, USA*).

1015 The Prevalence of Sealant Needs for Erupted Molars. R.L. AHLF*, J.W. SIMECEK, E.D. PEDERSON, G.K. JONES, and J.L. MCGINLEY (*The Naval Dental Research Institute and Naval Dental Center, Great Lakes, IL, USA*).

1016 Caries Prevalence and Risk Factors in Low-income Subjects. W.J. SEIBERT*, J.L. MARTIN, T.E. BOLDEN, and J.H. STEWART (*Meharry Medical College, Nashville, TN, USA*).

1017 Longitudinal Study of Dental Caries and Treatment Needs in High-risk Groups. S. PÉREZ*, P. GUTIÉRREZ, A. VALLEJOS, and J. CASANOVA (*Autonomous University of Campeche, México*).

1018 The Relationship of Childhood Asthma to Dental Caries. J.D. SHULMAN*, M.E. NUNN, and S.E. TAYLOR (*Baylor College of Dentistry, TAMUS, Dallas, USA*).

1019 Caries Experience in Children with Asthma. C.F. SALINAS*, V.L. OPALA, and C.L. HARDIN (*College of Dental Medicine, Medical University of South Carolina, Charleston, USA*).

1020 Prevalence and a New Descriptive Index of TURNER's Teeth. W. KAMANN* and P. GAENGLER (*School of Dental Medicine, University of Witten/Herdecke, Germany*).

Seq#: 125 Friday, March 9, 11:00 am - 12:15 pm
Poster Session, Exhibition Hall

Implantology Research - Guided Tissue Regeneration/Clinical Biomechanics

1021 Maintenance of Guided Bone Regeneration on Human Dental Implants. B.E. BALKIN, B.A. BROWN*, and T.E. RAMS (*School of Dentistry, Temple University, Philadelphia, PA, USA*).

1022 Histomorphologic Analysis of Alveolar Bone Following Guided Bone Regeneration. S. ERSANLI*, V. OLGAC, and B. LEBLEBICIOGLU (*University of Istanbul, Turkey*).

1023 Alveolar Ridge Augmentation Using Autogenous Block Grafts with and without Barrier Membranes. G. CROW*, D. ASSAD, B. NICOLL, B. PAUL, T. GETKA, and M. PEREZ (*Naval Postgraduate Dental School, Bethesda, MD, USA*).

1024 A Method to Assess Clinical Outcome of Ridge Augmentation Procedures. P. PROUSSAEFS*, G. VALENCIA, J. LOZADA, and D.N. TATAKIS (*Loma Linda University, CA, USA*).

1025 Experimental Assessment of Dental Implants' Micromotion: Early Loading vs. Delayed Loading. G. GALLINI and F. CANGINI* (*Istituto Stomatologico Italiano, Milan, Italy*).

1026 The Displacement of Dental Implants and Antagonistic Teeth during Function. H. MIURA*, D. OKADA, H. ISHIHARA, K. KASAHARA, T. SHINKI, and R.M. FOXTON (*Tokyo Medical & Dental University, Japan*).

Seq#: 126 Friday, March 9, 11:00 am - 12:15 pm
Poster Session, Exhibition Hall

Oral Health Research - Dentifrices, Gums, Rinses, Lozenges, Floss, and Calculus

1027 Effect of Sodium Bicarbonate Chewing Gum on "Toothbrush Clean" Teeth. C.J. KLEBER, K.R. DAVIDSON*, J.L. MILLEMAN, M.S. PUTT, and B.J. NELSON (*Indiana-Purdue University, Fort Wayne, and Church & Dwight, Princeton, NJ, USA*).

1028 Sodium Bicarbonate Chewing Gum as an Adjunct to Toothbrushing by Children. C.J. KLEBER, J.L. MILLEMAN*, K.R. DAVIDSON, M.S. PUTT, and B.J. NELSON (*Indiana-Purdue University, Fort Wayne, and Church & Dwight, Princeton, NJ, USA*).

1029 Antimicrobial Action of Oral Rinses Used for Fifteen Seconds. J. STEPHENS*, D. BELL, L. BRETCH, M. LENTS, and J.D. KETTERING (*School of Dentistry, Loma Linda University, CA, USA*).

1030 Application of Confocal Microscopy to Evaluate Antimicrobial Agents Intra-orally. C.M. MURPHY*, I.J. KRUGER, and R.J. SULLIVAN (*Colgate-Palmolive Company, Piscataway, NJ, USA*).

1031 Demonstration of the Sustained Effect of Colgate Total by Confocal Microscopy. I.J. KRUGER*, C.M. MURPHY, and R.J. SULLIVAN (*Colgate-Palmolive Company, Piscataway, NJ, USA*).

1032 Lozenges Used to Augment Saliva and Reduce Calculus: Acceptance and Preferences. D.A. PERRY*, P.M. LOOMER, and E.J. TAGGART (*University of California, San Francisco, USA*).

1033 Microbial Evaluation of Three Dental Flosses for Cleaning Ability. K. HASHMANI*, M.C. GOLDSCHMIDT, D.P. WARREN, and H. KEENE (*Houston Dental Branch, University of Texas, USA*).

1034 Consistency of Calculus Formation in Controlled Clinical Studies. H. LIU*, R.A. BAKER, L.L. RAMSEY, J.M. LECRONE, D.J. WHITE, and R.W. GERLACH (*The Procter & Gamble Company, Cincinnati, OH, USA*).

Seq#: 127 Friday, March 9, 11:00 am - 12:15 pm
Poster Session, Exhibition Hall

Mineralized Tissue - Odontogenesis/Cementogenesis

1035 The Expression of SMAD Proteins during Odontogenesis. M. O'SULLIVAN*, D. SIMMONS, T.T. GU, and M. MacDOUGALL (*Dental School, University of Texas Health Science Center at San Antonio, USA*).

1036 Defining Regions in the BSP Promoter That Regulate Cementogenesis. H. VISWANATHAN*, M.D. BENSON, R.T. FRANCESCHI, and M.J. SOMERMAN (*University of Michigan, Ann Arbor, USA*).

1037 The Design and Production of Antisera to Recombinant Dentin Sialophosphoprotein. M.M. KIBBEY*, S. SHI, and L.W. FISHER (*Medical University of South Carolina, Charleston, and NIDCR, Bethesda, MD, USA*).

1038 Extracellular Matrix Protein Expression Differs within Cells Found on Root Surfaces of Deciduous and Permanent Teeth. A. LEE*, T.E. SOUTHARD, and G. SCHNEIDER (*College of Dentistry, University of Iowa, Iowa City, USA*).

1039 Role of TGF- β 1 in Extracellular Matrix Gene Expression *in vitro*. M. HOFFMANN*, J.S. GAIKWAD, G. SCHMALZ, and R. D'SOUZA (*University of Texas Health Science Center-Houston, USA; and University of Regensburg, Germany*).

1040 immortalization of Primary Rat Odontoblasts by SV40 Large T-antigen and v-myc Transfection. J. HAO*, K. NARAYANAN, A. RAMACHANDRAN, S.R. WINN, C.A. EVANS, and A. GEORGE (*University of Illinois at Chicago and Oregon Health Sciences University, USA*).

1041 Identification of an Inverted Y Box and a Highly Conserved DNA Sequence in the Rat DSP-PP Promoter. X. LI*, J. van ITTERSUM, J. LIU, C.T. HANKS, L.-H. WANG, and H.H. RITCHIE (*School of Dentistry, University of Michigan, Ann Arbor, and University of Texas Health Science Center, Houston, USA*).

Seq#: 128 Friday, March 9, 11:00 am - 12:15 pm
Poster Session, Exhibition Hall

Salivary Research - Cell Signaling/Apoptosis

1042 Effect of Anti-muscarinic Receptor Antibody on Salivary Acinar Cell Growth and Signal Transduction. G.E. HILAL*, P.L. GIBSON, J.I. SADOWSKA, and M.G. HUMPHREYS-BEHER (*University of Florida, Gainesville, USA*).

1043 Radiation-induced Alterations in Intracellular Ca²⁺ Signals and Anion Transport Par-C5 Cells. X.-B. LIU*, X.H. SUN, R. CASTRO, J.R. MARTINEZ, and G.H. ZHANG (*Department of Pediatrics, University of Texas Health Science Center, San Antonio, USA*).

1044 Effects of Radiation on Ca²⁺ Signaling in Bcl-2- and Bcl-XL-overexpressed HSY Cells. X.H. SUN*, X.-B. LIU, J.R. MARTINEZ, H. DANG, and G.H. ZHANG (*Department of Pediatrics, University of Texas Health Science Center, San Antonio, USA*).

1045 Does Nitric Oxide Mediate Cytokine-induced Apoptosis in HSG Cells? W.K. JOHNSON*, S.E. TAYLOR, E.G. MILLER, and J.P. MBIENE (*Baylor College of Dentistry, Texas A&M University System Health Science Center, Dallas, USA*).

1046 Potential Role of Akt in Regulating Salivary Acinar Cell Apoptosis. K.H. LIMEsand*, K.A. BARZEN, D.O. QUISSELL, and S.M. ANDERSON (*University of Colorado Health Sciences Center, Denver, USA*).

1047 Irradiation Induces Apoptosis in a Human Salivary Duct Cell Line. S.E. TAYLOR*, E.G. MILLER, and T.W. SOKOLOWSKI (*Baylor College of Dentistry, Texas A&M University System Health Science Center, Dallas, USA*).

1048 α 3 β 1 Integrin Affects Proliferation and Apoptosis in Mouse Submandibular Glands. T. RYAN*, A.S. MENKO, and M.A. KUKURUZINSKA (*Thomas Jefferson University, Philadelphia, PA, and School of Dental Medicine, Boston University, MA, USA*).

Seq#: 129 Friday, March 9, 11:00 am - 12:15 pm
Poster Session, Exhibition Hall

Microbiology/Immunology & Infection Control - Oral Bacteria: Phylogenetic Diversity

1049 Salivary Lactobacilli in a Population of French Children. C. BADET*, B. RICHARD, G. DORIGNAC, and J. NANCY (*Faculty of Odontology, Bordeaux, France*).

1050 Bacterial Species and Phylotypes in Necrotizing Ulcerative Periodontitis. M.K. RUSSELL*, T. ALPAGOT, S.K. BOCHES, J.L. GALVIN, F.E. DEWHIRST, and B.J. PASTER (*The Forsyth Institute, Boston, MA, and School of Dentistry, University of the Pacific, San Francisco, USA*).

- 1051** Bacterial Phylogenetic Diversity in the Oral Cavity. S.K. BOCHES, J.L. GALVIN, V.A. LEVANOS, M.K. RUSSELL, A. SAHASRABUDHE, P.M. MITCHELL, S.G. KENYON, F.E. DEWHIRST, and B.J. PASTER* (*The Forsyth Institute, Boston, MA, USA*).
- 1052** DNA-DNA Hybridization of Bacteria Prepared for Histological Observation. S. CHAN*, J.M. DOBECK, M. WARBINGTON, S. DIBART, and Z. SKOBE (*The Forsyth Institute, Harvard School of Dental Medicine, and School of Dental Medicine, Boston University, MA, USA*).
- 1053** Quantitation of Oral Bacteria Using Real-time PCR. P. HOU* and S.P. CONCANNON (*US Army Dental Research Detachment-Walter Reed Army Institute of Research, Great Lakes, IL, USA*).
- 1054** *Porphyromonas gingivalis* Colonization of *Macaca fascicularis*: Enumeration of Clonal Types by Heteroduplex Analysis. P. BRAHAM*, T.J. SIMS, F.A. ROBERTS, R.P. DARVEAU, E.J. LEYS, S. LYONS, and R.C. PAGE (*University of Washington, Seattle, and Ohio State University, Columbus, USA*).
- 1055** Identification and Phylogenetic Reconstruction of Strains of *Bacteroides forsythus*. E.J. LEYS*, M.F.J. MAIDEN, and A.L. GRIFFEN (*Ohio State University, Columbus, and Forsyth Institute, Boston, MA, USA*).
- 1056** Chromosomal DNA Fingerprinting of *Actinomyces naeslundii* Genospecies 2 in Mother-Infant Populations. P.F. FELLERS*, J.D. RUBY, Y. LI, Y. LUO, and P.W. CAUFIELD (*University of Alabama at Birmingham, USA*).
- 1057** Oral *Actinomyces* Identification via 16S rDNA Restriction Fragment Length Polymorphism. J.D. RUBY*, Y. LI, and P.W. CAUFIELD (*University of Alabama at Birmingham, USA*).
- 1058** A Specific DNA Probe for Detecting *S. sanguinis*. Y.P. PAN*, Y. LI, F.X. QI, and P.W. CAUFIELD (*Specialized Caries Research Center, University of Alabama at Birmingham, USA*).
- 1059** Genotyping of Mutans Streptococci Suggests Cross-infection in Nursery Children. R.O. MATTOS-GRANER*, Y. LI, P.W. CAUFIELD, M.J. DUNCAN, and D.J. SMITH (*The Forsyth Institute, Boston, MA, and University of Alabama at Birmingham, USA*).
- 1060** Diversity of Oral Asaccharolytic, Anaerobic, Gram-positive Rods. F. NAKAZAWA*, S.E. POCO, Jr., M. SATO, T. IKEDA, and E. HOSHINO (*Faculty of Dentistry, Niigata University, Japan*).
- 1061** Development of 16S rDNA-based PCR Assay for Detecting *Mogibacterium* Species. S.E. POCO, Jr.*, F. NAKAZAWA, M. SATO, T. IKEDA, and E. HOSHINO (*Faculty of Dentistry, Niigata University, Japan*).
- 1062** Clonal Types of Black-pigmented Rods Isolated from Infected Root Canals and Subgingival Plaques. M. OKAMOTO*, R. OSADA, and N. MAEDA (*Tsurumi University, Yokohama, Japan*).
- 1063** Sources of Microbiological Contamination of Dental Unit Air Supply Systems. I.R. MARAGOS-HURST*, P.D. ELEAZER, and R.H. STAAT (*University of Louisville, KY, USA*).
- 1066** Utilization of Two Concentrations of ClO_2 Cleaner in Controlling Dental Waterline Contamination. R. PUTTAIAH, H. ALLIGER*, A.K. REDDY, J. LUMSDEN, and R. SPEARS (*Baylor College of Dentistry TAMUS HSC, Dallas, and Frontier Pharmaceuticals, Farmingdale, NY, USA*).
- 1067** Treatment Water Contamination Control Using Microfiltration, Redox Potential, and a Natural Citrus Botanical. R. PUTTAIAH, J. CHANDLER*, R. CEDERBERG, and R. SPEARS (*Baylor College of Dentistry TAMUS HSC, Dallas, and Vistatron Research, Ashland, OH, USA*).
- 1068** Comparison of Heterotrophic Plate Counts among Four Devices for Heterotrophic Mesophilic Organisms. R. PUTTAIAH, T. NGUYEN*, V. NGUYEN, A.C. THOMAS, and R. CEDERBERG (*Baylor College of Dentistry TAMUS HSC, Dallas, USA*).
- 1069** Dental Waterline Decontamination with Ozonated Water as an Irrigant. R. PUTTAIAH, D. PHAM*, P. NG, V. NGUYEN, R. CEDERBERG, A.C. THOMAS, and R. SPEARS (*Baylor College of Dentistry TAMUS HSC, Dallas, USA*).
- 1070** Effectiveness of Biological Indicator Verification Method for Radiant Heat Sterilizers. M.C. GRIBBIN*, N.J. GRIMAUDO, and E. LADO (*College of Dentistry, University of Florida, Gainesville, USA*).
- 1071** Modulus Change of Soft Liners Using Simulated Chewing Forces. G.R. PARR*, F.A. RUEGGERBERG, D. METTENBURG, and S.W. TWIGGS (*School of Dentistry, Medical College of Georgia, Augusta, USA*).
- 1072** Evaluation of a Hydrogen Peroxide Disinfectant for Dental Unit Waterlines. J.B. LINGER*, J. MOLINARI, W. FORBES, C. FARTHING, and W. WINGET (*University of Detroit Mercy, MI, USA*).
- 1073** Dental Waterline Decontamination with Ozonated Air Purge and Filtered UV-irradiated Water. R. PUTTAIAH, A. KORIN*, D. PHAM, R. CEDERBERG, and R. SPEARS (*Baylor College of Dentistry, TAMUS HSC, Dallas, and Kortech Inc., Weston, CT, USA*).
- 1074** An Evaluation of Dental Line Cleanser Bactericidal Activities. E.D. PEDERSON*, M.E. STONE, J.C. RAGAIN, R.A. AUXER, and R.S. KARAWAY (*The Naval Dental Research Institute, Great Lakes, IL, USA*).

Seq#: 131 Friday, March 9, 11:00 am - 12:15 pm
Poster Session, Exhibition Hall

Periodontal Research - Cytokines, Integrins, Immunoglobulins

Seq#: 130 Friday, March 9, 11:00 am - 12:15 pm
Poster Session, Exhibition Hall

Microbiology/Immunology & Infection Control - Control of Microbial Contamination

- 1063** Identification of Bacterial Contamination in Ultrasonic Handpieces. J.D. KETTERING*, J. TATUM, B. VANDERDUSSEN, S. WITHERS, and J. STEPHENS (*School of Dentistry, Loma Linda University, CA, USA*).
- 1064** Effects of Flushing Dental Unit Waterlines on Bacterial Contamination. N.R. SMITH*, A.P. DASANAYAKE, and N.K. CHILDERS (*Department of Pediatric Dentistry, School of Dentistry, University of Alabama at Birmingham, USA*).

- 1075** Synergistic Effects of IL-1 β and IFN- γ on Nitric Oxide Production by Polymorphonuclear Leukocytes in Adult Periodontitis. O. TAKEICHI*, H. NOZAKI, K. TEJIMA, J. HOSHINO, and S. MEZAWA (*School of Dentistry, Nihon University, Tokyo, Japan*).
- 1076** Estrogen Effects on Interleukin-1 β -induced Interleukin-6 Production in Human Gingival Fibroblasts. S.J. WEBB* and S. KOKA (*College of Dentistry, UNMC, Lincoln, USA*).
- 1077** Cytokine Expression by Endothelial Cells Stimulated with Oral Treponemes. G. THIEL*, M. VALDEZ, M. GRAHAM, and D. THOMAS (*University of Texas Health Science Center, San Antonio, USA*).
- 1078** Accelerated Alveolar Bone Loss in IL-10 Knockout Mice. A. AL-RASHEED*, H. SCHEERENS, D. RENNICK, and D.N. TATAKIS (*Loma Linda University, and DNAX Research Institute, Palo Alto, CA, USA*).

1079 Pro-inflammatory Cytokines in a Murine Calvarial Bone Loss Model. L. KESAVALU*, B. CHANDRASEKAR, and J.L. EBERSOLE (*University of Kentucky, Lexington, and University of Texas HSC, San Antonio, USA*).

1080 Gingival Crevicular Fluid Levels of Interleukin-8 and Interleukin-1 β in Generalized Aggressive Periodontitis, Chronic Adult Periodontitis, and Gingivitis Subjects. K.N. SAID*, G.K. JOHNSON, J. GUTHMILLER, and H.E. CUMMINGS, Jr. (*Department of Periodontics, University of Iowa, USA*).

1081 Effects of Different Bite Forces on the Expression of IL-6 and its mRNA in the Process of Rat Periodontium Remodeling. Y. LIN*, X.-X. MA, W.-D. ZHOU, and Y.-F. ZHAO (*Department of Prosthodontics, Stomatological College, Fourth Military Medical University (FMMU), Xi'an, P.R. China*).

1082 IgG-mediated Complement Activation is Regulated by IgA1. G.T. HARVEY* and R.J. BOACKLE (*Division of Oral Biology, Medical University of South Carolina, Charleston, USA*).

1083 Alpha 2HS Glycoprotein in the Progression of Periodontal Disease. B. LARRY*, J. O'CHIENG, C. OWUOR, A. NELSON, and T. FORSTER (*Meharry Medical College, Nashville, TN, USA*).

1084 Glycosaminoglycans and Proteoglycans in Adult Periodontitis. D.J.S. COSTA*, L.E.M. CARDOSO, V. PRADO, and R.G. FISCHER (*Departments of Periodontology and Anatomy, Rio de Janeiro State University, Brazil*).

1085 OPG-L Expression by T-lymphocytes in Periodontal Diseased Tissues. T. MATSUYAMA*, T. KAWAI, and M.A. TAUBMAN (*The Forsyth Institute, Boston, MA, USA*).

Seq#: 132 Friday, March 9, 11:00 am - 12:15 pm
Poster Session, Exhibition Hall

Periodontal Research - Laser and Mechanical Therapy

1086 Histologic Effects of Laser Removal of Gingival Sulcular Epithelium. S.L. BULLARD, L.B. SCOTT-BECKLES*, M.G. OTO, J.S. BUHLER, and J.M. WHITE (*Howard University, Washington, DC, and University of California, San Francisco, USA*).

1087 Compositional Comparison of Intact and Laser-irradiated Cementum and Dentin. K.M. SASAKI*, A. AOKI, S. ICHINOSE, Y. TAKAMORI, F. AKIYAMA, S. YAMADA, and I. ISHIKAWA (*Tokyo Medical and Dental University, Japan*).

1088 CO₂ Laser Energy Density Threshold for Scaling and Root Planing. *In vitro* SEM Study. S.M. SHAFSHAK* (*Tanta University, Egypt*).

1089 Ultrasonic vs. CO₂ Laser for Scaling and Root Planing. *In vitro* Elemental Analysis and SEM Study. S.S. SHAFIK* (*Tanta University, Egypt*).

1090 Comparison of the Effectiveness of Scaling and Root Planing *in vivo* Using Hand vs. Rotary Instruments. S. DIBART*, D. CAPRI, P. CASAVACCHIA, T.E. VAN DYKE, and Z. SKOBE (*Boston University and The Forsyth Institute, Boston, MA, USA*).

1091 Evaluation of the Clinical Response of Glass-ionomer Subsulcular Restoration. D. MANDARINO*, G.C. TRISTÃO, E.J. FERES, and T.R.S. AGUIAR (*University Federal Fluminense, Brasil*).

Seq#: 133 Friday, March 9, 11:00 am - 12:15 pm
Poster Session, Exhibition Hall

Pharmacology, Therapeutics, & Toxicology - Oral Health and Therapeutics

1092 Plaque Removal Efficacy of a Novel Toothbrush Design. M. HARRIS*, B.J. MACKAY, J. GALUSTIANS, J.G. QAQISH, and N.C. SHARMA (*Johnson & Johnson Consumer Products, Skillman, NJ, USA; and BioSci Research Canada, Mississauga, Ontario, Canada*).

1093 Laboratory Methods Used to Predict Dentifrice Clinical Efficacy. L. COFFMAN*, E. ERSEN, M.L. BERG, and J.J. HEFFERREN (*University of Kansas, Lawrence, USA*).

1094 Effectiveness of Novel Floss Products in Reducing Extrinsic Stain. J. HOLLAND*, M. HARRIS, A. JOSEPH, B.J. MACKAY, C.J. KLEBER, J.L. MILLEMAN, and K.R. DAVIDSON (*Johnson & Johnson Consumer Products, Skillman, NJ, and University Park Research Center, Fort Wayne, IN, USA*).

1095 Long-term Nicotine Affects Stimulation of IL-6 in Periodontal Fibroblasts. C.A. ZAPATA, R.L. GREGORY, J.L. MCDONALD, and B.L. OLSON* (*School of Dentistry, Indiana University, Indianapolis, USA*).

1096 Effect of Carbamide Peroxide Concentration on Bleaching Efficacy. M.P. HARRIS*, M.M. CRISANTI, and P.G. LAPUJADE (*The Procter & Gamble Company, Cincinnati, OH, USA*).

1097 Reflectance Spectrophotometric Perspective of Human Teeth and Tooth Color. M.L. BERG*, E. ERSEN, L. COFFMAN, M. MILLER, and J.J. HEFFERREN (*University of Kansas, Lawrence, and Minolta Corp., Ramsey, NJ, USA*).

1098 Relation of Profilometry and Radiotracer Dentin Abrasivity Methods. L. COFFMAN, E. ERSEN*, M.L. BERG, N.A. LI, and J.J. HEFFERREN (*Higuchi Biosciences Center, University of Kansas, Lawrence, USA*).

1099 Effect of Serum Concentration on Cytotoxicity of Hydrogen Peroxide. W. ZHANG* and Y. LI (*Loma Linda University, CA, USA*).

1100 Pilot Study to Assess Antiplatelet/Antigingivitis Efficacy of a Dentifrice. E.S. CHAVES, J. LIEBMAN*, K. DUNLEAVY, J. BOWMAN, and V.V. CARNELL (*Hill Top Research, W. Palm Beach, FL, and BioGlobe Tech, Inc., Spokane, WA, USA*).

1101 Peroxide Degradation Kinetics during Use of Crest Whitestrips. D.A. MCMILLAN, G.L. WALDEN*, and W. BUCHANAN (*The Procter & Gamble Co., Mason, OH, USA*).

1102 Impact of Increasing Hydrogen Peroxide Concentration on Bleaching Strip Efficacy and Tolerability. D.A. MCMILLAN*, R.D. GIBB, and R.W. GERLACH (*The Procter & Gamble Co., Mason, OH, USA*).

1103 Genotoxicity Assessment of Oxirane-based Dental Monomers. L.A. WETMORE*, E.L. KOSTORYZ, W.G. BROCKMANN, E.D. WHITE, J.D. EICK, and D.M. YOURTEE (*University of Kansas City-Missouri and William Jewell College, USA*).

1104 Quantum QSARs: A Paradigm to Avoid Mutagenicity in Dental Monomers. D.M. YOURTEE*, R.E. SMITH, E.L. KOSTORYZ, J.D. EICK, A.G. GLAROS, J.A. MORRILL, and A.J. HOLDER (*University of Missouri-Kansas City, USA*).

1105 Biocompatibility of a Consolidated Silver Dental Filling Material. S.E. GRUNINGER*, C. SIEW, H.-N. CHOU, F.C. EICHMILLER, and G. STAFFORD (*ADA Health Foundation, Chicago, IL, and Paffenbarger Research Center, NIST, Gaithersburg, MD, USA*).

Seq#: 134 Friday, March 9, 11:00 am - 12:15 pm
Poster Session, Exhibition Hall

Neuroscience/TMJ - Sensory, Pain, and Inflammation Studies

- 1106** Lymphocyte β -Adrenergic Receptor Function in Female Fibromyalgia Patients. K. MAEKAWA*, C. TWU, A. LOTAIF, F. CHIAPPELLI, and G.T. CLARK (*UCLA School of Dentistry, USA*).
- 1107** Measurement of TMJ Compression Using Joint Vibration Transmission. K. HASHIMOTO*, G.T. CLARK, T. TAKEICHI, M. YAMAMOTO, E. HOZUMI, and Y. ITO (*Aichi-Gakuin University, Nagoya, Japan; and UCLA, USA*).
- 1108** NGF and the Development of Mechanical Allodynia after IoN Injury. L.C. ANDERSON* (*University of the Pacific, San Francisco, CA, USA*).
- 1109** Assessing Dopamine's Role in Taste Reward Using Dopamine-deficient Mice. B.M. ALMOND*, R.D. PALMITER, and M.D. BROT (*University of Washington, Seattle, USA*).
- 1110** Tactile Thresholds of Human Incisors at Two Frequencies. J.H. LEVY*, L.T. ROBERTSON, W.K. DONG, and D. PETRISOR (*Oregon Health Sciences University, Portland, USA*).
- 1111** Morphology of Trigeminal Ganglion Masticatory Muscle Primary Afferent Neurons. A. MANOHAR*, M. MORITANI, and D. DESSEM (*College of Dental Surgery, University of Maryland, Baltimore, USA*).
- 1112** Effects of COX 2 Inhibitor on Adjuvant-induced Temporomandibular Joint Inflammation. C.A. KERINS* and L.L. BELLINGER (*Baylor College of Dentistry, Texas A & M University System Health Science Center, Dallas, USA*).
- 1113** Analysis of TNF- α and the Transcription Factor NF κ B in Adjuvant-induced Inflammation of the Rat TMJ. R. OAKES* and R. SPEARS (*Baylor College of Dentistry, Texas A & M University System Health Science Center, USA*).
- 1114** Alteration of Cytokine Signal Transduction Pathways in Adjuvant-induced Inflammation of the Rat TMJ. R. SPEARS*, R. OAKES, and B. HUTCHINS (*Baylor College of Dentistry, Texas A & M University System Health Science Center, USA*).
- 1115** Cellular Involvement in the Maturation of the Rabbit CMJ Disc. R. GILTNER, M. EL BAGHDADI, and D. MILLS* (*Louisiana Tech University, Ruston, USA*).

Seq#: 135 Friday, March 9, 11:00 am - 12:15 pm
Poster Session, Exhibition Hall

Oral Medicine & Pathology - Cell Culture Models of Oral Carcinogenesis

- 1116** Expression of Cathepsin L and CBP2/Hsp47 in Oral Squamous Cell Carcinomas. H.S. SIAVASH*, N.G. NIKITAKIS, M.A. LOPES, and J.J. SAUK (*University of Maryland, Baltimore, USA*).
- 1117** PAI-1 is Synergistically Induced by HGF and TGF- β . G. VLACHOGIANNIS*, X. WANG, and C.J. BRUZDZINSKI (*University of Illinois at Chicago, USA*).
- 1118** Role of the α v β 6 Integrin in Growth and Migration of Oral Squamous Cell Carcinoma. H. XUE*, A. ATAKILIT, W. ZHU, D. SHEPPARD, D.M. RAMOS, and R. PYTELA (*University of California, San Francisco, USA*).
- 1119** Integrin Expression in Oral Cancer Cells Sensitive and Resistant to Anoikis. K. OTTEN*, J.D. MYERS, and K. ADLER-STORTHZ (*Houston Dental Branch, University of Texas, and M.D. Anderson Cancer Center, Houston, TX, USA*).
- 1120** Integrin Expression and Function in a Model of Oral Cancer Progression. A.M. CARPENTER*, K. OTTEN, G. RITTMAN, and K. ADLER-STORTHZ (*Houston Dental Branch, University of Texas, USA*).

- 1121** TGF β 1 Dysregulation in an Oral Tumor Progression Model. A. AIKEN*, C. HUYNH, J.B. LEWIS, G.B. CAUGHMAN, B. SINGH, D. DICKINSON, G.S. SCHUSTER, and S. HSU (*Medical College of Georgia, Augusta, USA*).
- 1122** Expression of Macrophage Inflammatory Protein 3 α in Oral Epithelial Cells. Y. ABIKO*, M. NISHIMURA, K. NAKASHIMA, K. KUSANO, T. ARAKAWA, T. TAKUMA, and T. KAKU (*Health Sciences University of Hokkaido, Japan*).
- 1123** Smokeless Tobacco Modulates Proliferation of Oral Epithelial Cells. K. CIVELEK*, M.C. DASSO, J. MO, and P.G. SACKS (*NYU College of Dentistry, USA*).
- 1124** EGCG Neutralizes the Effects of BaP and NNK on CDK4 and Cyclin D1. C. HUYNH*, A. AIKEN, J.B. LEWIS, G.B. CAUGHMAN, B. SINGH, G.M. WHITFORD, D. DICKINSON, and G.S. SCHUSTER (*Medical College of Georgia, Augusta, USA*).
- 1125** Green Tea Polyphenols Specifically Induce Apoptosis in Oral Carcinomas. S. HSU*, C. HUYNH, A. AIKEN, J.B. LEWIS, G.B. CAUGHMAN, B. SINGH, D. DICKINSON, and G.S. SCHUSTER (*Medical College of Georgia, Augusta, USA*).
- 1126** Sulindac Inhibits Growth and Induces Apoptosis in Human OSCC Cells. N.G. NIKITAKIS*, C. HEBERT, and J.J. SAUK (*University of Maryland, Baltimore, USA*).

Seq#: 136 Friday, March 9, 11:00 am - 12:15 pm
Poster Session, Exhibition Hall

Craniofacial Biology - Orthodontic Treatment of Sagittal and Transverse Occlusion Problems

- 1127** The Effect of Palatal Expansion on Bite Force and Muscle Recruitment. T.E. ALBERT, Jr.*, J. ENGLISH, G.S. THROCKMORTON, and P.H. BUSCHANG (*Baylor College of Dentistry, Dallas, TX, USA*).
- 1128** Evaluation of an Intra-oral Maxillary Expansion-Distalization Appliance: Transverse Dimension. D.G. GEORGAKOPOULOU, M. WILLIAMS, D.J. FERGUSON, P.K. SINHA, and T.L. LASAGABASTER* (*CADE, Saint Louis University, MO, USA*).
- 1129** Cephalometric Evaluation of an Intra-oral Maxillary Molar Distalization Appliance: Distalization Effects. J.L. CASKEY, M. WILLIAMS, D.J. FERGUSON, P.K. SINHA, and B.J. KIM* (*CADE, Saint Louis University, MO, USA*).
- 1130** A Retrospective Evaluation of Maxillary Molar Distalization with the Distal Jet Appliance. G.W. HUERTER, D.J. FERGUSON, P.K. SINHA, and P. LEONE* (*CADE, Saint Louis University, MO, USA*).
- 1131** Arch Dimension Changes Following Phase I and Phase II Orthodontic Class II Treatment. J.R. WORTHAM*, S.P. MCGORRAY, M.G. TAYLOR, C. DOLCE, G.J. KING, and T.T. WHEELER (*University of Florida, Gainesville, USA*).
- 1132** Alveolar Bone Changes during Phase I Orthodontic Treatment. G.C. BILLS*, M.G. TAYLOR, S.P. MCGORRAY, C. DOLCE, and T.T. WHEELER (*University of Florida, Gainesville, USA*).
- 1133** Post Phase I Orthodontic Stability: A Comparison of Hawley and Bite Orthotic Retention Appliances. H.B. STARNES, D.J. FERGUSON, G.G. SOTIROPOULOS, S. SRISURO, and F. AL-SULIMAN* (*CADE, Saint Louis University, MO, USA*).
- 1134** Combined Herbst and Fixed Edgewise Treatment: A Cephalometric Investigation of Long-term Stability. P.J. SANTUC-CI, D.M. KILLIANY, J.O. BAUER, D.J. FERGUSON, and S.E. TAYLOR* (*CADE, Saint Louis University, MO, USA*).

1135 Light-force Chin Cup Effects on the Craniofacial Complex of the Developing Class III Malocclusion. T. HERREMAN, D.J. FERGUSON, and L.E. WEST* (CADE, Saint Louis University, MO, USA).

1136 Comparisons of Orthodontic Treatment Duration in Cleft Palate Patients. B. SHUMWAY*, B. NEIDENTHAL, M. BECK, A. LIDRAL, and K.W.L. VIG (Ohio State University, Columbus, USA).

1137 Characteristics of Patients Seen in a Cleft Palate Team. B. NEIDENTHAL*, B. SHUMWAY, A. LIDRAL, M. BECK, and K.W.L. VIG (Ohio State University, Columbus, USA).

Seq#: 137 Friday, March 9, 11:00 am - 12:15 pm
Poster Session, Exhibition Hall

Craniofacial Biology - Stability of Orthodontic Treatment; Considerations of Esthetics

1138 Assessment of Arch Stability Comparing Full-coverage Clear Retainers to Hawley Retainers. R.W. GOODMAN, D.J. FERGUSON, K.C. WALDE, W.L. MASTORAKOS, and S.E. LEAVER* (CADE, Saint Louis University, MO, USA).

1139 Canine and Second Premolar Parallelism in Extraction vs. Non-extraction Cases. R.J. MURRAY*, K. WAGNER, S. BAUMRIND, E.D. REKOW, and H. PEARSON (University of Medicine and Dentistry of New Jersey, Newark, USA).

1140 Patient Satisfaction with Orthodontic Care in a Pre-doctoral Clinic. G.W. ANDERSON*, A.R. FIRESTONE, A.K. MASCARENHAS, S.V. SHANKER, and K.W.L. VIG (Ohio State University, Columbus, USA).

1141 Evaluation of Profile Attractiveness (Photographs and Silhouettes) by Three Groups. J. DeCOTA*, K.S. KULA, P. FEIL, and T.J. KULA (University of Missouri-Kansas City, USA).

1142 Esthetic Perception of the Profile and Smile of the Same Patients. F.A. VIGNOLO, G.G. SOTIROPOULOS, D.M. KILLIAN, D.J. FERGUSON, J.M. HUDSON, and I.M. MACHADO* (CADE, Saint Louis University, MO, USA).

1143 Importance of Dental and Facial Midline Relationships. K.L. NETSEL*, S.J. LINDAUER, and C.N. BROOKS (School of Dentistry, Virginia Commonwealth University, Richmond, USA).

1144 Perception of Facial Esthetics by Native Taiwanese. A.L. MAGANZINI, K. BANASIAK*, J.Y.K. TSENG, and S. VON HAGEN (University of Medicine and Dentistry of New Jersey, USA).

1144B Evaluation of the Periodontal Ligament Cells after Intentional Replantation. R. ALIREZAEI*, R. WONG, J. GARIBALDI, J. SAVKO, and J. YOUNG (University of the Pacific, San Francisco, CA).

Seq#: 138 Friday, March 9, 1:45 pm - 3:45 pm
AADR Group-sponsored Symposia
Grand Ballroom F

University of Michigan - Topics in Functional Genomics Supported by Affymetrix and Genomic Solutions

Chairperson: B. Rutherford

1145 1:45 Topics in Functional Genomics. M.J. SOMERMAN and R.B. RUTHERFORD* (University of Michigan School of Dentistry, Ann Arbor, USA).

1:50 Functional Genomics: Overview. B. RUTHERFORD (University of Michigan, Ann Arbor, US).

2:00 Gene Microchip Technology: Applications in Gene Expression. G. DE FEO (Affymetrix, Inc., Santa Clara, CA, US).

2:55 Three Operating Definitions of Bioinformatics. M. KANE (Genomic Solutions Inc., Ann Arbor, MI, US).

3:25 Discussion

Seq#: 139 Friday, March 9, 1:45 pm - 3:45 pm
AADR Group-sponsored Symposia
Grand Ballroom B

Dental Materials Group – Dental Materials: Meeting the Standards

Chairpersons: F. Eichmiller and R. Kelly

1146 1:45 Dental Materials Meeting the Standards. F.C. EICHMILLER*, J.R. KELLY, and S.K. STANFORD (ADAHF Paffenbarger Research Center and NIST, Gaithersburg, MD, NDRI, Great Lakes, IL, and ADA, Chicago, IL, USA).

1:55 Dentistry's Commitment to Standards. F. EICHMILLER (ADAHF, Gaithersburg, MD, US).

2:25 Getting Involved in Standards. S. STANFORD (ADA, Chicago, IL, US).

2:55 Standards in Action. R. KELLY (NDRI, Great Lakes, IL, US).

3:25 Discussion

Seq#: 140 Friday, March 9, 1:45 pm - 3:45 pm
Poster Discussion Session, Grand Ballroom C

Behavioral Sciences/Health Services Research - Outcome Measures and Evidence-based Dentistry

Chairpersons: J. Elter and A. Ismail

1147 2:05 Depression as a Risk Factor for Poor Periodontal Treatment Outcomes. J.R. ELTER*, B.A. WHITE, B.N. GAYNES, and J. BADER (University of North Carolina, Chapel Hill, and Kaiser Permanente Northwest Division, USA).

1148 2:15 A Method to Estimate Restoration Volume Proportion for Clinical Studies. J. STURDEVANT*, T. STEET, J. BADER, D.C. SHUGARS, and B.T. ROSA (School of Dentistry, University of North Carolina, Chapel Hill, USA).

1149 2:25 Ranking of Dental Outcomes with and without Measures of Certainty. A.I. ISMAIL, R. BELLI, S. BIRCH, J. LEPKOWSKI, D. XIE, and W. SOHN* (University of Michigan, Ann Arbor, USA; and McMaster University, Canada).

1150 2:35 Reliability and Feasibility of Assessing Utilities of Dental Outcomes. A.I. ISMAIL*, S. BIRCH, J. LEPKOWSKI, R. BELLI, D. XIE, and W. SOHN (University of Michigan, Ann Arbor, USA; and McMaster University, Canada).

1151 2:45 Sealant Utilization, Caries Experience, and Treatment Urgency as Performance Indicators. S.L. SILBERMAN, N.G. MOSCA*, N.P. EKLUND, K.R. STILLEY, and F.M. GORDY (School of Dentistry, University of Mississippi, Jackson, USA).

1152 2:55 The Net Cost of Three Sealant Delivery Strategies. L.K. BARKER, B.F. GOOCH, P.M. GRIFFIN, and S.O. GRIFFIN* (Division of Oral Health, CDC, Atlanta, GA, USA).

1153 3:05 Treatment Outcomes for Teeth Restored with Large Amalgams and Crowns. J.L. KOLKER*, P.C. DAMIANO, D.J. CAPLAN, G.E. DENEHY, and J.W. REINHARDT (University of Iowa, Iowa City, UNC, Chapel Hill, NC, and UNMC, Lincoln, NE, USA).

3:15 Discussion

Seq#: 141 Friday, March 9, 1:45 pm - 3:45 pm
Oral Session, Columbus Hall G

Craniofacial Biology - Orthodontic Treatment Outcome

Chairpersons: D. Ferguson and W. Clark

1155 1:45 Evaluation of Class II Malocclusion Treatment Using the Peer Assessment Rating (PAR) Index. S.P. MCGORRAY*, C. DOLCE, G.J. KING, M.G. TAYLOR, and T.T. WHEELER (University of Florida, Gainesville, USA).

1156 2:00 Activator-Headgear Combination Appliance Treatment of Class II, Division 1 Malocclusion. K.T. JARRELL, J.M. HUDSON, and D.M. KILLIANY* (CADE, Saint Louis University, MO, USA).

1157 2:15 A Three-dimensional Analysis of Molar Movement during Headgear Treatment. J.L. ASHMORE*, B.F. KURLAND, G.J. KING, J. GHAFARI, T.T. WHEELER, and D.S. RAMSAY (University of Washington, Seattle, University of Pennsylvania, Philadelphia, and University of Florida, Gainesville, USA).

1158 2:30 Cephalometric Variables to Predict Success of Early Class III Treatment. M.A. GHIZ*, P. NGAN, and E. GUNEL (School of Dentistry, West Virginia University, Morgantown, USA).

1159 2:45 Effects of Age, Sex, and Orthodontic Technique on Skeletodental Changes. J.D. HICKS* and E.F. HARRIS (University of Tennessee, Memphis, USA).

1160 3:00 The Influence of Accelerated Osteogenic Response on Mandibular Decrowding. S.S. HAJJI, D.J. FERGUSON*, D.D. MILEY, W.M. WILCKO, and M.T. WILCKO (CADE, Saint Louis University, MO, and Erie, PA, USA).

1161 3:15 Lower Dental Arch De-crowding Comparing Non-extraction, Accelerated Osteogenesis, and Distraction Techniques. D.J. FERGUSON, M.S. AL-HARBI*, W.M. WILCKO, and M.T. WILCKO (CADE, Saint Louis University, MO, and Erie, PA, USA).

3:30 Discussion

Seq#: 142 Friday, March 9, 1:45 pm - 3:45 pm
Oral Session, Regency C

Dental Materials - Adhesion: Microstructure and Microleakage

Chairpersons: P. Spencer and J. Katz

1162 1:45 Effects of Cations Dissolved in Etchant on Wet-bonding to Dentin. N. NAKABAYASHI* and T. TOIDA (Institute of Biomaterials & Bioengineering, Tokyo Medical and Dental University, Japan).

1163 2:00 Wet/Dry Dentin Adhesive Bonding: Effect on Composition and Conversion. P. SPENCER*, Y. WANG, M.P. WALKER, and T.R. MCMANN (School of Dentistry, University of Missouri-Kansas City, USA).

1164 2:15 Interfacial Micro-mechanics and Chemistry of *in vivo* Composite Restorations. J.L. KATZ*, T. NOMURA, Y. WANG, P. SPENCER, and R.J. FEIGAL (CWRU, Cleveland, OH, USA; Niigata University, Japan; UMKC, and University of Michigan, Ann Arbor, USA).

1165 2:30 Dentin Smear Layer Variations and Adhesion of a Self-etching Primer. M.K. PUGACH*, S.S.A. OLIVEIRA, L.G. WATANABE, J.F. HILTON, G.W. MARSHALL, and S.J. MARSHALL (University of California, San Francisco, USA).

1166 2:45 Synthesis of Polymerizable Cyclodextrin Derivatives (PCDs) for Dental Applications. R.L. BOWEN* (ADAHF Paffenbarger Research Center at the National Institute of Standards and Technology, Gaithersburg, MD, USA).

1167 3:00 Microleakage of Class II Indirect Composite Inlays Using CoJet-Sand vs. Aluminum Oxide. J. ONTIVEROS* and M. WARD (Houston Dental Branch, University of Texas, USA).

1168 3:15 Microleakage Evaluation of Self-etching and Total-etching Adhesive Systems. J.G. FITCHIE*, S.M. PHILLIPS, A.D. PUCKETT, and R.L. LITTLEJOHN (School of Dentistry, University of Mississippi Medical Center, Jackson, USA).

1169 3:30 Microscopic Evaluation of Sectioned Amalgam Restorations in Retrieved Primary Molars. M.L. CANNON* (Northwestern University and Children's Medical Center, Chicago, IL, USA).

Seq#: 143 Friday, March 9, 1:45 pm - 3:45 pm
Oral Session, Regency A

Dental Materials - Tooth Whitening

Chairpersons: G. Kugel and M. Tavares

1170 1:45 Colorimeter Measurement of Tooth Whitening. J.M. GOODSON*, M. TAVARES, J. STUTZ, S.-I. LIAO, R. KENT, and M. NEWMAN (Forsyth Institute, Boston, MA, USA).

1171 2:00 A Randomized, Single-blind Clinical Trial of Tooth Whitening with Peroxide and Light. M. TAVARES*, J.M. GOODSON, J. STUTZ, S.-I. LIAO, R. KENT, and M. NEWMAN (Forsyth Institute, Boston, MA, USA).

1172 2:15 Clinical Study to Compare the Effectiveness of Dental Bleaching Agents. L.F. MATRANGA* and L.M. ROMITO (Creighton University, Omaha, NE, USA).

1173 2:30 Duration of Tooth Whitening Following 14 Days' Treatment with Peroxide-containing Whitening Strips. P.A. SAGEL*, P.A. WALTERS, R.D. GIBB, and R.W. GERLACH (The Procter & Gamble Co., Mason, OH, USA).

1174 2:45 Six-month Clinical Response with Whitening Strips: Comparison with Placebo. G. KUGEL*, S. KASTALI, P.A. SAGEL, and R.W. GERLACH (Tufts University, Boston, MA, and The Procter & Gamble Co., Mason, OH, USA).

1175 3:00 Six-month Evaluation of Bleaching Agents in Patients with Tetracycline Staining. B.A. MATIS*, Y. WANG, T. JIANG, G.J. ECKERT, and M.A. COCHRAN (School of Dentistry, Indiana University, Indianapolis, USA; and Stomatology College & Hospital, Wuhan, P.R. China).

1176 3:15 Safety and Efficacy of an Experimental Tooth-whitening Agent. W.D. BROWNING*, M.L. MYERS, M.C. DOWNEY, R.M. POHJOLA, S.T. HACKMAN, and B.A. CLIETT (Medical College of Georgia, Augusta, USA).

1177 3:30 An *in vivo* Analysis of Roughness Perception. C.S. JONES* and G.J. PEARSON (Eastman Dental Institute & QMW College, London, UK).

Seq#: 144 Friday, March 9, 1:45 pm - 3:45 pm
Oral Session, Regency B

Dental Materials - Glass Ionomers: Storage Effects and Properties

Chairpersons: C. Carey and P. Pereira

1178 1:45 Fluoride Uptake and Subsequent Re-release from Depleted Glass-ionomer Cement. C.M. CAREY*, M. SPENCER, and R. GOVE (ADAHF Paffenbarger Research Center, NIST, Gaithersburg, MD, USA).

1179 2:00 Effects from Long-term Water Exposure on Glass Ionomers. H.J. MUELLER* (Paffenbarger Research Center, American Dental Association Health Foundation, National Institute of Standards and Technology, Gaithersburg, MD, USA).

1180 2:15 Effects on Glass-ionomer Cements of Various Storage Media. M.A. ALIPING-MCKENZIE* and J.W. NICHOLSON (King's College, London, UK).

1181 2:30 Effect of Long-term Water Storage on the Wear Resistance of Acid-base Restorative Cements. C.E. VERGANI* and G.J. PEARSON (UNESP, Araraquara, SP, Brazil; and Queen Mary, University of London, UK).

1182 2:45 Progress in Properties of Restorative Materials Immersed in Human Saliva. K. KOBAYASHI*, K. OKADA, S. KATO, and K. HIROTA (R&D Department, GC Corporation, Tokyo, Japan).

1183 3:00 Bond Strength of VLC Glass-ionomer Cement and Enamel Preparation. R.M. VALENTE*, C.A. EVANS, W.G. DE RIJK, and J.L. DRUMMOND (*College of Dentistry, University of Illinois at Chicago, USA*).

1184 3:15 Long-term Bonds of Resin-modified Glass Ionomers to Caries-affected Dentin. P.N.R. PEREIRA*, S. YAMAGUCHI, M. NAKAJIMA, J. TAGAMI, and E.J. SWIFT, Jr. (*University of North Carolina at Chapel Hill, USA; and Tokyo Medical & Dental University, Japan*).

3:30 Discussion

Seq#: 145 Friday, March 9, 1:45 pm - 3:45 pm
Oral Session, Regency D

Implantology Research - Surface Science/Cell-Surface Interactions

Chairpersons: B. Boyan and F. Mante

1185 1:45 Surface Energy Characterization of Titanium Single Crystals after Surface Treatments. F.K. MANTE*, G. AWADZI, A. KEUNG, and G.R. BARAN (*University of Pennsylvania and Temple University, Philadelphia, USA*).

1186 2:00 EIS as a Potential Monitoring Method for Cell Attachment to Implants. D. HERBERT-GUILLOU*, G.S. FRANKEL, R.G. BUCCHETTI, A. MARIOTTI, and P. MON-AGHAN (*Ohio State University, Columbus, USA*).

1187 WITHDRAWN

1188 2:15 Surface Roughness Modulates Osteoblast Differentiation, Local Factor Production, and Responsiveness to 1,25-(OH)₂D₃ via MAP Kinase Kinase. C. CAMPBELL*, C.H. LOHMANN, A. VOCKE, D.D. DEAN, V.L. SYLVIA, D.L. COCHRAN, B.D. BOYAN, and Z. SCHWARTZ (*University of Texas HSC, San Antonio, USA; Georg-August-University, Göttingen, Germany; and Hebrew University, Jerusalem, Israel*).

1189 2:30 Fibrillar Fibronectin Supports an Extended Osteoblast Morphology on Hydroxyapatite. E.M. BURKE*, A. TOUSSON, and L.C. LUCAS (*University of Alabama at Birmingham, USA*).

1190 2:45 Enhancement of Onplant Osteointegration Using Two Different Proteins. A.H. HASSAN*, C.A. EVANS, A.E. ZAKI, and A. GEORGE (*University of Illinois at Chicago, USA*).

3:00 Discussion

Seq#: 146 Friday, March 9, 1:45 pm - 3:45 pm
Oral Session, Columbus Hall K

Mineralized Tissue - BMPs, Tissue Engineering, Regeneration

Chairperson: A. Veis

1191 1:45 Analysis of Gene Expression for Bone Formation from BMP-transduced Fibroblasts. K. GU*, P. RACENIS, P.H. KREBSBACH, and R.B. RUTHERFORD (*University of Michigan, Ann Arbor, USA*).

1192 2:00 BMP-induced Osteogenesis with Two Biodegradable Carbonate Apatites of Geometric Difference. M.H. TANG*, H. TAKITA, T. KOHGO, Y. DOI, and Y. KUBOKI (*Hokkaido University, Sapporo, and Asahi University, Gifu, Japan*).

1193 2:15 Gene Expression of GDF-7 in the Developing Periodontium of Rats. K. SENA*, Y. MOROTOME-HAYASHI, O. BABA, T. TERASHIMA, S. OIDA, and I. ISHIKAWA (*Tokyo Medical and Dental University, and Tsurumi University, Kanagawa, Japan*).

1194 2:30 Bone Morphogenetic Proteins and Associated Receptors Regulate Cementoblast Activity. A. REDDI*, A.M. FRIBLEY, H. VISWANATHAN, J.E. BERRY, and M.J. SOMERMAN (*University of Michigan, Ann Arbor, USA*).

1195 2:45 Pore Sizes of Artificial Matrix Control Osteogenesis and Chondrogenesis. Y. KUBOKI*, Q.-M. JIN, G.-X. ZHANG, H. TAKITA, and T. KOHGO (*Graduate School of Dentistry, Hokkaido University, Sapporo, Japan*).

1196 3:00 The First Step in the Activation of Latent Transforming Growth Factor-β1 is Release of the Large Latent Complex from the Cartilage Matrix by MMP-3. D.D. DEAN*, S. MAEDA, Z. SCHWARTZ, and B.D. BOYAN (*University of Texas HSC, San Antonio, USA; Tohoku University School of Medicine, Sendai, Japan; and Hebrew University, Jerusalem, Israel*).

1197 3:15 Integrin-mediated Adhesion Regulates Initiation of Osteoblast Mineralization. G. SCHNEIDER*, R. ZAHARIAS, and C.M. STANFORD (*College of Dentistry, University of Iowa, Iowa City, USA*).

3:30 Discussion

Seq#: 147 Friday, March 9, 1:45 pm - 3:45 pm
Oral Session, Columbus Hall E

Neuroscience/TMJ - Clinical Measurements; Treatment Outcomes

Chairpersons: R. Ohrbach and J. Feine

1198 1:45 Risk Factors for Three Categories of Painful TMD. G.J. HUANG*, L. LeRESCHÉ, C.W. CRITCHLOW, M.D. MARTIN, L. MANCL, and S.F. DWORKIN (*University of Washington, Seattle, USA*).

1199 WITHDRAWN

1200 2:00 Relationship of Effort in Parafunctional Activity to Self-reported Pain in Temporomandibular Disorder. A.G. GLAROS and E. BURTON* (*University of Missouri-Kansas City, USA*).

1201 2:15 Classification of Functional and Parafunctional Activities of the Masticatory System by EMG Characteristics. R. ACOSTA-ORTIZ*, J.K. SCHULTE, and B. SPARKS (*Nova Southeastern University, FL, and University of Minnesota, USA*).

1202 2:30 Reliability Comparison between Two Diagnostic Criteria for Temporomandibular Disorders. M. BITTENCOURT*, C. MATTOS, S. GUERRA, E. BATITUCCI, J. MENEZES, and R. REZENDE (*University of Espirito Santo Vitoria, Brazil*).

1203 2:45 Oral Habits Index as a Predictor for Future TMJ Pain. J.O. LOOK*, J.R. FRICTON, J.S. HODGES, A.K. JACKSON, P.L. CARLSON, and P.A. LENTON (*University of Minnesota, Minneapolis, USA*).

1204 3:00 Assessing Jaw Disability: Comparing RDC/TMD and Mandibular Function Impairment Questionnaires. K.H. HUGGINS*, S.F. DWORKIN, L. MANCL, E.L. TRUELOVE, L. LeRESCHÉ, and G. GARSON (*University of Washington, Seattle, USA*).

1205 3:15 TMD Pain, Limitation, and Disability: Perceptions of Patients vs. Others. J.I. GOLDBERG*, R. OHRBACH, C.V. GRANGER, and S.M. MARKELLO (*School of Dental Medicine and Center for Functional Assessment Research, University at Buffalo, NY, USA*).

3:30 Discussion

Seq#: 148 Friday, March 9, 1:45 pm - 3:45 pm
Oral Session, Columbus Hall A

Oral & Maxillofacial Surgery - Orthognathic Surgery/OMFS Training

Chairpersons: C. Dolce and J. Chacon

1206 1:45 Five-year Skeletal Changes Following Mandibular Advancement. C. DOLCE*, J.P. HATCH, J.E. VAN SICKELS, and J.D. RUGH (*UTHSC-San Antonio, University of Kentucky, and University of Florida, USA*).

1207 2:00 Five-year Follow-up of TMD Signs and Symptoms in Patients after Orthognathic Surgery. J.A. CHACON*, S. SAKAI, J.P. HATCH, and J.D. RUGH (*UTHSCSA, San Antonio, TX, USA*).

1208 2:15 Non-invasive Assessment of a Porcine Mandibular Distraction Wound. P. THURMÜLLER*, M.J. TROULIS, M.J. O'NEILL, and L.B. KABAN (*Massachusetts General Hospital, Boston, USA*).

1209 2:30 Development of a Subjective Instrument for Evaluating Masticatory Impairment. A. JOSLIN*, K. MITCHELL, C. PHILLIPS, C.A. TROTMAN, and W.R. PROFFIT (*University of North Carolina, Chapel Hill, USA*).

1210 2:45 Neurosensory Impairment and Patient Perception of Recovery Following Orthognathic Surgery. W.S. HARVEY*, C. PHILLIPS, and G.K. ESSICK (*University of North Carolina, Chapel Hill, USA*).

1211 3:00 The Potential Role of Sleep Deprivation in Sedated Patients. N.A. SANDLER* and J.S. HODGES (*University of Minnesota, Minneapolis, USA*).

1212 3:15 The Candidate Viewpoint of the OMFS Residency Matching Process. D.M. LASKIN, R. LESNY*, and A.M. BEST (*Medical College of VA, VA Commonwealth University, Richmond, USA*).

1213 3:30 Personality Influences on Selection of Oral and Maxillofacial Surgery Residents. L.M.E. FRANTSVE*, D.M. LASKIN, and S.M. AUERBACH (*Medical College of VA, VA Commonwealth University, Richmond, USA*).

Seq#: 149 **Friday, March 9, 1:45 pm - 3:45 pm**
Oral Session, Columbus Hall C

Oral Medicine & Pathology - Viral Disease: Other Clinical Pathology

Chairpersons: T. Hart and D. Greenspan

1214 1:45 Prognostic Value of Oral Lesions Controlled for HIV Viral Load and CD4 Lymphocyte Count in Homosexual Men Seroconverting for HIV. D.H. OSMOND*, P. LAM, K.A. SHAFER, B.H.B. VAN BENTHEM, G.J.P. VAN GRIENSVEN, M.T. SCHECHTER, and J.F. HILTON (*University of California, San Francisco, USA*).

1215 2:00 Preliminary Characterization of HIV-associated Salivary Gland Disease. J. WEBSTER-CYRIAQUE*, R.G. MCKAIG, and L. REID (*University of North Carolina, Chapel Hill, USA*).

1216 2:15 Low-dose Interferon-alpha (IFN α): Treatment for Oral Warts in HIV Infection. D. GREENSPAN*, L. MACPHAIL, B. CHEIKH, H. SROUSSI, and M. CUMMINS (*UCSF, and Amarillo Biosciences, TX, USA*).

1217 2:30 Analysis of Quiescent Infection in PC12 Cells with EGFP HSV-1. C.S. MILLER*, R.J. DANAHER, S.A. BLACK, R.J. JACOB, J.A. LOUTSCH, and J.M. HILL (*University of Kentucky, Lexington, and Health Sciences Center, Louisiana State University, New Orleans, USA*).

1218 2:45 Association of Epstein-Barr Virus with Tumor-associated Lymphoid Proliferation. K.R. TORSKE* (*Naval Dental School, National Naval Dental Center, Bethesda, MD, USA*).

1219 3:00 Founder Effect for Exon 6 CTSC Mutation in PLS Patients. Y. ZHANG, T. LUNDGREN, S. RENVERT, D.N. TATAKIS, E. FIRATLI, and T.C. HART* (*University of Pittsburgh, PA, USA; University of Kristianstad, Sweden; Loma Linda University, CA, USA; and University of Istanbul, Turkey*).

1220 3:15 Patched Overexpression and Proliferation Indices in Odontogenic Keratocysts. L.R. EVERSOLE*, S. FRECKLETON, and F. DESAUVAGE (*University of the Pacific, San Francisco, and South San Francisco, CA, USA*).

1221 3:30 Molecular Analysis of PAX3-FKHR Oncogenesis. Y. CAO and C. WANG* (*Center for Molecular Biology of Oral Diseases, University of Illinois at Chicago, USA*).

Seq#: 150 **Friday, March 9, 1:45 pm - 3:45 pm**
Oral Session, Grand Ballroom A

Periodontal Research - Periodontal Infection and Systemic Health

Chairpersons: G. Slade and N. Bissada

1222 1:45 Periodontal Infection and Preterm Birth: Results of a Prospective Study. M.K. JEFFCOAT*, N.C. GEURS, M.S. REDDY, S. CLIVER, R. GOLDENBERG, and J. HAUTH (*University of Alabama at Birmingham, USA*).

1223 2:00 Periodontal Therapy Reduces the Risk of Preterm Low Birth Weight. N.J. LOPEZ*, P. SMITH, and J. GUTIERREZ (*University of Chile, Santiago*).

1224 2:15 Periodontal Pathogen-specific Maternal Serum Immunoglobulin Level May Predict Low Birth Weight. A.P. DASANAYAKE*, D. BOYD, P.N. MADIANOS, and T. FORSTER (*UAB School of Dentistry, Meharry Medical College, and University of North Carolina, Chapel Hill, USA*).

1225 2:30 Does Adult Periodontal Disease Have Origins in utero? G.D. SLADE*, S. OFFENBACHER, J.D. BECK, G. HEISS, and H.A. TYROLER (*Center for Oral and Systemic Diseases, UNC, Chapel Hill, USA*).

1226 2:45 Periodontal Assessment of Patients Undergoing Angioplasty for the Treatment of Coronary Artery Disease. A. BAZILE*, N. BISSADA, B. SIEGEL, and R. NAIR (*Case Western Reserve University, Cleveland, OH, USA*).

1227 3:00 Essential Fatty Acids and the Risk of Periodontal Disease. A.T. MERCHANT* and K.J. JOSHIPURA (*Harvard University, Boston, MA, USA*).

1228 3:15 Autoantibodies and IgG to *Porphyromonas gingivalis* in IDDM Periodontitis. T.J. SIMS*, Å. LERNMARK, T. SMITH, R.C. PAGE, and G.R. PERSSON (*University of Washington, Seattle, and Department of Indian Health Services, Phoenix, AZ, USA*).

3:30 Discussion

Seq#: 151 **Friday, March 9, 1:45 pm - 3:45 pm**
Oral Session, Columbus Hall I

Periodontal Research - Structural Cells in Inflammation

Chairpersons: S. Amar and A. Teng

1229 1:45 Connective Tissue Growth Factor in Drug-induced Gingival Overgrowth. M.I. UZEL*, A. KANTARCI, H.-H. HONG, C. UYGUR, M.C. SHEFF, E. FIRATLI, and P.C. TRACKMAN (*School of Dental Medicine, Boston University, USA; and School of Dentistry, University of Istanbul, Turkey*).

1230 2:00 Contributions of IL-11 and Prostaglandin in LPS-induced Bone Resorption in vivo. L. LI*, A. KHANSARI, D.T. GRAVES, and S. AMAR (*School of Dental Medicine, Boston University, MA, USA*).

1231 2:15 *Actinobacillus actinomycetemcomitans*-reactive Human CD4⁺ T-cells and Osteoprotegerin-ligand Control Periodontal Bone Destruction in vivo. X. GAO, R.P. ELLEN, and Y.-T.A. TENG* (*Faculty of Dentistry, University of Toronto and University of Western Ontario, Canada*).

1232 2:30 Putative Mechanism for the Pathogenesis of Cyclosporin-A-induced Gingival Overgrowth. L. SILVESTRI*, W. LEE, P. ARORA, and C.A.G. McCULLOCH (*University of Toronto, Canada*).

1233 2:45 Regulation of Cytokine Production in Human Gingival Fibroblasts Following Treatment with Nicotine and Lipopolysaccharide. K.J. WENDELL* and S.H. STEIN (*College of Dentistry, University of Tennessee, Memphis, USA*).

3:00 Discussion

Seq#: 152 Friday, March 9, 1:45 pm - 3:45 pm
Oral Session, Toronto

Prosthodontics Research - Implants: Guides, Prosthetic Screw Stability, Screw Properties, Lab Analogs; Tooth Preparation, Preparation Cleansing

Chairpersons: W. Nagy and K. Knoernschild

1234 1:45 Variability in Imaging/Surgical Guides for Dental Implants by Specialty. D.M. ALMOG*, E. TORRADO, M.E. MOSS, S.W. MEITNER, and F. LAMAR (*University of Rochester Eastman Dental Center, NY, USA*).

1235 2:00 Changes in Prosthetic Screw Stability Due to Marginal Discrepancies of Prostheses. L.E. AL-TURKI*, J. CHAI, E.P. LAUTENSCHLAGER, and M. HUTTEN (*Northwestern University Dental School, Chicago, IL, USA*).

1236 2:15 Implant-abutment Stability Following Preparation Procedures Using Cera-adapt Abutments. M. SIERRAALTA*, J. VIVAS, and M.E. RAZZOOG (*University of Michigan, Ann Arbor, USA*).

1237 2:30 Occurrence of Defects in Hexed Gold Prosthetic Screws. S.K. RAMBHIA, W.W. NAGY*, R.A. FOURNELLE, V.B. DHURU, and M.B. KARCZEWSKI (*School of Dentistry and College of Engineering, Marquette University, Milwaukee, WI, USA*).

1238 2:45 The Effect of Torque on Laboratory Analogs. C. JAGER*, G.R. GOLDSTEIN, L. MAROTTA, and E. HITTELMAN (*New York University, USA*).

1239 3:00 Amount of Tooth Structure Removal Associated with Various Preparation Designs. D. EDELHOFF* and J.A. SORENSEN (*Department of Prosthodontics, University of Aachen, Germany; and Oregon Health Sciences University, Portland, USA*).

1240 3:15 *In vivo* Evaluation of Three Cleansing Techniques for Prepared Abutment Teeth. C.A. GRASSO*, D.M. CALUORI, G.R. GOLDSTEIN, and E. HITTELMAN (*New York University, USA*).

3:30 Discussion

Seq#: 153 Friday, March 9, 1:45 pm - 3:45 pm
Oral Session, Grand Ballroom D

Pulp Biology - Permeability, Hypersensitivity

Chairpersons: M. Wolff and J. Vaikuntam

1241 1:45 Action of a Polymer-based Composition on Dentin Permeability and Potassium Penetration. K. MARKOWITZ*, N. NAPOLITANO, H. NGUYEN, J. LEE, and B. FITZ (*Research and Technology Laboratories, Block Drug Company, Inc., Jersey City, NJ, USA*).

1242 2:00 Tooth Hypersensitivity Treatment: Enhanced Potassium Delivery from Tubule Occluding Composition. B. FITZ*, K. MARKOWITZ, and N. NAPOLITANO (*Research and Technology Laboratories, Block Drug Company, Inc., Jersey City, NJ, USA*).

1243 2:15 Dentinal Hypersensitivity Following Scaling and Root Planing (SRP) and Dental Prophylaxis. M.S. WOLFF*, H. KAUFMAN, and I. KLEINBERG (*Departments of General Dentistry & Oral Biology & Pathology, State University of New York, Stony Brook, USA*).

1244 2:30 Treatments with a Mildly Supersaturated Calcium Phosphate Solution Reduced Dentin Permeability. A. CHERNG*, L.C. CHOW, and S. TAKAGI (*ADAHF Paffenbarger Research Center, NIST, Gaithersburg, MD, USA*).

1245 2:45 Bonding Endodontically Treated Root Canal Surfaces to Prevent Coronal Leakage. J.R. VANNI, J.A.P. FIGUEIREDO*, A. DELLA BONA, M.S.M. HARTMANN, C.A. GARBIN, and D. MANFREDI (*University of Passo Fundo, Brazil; Lutheran University of Brazil, Canoas; and University of Florida, Gainesville, USA*).

1246 3:00 Biocompatibility of Root Canal Medicaments in Mouse Odontoblasts. J. VAIKUNTAM*, V. SHETTY, S. RANI, and M. MacDOUGALL (*Dental School, University of Texas Health Science Center at San Antonio, USA*).

1247 3:15 Dentin and Pulp Tissue Response to Direct Acid Etching. E.A. PASCON, C.J.A. SOUSA, D. RICUCCI, and K. LANGE LAND* (*Unifran, SP, UFU, MG, Brazil; and University of Connecticut, USA*).

1248 3:30 Effect of HEMA on Reactivity of the Rat Aorta. W. MADDUX* and W. ABE BE (*Department of Oral Biology, MCG School of Dentistry, Augusta, USA*).

Seq#: 154 Friday, March 9, 3:45 pm - 5:00 pm
Poster Session, Exhibition Hall

Prosthodontics Research - Color, Shade Selection, Dowel and Core, Enamel and Restorative Material Wear

1249 The Repeatability of an Intra-oral Dental Colorimeter. F. TUNG, S. JANG*, G.R. GOLDSTEIN, and E. HITTELMAN (*College of Dentistry, New York University, USA*).

1250 An Evaluation of the Use of Hue or Value to Improve Shade Selection Dental Accuracy. Y. FREEMAN*, A. SHIU, and M.S. WOLFF (*Department of General Dentistry, State University of New York at Stony Brook, USA*).

1251 Analysis of Value, Chroma, and Hue for the Vitapan 3D Master Shade Guide. A.G. WEE, R.N. ESKRIDGE*, and W.M. JOHNSTON (*College of Dentistry, Ohio State University, Columbus, USA*).

1252 Comparing Clinical Color Match of Three Conceptually Different Shade Guides. A.G. WEE, M. HAL-VERSEN*, E.Y. KANG, R.G. RASHID, and W.M. JOHNSTON (*College of Dentistry, Ohio State University, Columbus, USA*).

1253 Effect of "Edge Loss" on the Color of Translucent Porcelain Samples. A.G. WEE*, R.R. SEGHI, and W.M. JOHNSTON (*College of Dentistry, Ohio State University, Columbus, USA*).

1254 Core Build-up with Packable Composite: A Microleakage Study. F. TUNG, D. ESTAFAN, and W.W. HSIEH* (*College of Dentistry, New York University, USA*).

1255 Effect of Thermocycling on Composite Resin Core Retention to Posts. A.F. QUINTAS*, V. GIANNINI, V. MURATORE, M.P. NEISSER, and M.A. BOTTINO (*UNESP-S.J. Campos, Brazil*).

1256 Relationships among Preparation, Convergence, Retention, and Vertical Displacement of Extracoronary Retainers. D.C.N. CHAN*, A.H. WILSON, Jr., and P. BARBE (*Department of Oral Rehabilitation, MCG, Augusta, UTHSC at San Antonio, and Yale University, CT, USA*).

1257 Mechanical and Retentive Properties of New Esthetic Posts. F.A. AL-HARBI* and D. NATHANSON (*Boston University, MA, USA*).

1258 Effect of Prefabricated Post-head Design on Composite Core Retention. A.S. AL GUFARI, W.W. NAGY, V.B. DHURU, R.A. FOURNELLE, T.J. SMITHY, and G.J. ZIEBERT* (*School of Dentistry and College of Engineering, Marquette University, Milwaukee, WI, USA*).

1259 Effects of Sterilization and Disinfection Procedures on Prefabricated Posts. D.C. PHAN, W.W. NAGY, V.B. DHURU, M.B. KARCZEWSKI*, and A.J. ZIEBERT (*School of Dentistry, Marquette University, Milwaukee, WI, USA*).

1260 Fracture Strength of Root-treated Teeth Restored with C-Post, FibreKore Post System, and Cast Metal Post. S. SÁBIO*, J. MONDELLI, and W. BONACHELLA (*Bauru School of Dentistry, University of São Paulo, Brazil*).

1261 *In vitro* Investigations on Zirconia-based All-ceramic Post-and-Core Systems. F. NOTHDURFT*, P. ROUNTREE, and P. POSPIECH (*Department of Prosthodontics, Ludwig-Maximilians-University of Munich, Germany*).

1262 *In vitro* Wear of Enamel and Five Posterior Restorative Materials. W.D. ROE* and M.H. RAMP (*UAB School of Dentistry, Birmingham, AL, USA*).

1263 *In vitro* Analysis of the Ceramic Antagonist Enamel Wear Process. J.A. SORENSEN and M.K. PHAM* (*Department of Prosthodontics, Oregon Health Sciences University, Portland, USA*).

Seq#: 155 Friday, March 9, 3:45 pm - 5:00 pm
Poster Session, Exhibition Hall

Dental Materials - Resin Bond - New Formulations and General

1264 Comparative Analysis of Oxirane-based Adhesives and Scotchbond™ Multi-Purpose Dental Adhesive. K.A. KONG*, V.M. DUSEVICH, C.C. CHAPPELOW, and J.D. EICK (*UMKC and Midwest Research Institute, Kansas City, MO, USA*).

1265 Methods for the Adhesion of Cationically Curable Oxirane Composites to Hard Tissues. H.T. BUI*, J.D. OXMAN, D.W. JACOBS, and M.C. TROM (*3M Company, St. Paul, MN, USA*).

1266 Microleakage of a Novel Low-shrinking Restorative System in Posterior Teeth. S. GERALDELI*, J. PERDIGÃO, and W.H. DOUGLAS (*Minnesota Dental Research Center for Biomaterials and Biomechanics, University of Minnesota, Minneapolis, USA*).

1267 Shear Bond Strength to Dentin of Functionally Graded Adhesive Systems. L.G. WATANABE*, G. NONOMURA, G.W. MARSHALL, and S.J. MARSHALL (*University of California, San Francisco, USA*).

1268 Microtensile Bond Strengths of Adhesives with Various Acetone Concentrations. B.H. CHO* and S.H. DICKENS (*Department of Conservative Dentistry, Seoul, South Korea; and ADAHF, Paffenbarger Research Center, Gaithersburg, MD, USA*).

1269 Effects of Different Solvents on the μ -tensile Bond Strength and Micromorphology of a Dentin Bonding Agent. C.E. FRANCCI, R.L. NISHIMURA*, E. HONDA, A.R. SILVA, and R.Y. BALLESTER (*Dental School, NAPEM, University of São Paulo, Brazil*).

1270 Gap Formation and Bond Strength of Composites Lined with Flowable Resin. P.A. MIGUEZ*, P.N.R. PEREIRA, B.I. SUH, M.F. NUNES, and E.J. SWIFT, Jr. (*University of North Carolina at Chapel Hill, and Bisco Corporation, Schaumburg, IL, USA*).

1271 Effects of Adhesive Composition on μ -Tensile Bond Strength to Human Dentin. M.F. NUNES*, E.J. SWIFT, Jr., and J. PERDIGÃO (*University of North Carolina at Chapel Hill and University of Minnesota, Minneapolis, USA*).

1272 Bond Strength of Optibond Solo Plus with a New Activator and Core Material. D. NG*, H. BUI, and E. SHELLARD (*Kerr Corporation, Orange, CA, USA*).

1273 Interfacial Chemistry of Class II Composite Restorations. M.L. BROWN*, Y. WANG, M.P. WALKER, T.R. MCMANN, and P. SPENCER (*School of Dentistry, University of Missouri-Kansas City, USA*).

1274 Effects of Three Direct Restorative Materials on Cuspal Fracture Resistance. F.J. ALLARA*, K.E. DIFENDERFER, and J.D. MOLINARO (*Naval Postgraduate Dental School, Bethesda, MD, and Naval Dental Research Institute, Great Lakes, IL, USA*).

1275 Bond Strength of Optibond Solo Plus with Experimental Activators and Different Core Materials. D. NG, H. BUI*, and E. SHELLARD (*Kerr Corporation, Orange, CA, USA*).

1276 Effect of Resin-coating Technique on Dentin Bond Durability. Y. KITASAKO*, M.F. BURROW, T. NIKAIIDO, and J. TAGAMI (*Tokyo Medical and Dental University, Japan; and University of Melbourne, Australia*).

1277 Shear Bond Strength of a New One-bottle Nanofilled Adhesive. K. SHINKAI*, M. SUNICO, and Y. KATOH (*Nippon Dental University at Niigata, Japan; and University of the Philippines, Manila*).

1278 Shear Bond Strength to Dentin of New One-bottle Adhesives. P.S. QUAGLIATTO*, K.-T. JANG, J.A. DÍAZ-SIOHL, and F. GARCÍA-GODOY (*University de Uberlândia, Brazil; University of Texas HSC at San Antonio, USA; University Central de Venezuela; and Biomaterials Research, Tufts University, Boston, MA, USA*).

1279 Tensile Bond Strength of Multi-component DBS to Contaminated Dentin. I. FERRETO*, N. GUTIERREZ, and J.D. LAFUENTE (*School of Dentistry, University of Costa Rica, San José*).

1280 Tensile Bond Strength of Single-bottle Adhesives to Contaminated Dentin. N. GUTIERREZ*, I. FERRETO, and J.D. LAFUENTE (*School of Dentistry, University of Costa Rica, San José*).

1281 Influence of Simulated Oral Environment on the Nominal Shear Bond Strength of Composite Resin. M.F. AYAD and M.A. BAHABRI* (*College of Dentistry, University of Tanta, Egypt; and Elite Medical and Surgical Center, Riyadh, Saudi Arabia*).

Seq#: 156 Friday, March 9, 3:45 pm - 5:00 pm
Poster Session, Exhibition Hall

Dental Materials - Microleakage: Cements, Sealants

1282 Glass-ionomer Microleakage in Preparations by an Er:YAG Laser or a High-speed Handpiece. B.C. QUO, J.L. DRUMMOND, I.C. PUNWANI*, S. FADAVI, and A. KOERBER (*Pediatric and Restorative Dentistry, University of Illinois at Chicago, USA*).

1283 Microleakage of Class V Composite Restorations with Various Bonding Agents. B.B. MAXSON*, T.L. CUTLER, N. KASHANI, A.L. NEME, and F.E. PINK (*University of Detroit Mercy, MI, USA*).

1284 Prevention of Microleakage in Fixed Restorations. M. TUNTIPRAWON*, K. MIYASAKA, and N. NAKABAYASHI (*Faculty of Dentistry, Chulalongkorn University, Bangkok, Thailand; and Institute of Biomaterials and Bioengineering, Tokyo Medical and Dental University, Japan*).

1285 Pit-and-Fissure Sealant Application with Hydrophilic Primer: Microleakage Assessment. M.D. DICKSON* and R.B. MAZER (*School of Dentistry, University of Alabama at Birmingham, USA*).

1286 Effects of Self-etching Primers on Sealant Microleakage. G. IBARRA*, M.A. VARGAS, J. HARLESS, and M. HERNANDEZ (*University of Iowa, Iowa City, USA*).

1287 Microleakage of Self-etching Primers/Adhesives with Sealant: *In vitro* Testing. F.G. FONTES*, R.J. FEIGAL, J. HEBLING, and J.E. NÖR (*University of Michigan, Ann Arbor, USA*).

1288 Microleakage in Dyract Seal Pit & Fissure Sealant after Air Abrasion Cavity Preparation. D.A. KLATCHOIAN* and S.I. MYAKI (*Department of Behavioral Sciences, UNIB-São Paulo, and Department of Pediatric Dentistry, UNESP-São José dos Campos, Brazil*).

Seq#: 157 Friday, March 9, 3:45 pm - 5:00 pm
Poster Session, Exhibition Hall

Dental Materials - Microleakage: Test Method, Polymerization Technique

1289 Comparison of Two Methods of Measuring Microleakage in Restorations. P.T. WILLIAMS* and D. SCHRAMKE (*University of Manitoba, Winnipeg, Canada*).

1290 A Digital Imaging Technique for Quantification of Microleakage. R.W. LAVERDIERE*, L.D. BRAGG, M.G. DUNCANSON, Jr., and S.S. KHAJOTIA (*College of Dentistry, University of Oklahoma, Oklahoma City, USA*).

1291 Microleakage of Class 1 Composite Resin Restorations Cured with 3 Methods. M. SMITH*, J.O. BURGESS, and X. XU (*School of Dentistry, LSUHSC, New Orleans, USA*).

1292 Effects of Different Curing Lights on Microleakage of Class 1 Composite Restorations. S. GOODE*, D.C.N. CHAN, and F.A. RUEGGERBERG (*Department of Oral Rehabilitation, Medical College of Georgia, Augusta, USA*).

1293 *In vitro* Evaluation of Composite Microleakage Using Differing Polymerization Methods. S. DELIPERI*, D. BARDWELL, A. PAPATHANASIOU, and S. KASTALI (*School of Dental Medicine, Tufts University, Boston, MA, USA*).

1294 Effects of Curing on a Flowable Resin Composite. J. DUCKSWORTH*, E.F. HUGET, R. SWORDS, and E.W. TURNER (*University of Tennessee, Memphis, USA*).

1295 Microleakage of Class 1 Composite Resin Restorations Cured with 4 Methods. N.P. MANUEL*, A. RIPPS, J.O. BURGESS, and X. XU (*School of Dentistry, LSUHSC, New Orleans, USA*).

1296 The Influence of Composite Resin Polymerization Techniques on Microleakage and Microhardness. C.M. AMARAL*, A.K.B. BEDRAN DE CASTRO, L.A.F. PIMENTA, and G.M.B. AMBROSANO (*Dentistry School of Piracicaba, UNICAMP, Brazil*).

Seq#: 158 Friday, March 9, 3:45 pm - 5:00 pm
Poster Session, Exhibition Hall

Dental Materials - Cements: General

1297 Fluoride Release from a Novel Hybrid Ionomer. D. SALAHELDIN*, C.C. INMAN, and A.D. PUCKETT (*Cairo University, Egypt; and University of Mississippi Medical Center, Jackson, USA*).

1298 Physical Properties and Fluoride Release of High-strength Glass-ionomer Cements. S. DHANVARACHORN, M.R. LUND, B.A. MATIS, B.K. MOORE, Y. OSHIDA, J.A. PLATT*, and M.A. COCHRAN (*School of Dentistry, Indiana University, Indianapolis, USA*).

1299 Hygroscopic Expansion of Resin-modified Glass-ionomer Cements. M. LE*, X.J. QIAN, and E. SHELLARD (*Kerr Corporation, Orange, CA, USA*).

1300 Setting Characteristics and Surface Hardness of New Glass Ionomers. K.-P. STEFAN, P. SCHNEIDER*, R. RICHTER, and G. RACKELMANN (*ESPE Dental AG, Seefeld, Germany*).

1301 Surface Gloss of Resin-modified Glass-ionomer Cements. A. ISHIKAWA*, H. TANAKA, and Y. TANI (*Nippon Dental University at Tokyo, and University of East Asia, Shimonoseki-shi, Japan*).

1302 A Multinuclear NMR Study of Two Commercial Glass Ionomers. R.A. PIRES* and T.G. NUNES (*Technical University of Lisbon, IST, Portugal*).

1303 Dust Formation and Wettability of Glass-ionomer Powders. S. FRANK*, J. GLASER, H. NIRSCHE, G. RACKELMANN, and K.-P. STEFAN (*ESPE Dental AG, Seefeld, Germany*).

1304 *In vitro* Bond Strength Evaluation of Resin-modified Glass-ionomer Cements. N.N. LOKKO*, G. KUGEL, C. HABIB, E.H. DOHERTY, and W. RAND (*School of Dental Medicine, Tufts University, Boston, MA, USA*).

1305 Change in Bond Strength of Glass Ionomer after Initial Setting. T. HOSHINO*, K. KURAMOUCHI, A. MORIYAMA, T. YAMAGA, Y. HIBINO, and H. NAKAJIMA (*Meikai University School of Dentistry, Sakado, Saitama, Japan*).

1306 Remineralization of Dentin Lesions from Bonded and Nonbonded Ca-PO₄ Resin Cements. G.M. FLAIM* and S.H. DICKENS (*ADAHF Paffenbarger Research Center, NIST, Gaithersburg, MD, USA*).

1307 A Polyethylene-fiber-reinforced Calcium Phosphate Cement. S. HIRAYAMA*, L.C. CHOW, S. TAKAGI, and J.M. ANTONUCCI (*Nihon University, Chiba, Japan; and ADAHF PRC, NIST, Gaithersburg, MD, USA*).

1308 Effects of Capsule Weight and Mix Consistency on Trituration Speed. M.M. WINKLER and R. WALKER* (*LSU School of Dentistry, New Orleans, USA*).

1309 Determining Weibull Two-parameter Estimates by Different Methods. G.A. THOMPSON*, R.B. ABERNETHY, and J.R. KELLY (*U.S. Army Dental Research Detachment, Great Lakes, IL; Lecturer in Statistics, North Palm Beach, FL; and Naval Dental Research Institute, Great Lakes, IL, USA*).

1310 Influence of Aging and Cyclic Loading on the Mechanical Properties of Glass-ionomer Cements. C.M. GADIA*, M.S. BAPNA, and J.L. DRUMMOND (*Department of Restorative Dentistry, University of Illinois at Chicago, USA*).

1311 Dimensional Change of Restorative Materials and Cements Over 12 Months. B.S. WALL* and C.B. HERMESCH (*University of Texas Health Science Center, San Antonio, USA*).

Seq#: 159 Friday, March 9, 3:45 pm - 5:00 pm
Poster Session, Exhibition Hall

Dental Materials - Resins/Sealants/Luting Cements

1312 Excess of Luting Composite Resin Formed at Different Resin-bonded Restorations. H. LANG*, N. SCHÜLER, R. NOLDEN, and W.H.-M. RAAB (*University of Duesseldorf and University of Bonn, Germany*).

1313 Clinical Evaluation of a New Ceramic Luting System after Two Years. N. KRÄMER, K. LÖRNER*, R. FRANKENBERGER, and A. PETSCHERT (*Policlinic for Operative Dentistry and Periodontology, University of Erlangen, Germany*).

1314 Two-year Clinical Evaluation of an Encapsulated Resin Cement. D.S. COBB*, M.A. VARGAS, G.E. DENEHY, and M.R. BOUSCHLICHER (*University of Iowa, Iowa City, USA*).

1315 Posterior Performance of Two Compomers after Two Years. N. KRÄMER, S. RÜGHEIMER*, E. KONTOU, C. REINELT, and R. FRANKENBERGER (*Policlinic of Operative Dentistry, University of Erlangen, Germany*).

1316 Minimally Invasive Restorative Treatments in a Caries-prone Population. M.C. PETERS, M.E. McLEAN*, and D.M. BRISKIE (*School of Dentistry, University of Michigan, Ann Arbor, and Mott Children's Health Center, Flint, MI, USA*).

1317 Effects of Resin Viscosity and Beveled Margin on the Clinical Performance of Cervical Restorations. L.N. BARATIERI, S. CANABARRO*, and G.C. LOPES (*Univ. Federal Santa Catarina, Brazil*).

1318 Retention of a Medium-filled Restorative Material. J. AUTIO* (*University of Florida, Gainesville, USA*).

1319 Clinical Evaluation of FloRestore Used as a Fissure Sealant. F. GARCÍA-GODOY* and F. CARRANZA (*Biomaterials Research, Tufts University, Boston, MA, USA; and Univ. Autónoma del Estado de Mexico, Toluca*).

1320 A Practice-based, Class I/II Randomized Controlled Composite Trial: Initial Findings. A.J. COWAN*, M.A. WILSON, R.J. CRISP, and N.H.F. WILSON (*University Dental Hospital of Manchester, UK*).

1321 Clinical Evaluation of Four Class 5 Restorative Materials—One-year Recall. J.O. BURGESS, A. RIPPS, J. GALLO*, R. WALKER, and E. IRELAND (*LSUHSC, New Orleans, USA*).

1322 Clinical Evaluation of R-30 Composite Restorative Material. D.L. GEORGE* and D.M. BARNES (*University of Maryland, Baltimore, USA*).

1323 Solitaire II Restorations Placed in General Practice: One-year Preliminary Evaluation. R.J. CRISP*, F.J.T. BURKE, and M. BALKENHOL (*University of Glasgow Dental School and University of Birmingham School of Dentistry, UK; and Heraeus Kulzer, Dormagen, Germany*).

1324 Clinical Evaluation of Heliomolar and F2000 Restorations in Primary Teeth. T. NUNES-SILVA*, R.M. PUPPIN-RONTANI, J.Y. HATAYAMA, and A.S. CALDO-TEIXEIRA (*Área de Odontopediatria, FOP/UNICAMP, São Paulo, Brazil*).

Seq#: 160 Friday, March 9, 3:45 pm - 5:00 pm
Poster Session, Exhibition Hall

Dental Materials - Polymer Materials: Surface Morphology

1325 Effects of Bleaching Agents on the Surface Roughness, Hardness, and Micromorphology of Resin-based Composites. F. GARCÍA-GODOY*, A. GARCÍA-GODOY, and F. GARCÍA-GODOY (*Biomaterials Research, Tufts University, Boston, MA, USA*).

1326 A New Methodology for the *in vitro* Assessment of Restorative Materials. P.E.C. CARDOSO, P.C. SANTOS*, and E. PLACIDO (*Faculty of Dentistry, University of São Paulo, Brazil*).

1327 Higher-concentration Carbamide Peroxide's Effects on Surface Roughness of Composites. R.E. LANGSTEN*, G.R. HARTUP, and D.F. MURCHISON (*Wilford Hall Medical Center and USAF Dental Investigation Service, San Antonio, TX, USA*).

1328 Surface Microhardness and Roughness of Three Compomers after a One-year Storage in Different Media. H. HAUBERT*, S. DOGAN, G. LEYHAUSEN, F. GARCÍA-GODOY, and W. GEURTSSEN (*Medical University, Hannover, Germany; and University of Texas at San Antonio, USA*).

1329 Surface Roughness of an Experimental Laboratory Composite. C.P. TRAJTENBERG*, L.B. ROEDER, and J.M. POWERS (*Houston Biomaterials Research Center, UT-Houston Dental Branch, USA*).

1330 A Comparison of Composite Resin Polishers. M. JEFFERIES* and J. RIZZA (*School of Dental Medicine, Tufts University, Boston, MA, USA*).

1331 *In vitro* Evaluation of Surface Roughness of Micro-hybrid Resin Composite Materials. J. JUNCAJ*, C.R. CORNELL-VALDES, D.C. HOELSCHER, and A.L. NEME (*University of Detroit Mercy, MI, USA*).

1332 Surface Roughness of Resin Composites Polished with Various Prophylaxis Pastes. A.L. NEME*, A. EMARI, K.B. FRAZIER, and F.E. PINK (*University of Detroit Mercy, MI, and Medical College of Georgia, Augusta, USA*).

1333 Surface Roughness of Packable Composite Resin with Alternative Finishing Techniques. N. KASHANI*, B.B. MAXSON, A.L. NEME, and F.E. PINK (*University of Detroit Mercy, MI, USA*).

1334 Effects of Polishing Procedures on the Gloss of Dental Composites. W.G. DE RIJK*, P.L. BROWN, L. SHARP, and F. CINCIONE (*Bisco, Inc., Schaumburg, IL, USA*).

1335 Dry Finishing of Microfilled Resin Composite Restorative Materials. J.H. TIMMON and R.J. MITCHELL* (*College of Dentistry, University of Kentucky, Lexington, USA*).

1336 The Effect of Air Polishing on Esthetic Restorative Materials. A. FONS*, M.P. CARR, A.G. WEE, J.C. MITCHELL, R.R. SEGHI, and S.G. VERMILYEA (*Ohio State University, Columbus, USA*).

1337 Comparison of Surface Finish Produced on Resin Composites Following Extended Brushing with a Manual Toothbrush and Sonicare. A. VERDIER*, G. KUGEL, and C. HABIB (*School of Dental Medicine, Tufts University, Boston, MA, USA*).

1338 Roughness Analysis of New Composites Using Two Polishing Systems. L.B. JACQUES*, P.E.C. CARDOSO, A. MALLMANN, and P.A. BURMANN (*University of São Paulo and University Fed. of Santa Maria, Brazil*).

1339 Analysis of Roughness and Wear for Different Kinds of Composed Resins Submitted to Mechanical Cycling Loads. E.B. KLATAU* and P.E.C. CARDOSO (*Department of Dental Materials, School of Dentistry, University of São Paulo, Brazil*).

Seq#: 161 Friday, March 9, 3:45 pm - 5:00 pm
Poster Session, Exhibition Hall

Dental Materials - Polymer Materials: Property Testing

1340 Alcohol Mouthrinses' Effects on Superficial Hardness of Targis Ceromer. O. RAMOS*, M. SARAVIA, and P.G. CÁCERES (*Universidad Peruana Cayetano Heredia and Pontificia Universidad Católica del Perú, Lima, Perú*).

1341 Flexure Mechanical Properties of Packable and Hybrid Composites. J. MANHART, N. ILIE, P. NEUERER*, H.Y. CHEN, K.-H. KUNZELMANN, and R. HICKEL (*Department of Restorative Dentistry, Dental School of the LMU, Munich, Germany*).

1342 Physical Properties of a Filled Light-cure Dental Adhesive. A. MSZYCA*, A. KOBASHIGAWA, and E. SHEL-LARD (*Kerr Corp., Orange, CA, USA*).

1343 Boundary Effect of Microhardness. Y.-S. CHENG* and W.H. DOUGLAS (*Minnesota Dental Research Center for Biomaterials & Biomechanics, University of Minnesota, Minneapolis, USA*).

1344 Fracture Toughness of Low-viscosity Flowable Composites. J. MANHART, N. ILIE, P. DULLIN, F. SPOERLEIN*, H.Y. CHEN, K.-H. KUNZELMANN, and R. HICKEL (*Department of Restorative Dentistry, Dental School of the LMU, Munich, Germany*).

1345 Optimal Conditions of Nano-indentation Tests for Hard Tissue Micro-properties. C.C. LIU*, C.C. KO, R. DeLONG, and W.H. DOUGLAS (*MDRCBB, Department of Oral Science, University of Minnesota, Minneapolis, USA*).

1346 Effect of Silane Level on K_{IC} and Flexure Properties of Composites. J.L. FERRACANE*, J.L. ROBERTSON, J.R. CONDON, and R. YIN (*Oregon Health Sciences University, Portland, and Bisco, Inc., Schaumburg, IL, USA*).

1347 Fatigue Strength of Composite Containing Silanated or Non-silanated Microfiller. J.R. CONDON, J.L. ROBERTSON*, and J.L. FERRACANE (*Oregon Health Sciences University, Portland, USA*).

1348 Fracture Toughness of Packable and Hybrid Composites. J. MANHART, N. ILIE, W. MUELLER*, H.Y. CHEN, K.-H. KUNZELMANN, and R. HICKEL (*Department of Restorative Dentistry, Dental School of the LMU, Munich, Germany*).

1349 Composite Flexural Strength in Function of Post-polymerization Thermal Treatment. P.E.C. CARDOSO, A. MALLMANN, L.T. POSKUS*, and L.F.C. LIMA (*University of São Paulo and Nuclear Energy Research Institute, Brazil*).

1350 Flexure Mechanical Properties of Compomer Materials. J. MANHART, N. ILIE, P. DULLIN, U. DRAEGERT*, H.Y. CHEN, K.-H. KUNZELMANN, and R. HICKEL (*Department of Restorative Dentistry, Dental School of the LMU, Munich, Germany*).

1351 Dynamic Elastic Moduli of Composites as a Function of Post-polymerization Heat. P.E.C. CARDOSO, A. MALLMANN, L.T. POSKUS, L.F.C. LIMA, and E. DUTRA* (*University of São Paulo, IPEN, and Univ. Fed. of Santa Maria, Brazil*).

1352 Restorative Materials' Strength as a Function of the Test Method. N. ILIE*, P. DULLIN, J. MANHART, K.-H. KUNZELMANN, and R. HICKEL (*Department of Restorative Dentistry, Dental School of the LMU, Munich, Germany*).

1353 Fracture Toughness of Polyacid-modified Composite Resins. P. DULLIN*, J. MANHART, N. ILIE, H.Y. CHEN, K.-H. KUNZELMANN, and R. HICKEL (*Department of Restorative Dentistry, Dental School of the LMU, Munich, Germany*).

1354 Occlusal Loading and Insertion Techniques' Effects on Microleakage of Composite Restorations. M.A. PEREIRA* and J. MONDELLI (*Bauru School of Dentistry, USP, Brazil*).

Seq#: 162 Friday, March 9, 3:45 pm - 5:00 pm
Poster Session, Exhibition Hall

Dental Materials - Bleaching Agents, Color Stability

1355 *In vitro* Evaluation: Tooth Color Modifications Utilizing Differing Hydrogen Peroxide Concentrations. D. BARDWELL*, A. PAPATHANASIOU, and S. DELIPERI (*School of Dental Medicine, Tufts University, Boston, MA, USA*).

1356 Assessment of Superficial Dental Enamel Roughness after Bleaching with 37% Carbamide Peroxide. A.L.S. BORGES*, L.S. UMETSUBO, V.A.C. CARVALHO, M.A.M. ARAÚJO, and M.C. VALERA (*School of Dentistry of São José dos Campos-UNESP, São Paulo, Brazil*).

1357 Effects of 35% Carbamide Peroxide over Dental Enamel. J.C. JUNQUEIRA*, C.E.D. COLOMBO, C.A.P. MARTINS, P.G. TAVARES, M.A.M. ARAÚJO, and M.C. VALERA (*School of Dentistry of São José dos Campos-UNESP, São Paulo, Brazil*).

1358 Bleaching with Titanium Dioxide Photocatalyst. T. NONAMI*, K. ISHIBASHI, T. ISHIBASHI, O. KONDO, and K. TAKAMI (*National Industrial Research Institute of Nagoya, Japan*).

1359 Effect of Dentist-prescribed Home Bleaching on Orthodontic Bracket Retention. J.C. TANNER*, B.L. SMITH, F.A. RUEGGEBERG, and V.B. HAYWOOD (*School of Dentistry, Medical College of Georgia, Augusta, USA*).

1360 Surface Staining of Three Restorative Materials by Two Disclosing Agents. A.J.S. SANTOS*, F.H.B. AGUIAR, L.O. SAD, and J.R. LOVADINO (*Campinas State University, Piracicaba, Brazil*).

1361 Evaluating Tooth Color Change at Various Depths with Nightguard Bleaching. A. LARSON*, D.S. COBB, and R. JONES (*University of Iowa, Iowa City, USA*).

1362 The Color of a Direct Restoration, Using Different Shades with a Layering Technique: A Spectrophotometric Study. G. DONDI dall'OROLOGIO, R. LORENZI, and M. ANSELMINI* (*Division of Operative Dentistry, University of Bologna, Italy*).

1363 Mechanical Properties and Color Stability of Provisional Materials. D. LI* and J.M. POWERS (*Houston Biomaterials Research Center and Prosthodontics, Houston Dental Branch, University of Texas, USA*).

Seq#: 163 Friday, March 9, 3:45 pm - 5:00 pm
Poster Session, Exhibition Hall

Diagnostic Systems - Clinical and Lab Measurements

1364 Bilirubin Analysis of Tooth Pigmentation Due to Hyperbilirubinemia. K. WATANABE*, T. SHIBATA, M. ARISUE, T. KUROSAWA, Y. SANO, and R. FUNADA (*Health Sciences University of Hokkaido, Tobetsu, and Hokkaido University, Sapporo, Japan*).

1365 Reproducibility of a Non-contact Tooth Color Measurement System. E.A. RENO*, C.L. POORE, P.G. LAPUJADE, M.K. ANASTASIA, J.M. MILLER, and M.M. CRISANTI (*The Procter & Gamble Company, Cincinnati, OH, USA*).

1366 Characterization of Aerosolized Particulates during Use of High-speed Rotary Instrumentation. N.A. NADERSHAHI*, A. LOWE, T.C. WEBBER, and W.M. CARPENTER (*School of Dentistry, University of the Pacific, San Francisco, CA, USA*).

1367 Airflow Measurements Exiting the Oral Cavity during High-speed Rotary Instrumentation. N.A. NADERSHAHI, A. LOWE*, T.C. WEBBER, and W.M. CARPENTER (*School of Dentistry, University of the Pacific, San Francisco, CA, USA*).

1368 Oral Lesions in Patients with Tuberculosis and AIDS and Its Relation to CD4⁺/CD8⁺ Cell Counting. M.R. VOLKWEIS*, L.N. LEONARDO, R.S. ROCHA, and J.C. WAGNER (*Brazilian Lutheran University, RS*).

1369 Accuracy of Electronic Blood Pressure Devices. Y.A. LIM* and J.P. GOBETTI (*University of Michigan, Ann Arbor, USA*).

1370 Dentist-specific Patterns of Force are Used in Clinical Procedures. J.L. WAGNER*, C.M. STANFORD, and G.W. THOMAS (*College of Dentistry and College of Engineering, University of Iowa, Iowa City, USA*).

1371 Use of Dental Imaging for Supragingival Calculus Evaluation. E.S. CHAVES*, J. BOWMAN, B. MAGGIO, R.A.C. MARCANTONIO, and E. MARCANTONIO, Jr. (*Hill Top Research, W. Palm Beach, FL, USA; and Araraquara Dental School, UNESP, SP, Brazil*).

1372 DNA-image Cytometry: Diagnostic Aid in Brush Cytology of Oral Cancer. T.W. REMMERBACH*, H. WEIDENBACH, H. MOTHERBY, A. HEMPRICH, and A. BÖCKING (*University of Leipzig and University of Düsseldorf, Germany*).

1373 Cancellation of Coherent Artifacts in OCT Images. D. PIAO, Q. ZHU, N. DUTTA, S. YAN, and L. OTIS* (*University of Connecticut, Storrs, and University of Pennsylvania, Philadelphia, USA*).

1374 Spontaneous Fluctuation in the Concentration of Oral Sulfur-containing Gases. J.R. SPRINGFIELD, F.L. SUAREZ, G.J. MAJERUS, P.A. LENTON*, J.K. FURNE, J.S. HODGES, and M.D. LEVITT (*Minneapolis VA Hospital and School of Dentistry, University of Minnesota, USA*).

1375 Volatile Compounds of the Oral Air and Saliva in Healthy People, and in Patients with Periodontitis and Gingivitis. A.I. VOLOZHIN*, Y.A. PETROVICH, V.K. ILYIN, E.S. FILATOVA, O.L. FOMINA, and S.A. VOLOZHINA (*Moscow State University of Medicine and Dentistry, Russia*).

Seq#: 164 Friday, March 9, 3:45 pm - 5:00 pm
Poster Session, Exhibition Hall

Behavioral Sciences/Health Services Research - Provider Practice Patterns

1376 Dental Facilities as HIV Counseling and Testing Sites: Qualitative Study. L.L. PATTON*, R.P. STRAUSS, R.G. MCKAIG, and D.C. SHUGARS (*University of North Carolina, Chapel Hill, USA*).

1377 General Dentists and Medicaid Patients—Who Treats and Why? M.E. GLASS* and M.R. INGLEHART (*University of Michigan, Ann Arbor, USA*).

1378 Dentists' Willingness to Treat HIV+ Patients: Attitudes and Subjective Norms. C. KUNZEL* and D. SADOWSKY (*School of Dental and Oral Surgery, Columbia University, NY, USA*).

1379 Efficacy of Intra-oral Camera for Pediatric Dental Treatment Plan Presentations. D.S. RUTCOSKY*, I.C. PUNWANI, S. FADAVI, and A. KOERBER (*Department of Pediatric Dentistry, University of Illinois at Chicago, USA*).

1380 Role of Disruptive Technology and Paradigms in New Product Acceptance. A. RASTOGI* and E. ROSSOMANDO (*Medical University of South Carolina, Charleston, and NIDCR, Bethesda, MD, USA*).

1381 Private Practitioners' Employment of Chairside Assistants: Results of a 1999 Survey. J.D. RUESCH* and K.S. WAGNER (*American Dental Association, Chicago, IL, USA*).

1382 Change in Percentage of Time Active Private Practitioners Spent on Various Dental Procedures during the Period of 1981-1996. L.J. BROWN and V. LAZAR* (*American Dental Association, Chicago, IL, USA*).

1383 Electronic Dental Claims Submission in the US: Results from Recent ADA Surveys. L.J. BROWN and T.P. WALL* (*American Dental Association, Chicago, IL, USA*).

1384 Technological Advances in the Dental Office. K.S. WAGNER* and B.C. PETERSEN (*American Dental Association, Chicago, IL, USA*).

1385 A Preliminary Investigation of Tooth Extraction Decisions. K.C. VAN KIRK*, C.A. WATKINS, H.J. COWEN, and J.J. WARREN (*College of Dentistry, University of Iowa, Iowa City, USA*).

1386 Evaluation of Prescribing Practices for Antibiotics among Dentists. D.B. RINDAL*, B.A. WHITE, and M.J. GOODMAN (*HealthPartners Research Foundation, Minneapolis, MN, and Kaiser Permanente, Portland, OR, USA*).

1387 Financial Aspects of Specialists in Private Practice, 1992 and 1997/1998. B.A. JOHNS*, K.S. WAGNER, and J.D. RUESCH (*American Dental Association, Chicago, IL, USA*).

1388 CNS Symptoms Associated with Mercury Amalgam Exposure among Ontario Dentists. J.J. KELLERSTEIN*, H.P. LAWRENCE, N. D'SOUZA, D. McCOMB, D. SMITH, and D. LEWIS (*University of Toronto, ON, Canada*).

Seq#: 165 Friday, March 9, 3:45 pm - 5:00 pm
Poster Session, Exhibition Hall

Cariology Research - Effect of Bleaching on Mineralized Tissue

1389 Chemical Composition of Bleached Enamel According to Ultrared Spectroscopy. V. ZUBACHYK* and V. KONONENKO (*Lviv State Medical University, Ukraine*).

1390 Effects of Peroxide Gels on Enamel and Dentin *in vitro*. K.M. KOZAK*, H.J. DUSCHNER, H. GOTZ, D.J. WHITE, and J.R. ZOLADZ (*Procter & Gamble, Mason, OH, USA; and Johannes Gutenberg University, Mainz, Germany*).

1391 Effects of Whitening Peroxide Gels on Exposed Surface Dentin *in vitro*. D.J. WHITE*, K.M. KOZAK, H.J. DUSCHNER, H. GOTZ, and J.R. ZOLADZ (*Procter & Gamble, Mason, OH, USA; and Johannes Gutenberg University, Mainz, Germany*).

Seq#: 166 Friday, March 9, 3:45 pm - 5:00 pm
Poster Session, Exhibition Hall

Cariology Research - Dentifrices

1392 Development of a Rapid Intra-oral Fluoride Ion Uptake Assay. R. CANTORE*, C.M. MURPHY, I. PETROU, and R.J. SULLIVAN (*Colgate-Palmolive Company, Piscataway, NJ, USA*).

1393 Mineralization Assessment of a New MultiCare Whitening Toothpaste. A.M. PFARRER*, R.V. FALLER, M. RAPOZO-HILO, and J.D.B. FEATHERSTONE (*Procter and Gamble Company, Cincinnati, OH, and UCSF, USA*).

1394 Bioavailability of Fluoride from a New MultiCare Whitening Toothpaste. S.L. EVERSOLE*, A.M. PFARRER, and R.V. FALLER (*Procter & Gamble Company, Cincinnati, OH, USA*).

1395 Fluoride Dose Response in Enamel and Dentin *in vitro*. M.T. JOZIAK*, E.A. TAVSS, B.R. SCHEMEHORN, S.W. FISHER, and R.J. GAMBOGI (*Colgate-Palmolive, Piscataway, NJ, and School of Dentistry, Indiana University, USA*).

1396 Effect of Dentifrice Formulation with CaCO₃/MFP on Inhibition of Enamel Demineralization. S.B. FRANCISCO, C.M. TABCHOURY, A.A. DEL BEL CURY*, G. SIMÕES, J.A. CURY, J. FU, and D.T. ZERO (*FOP-UNICAMP, Brazil; and Eastman Dental Center, USA*).

1397 Inhibition of Caries in Rats by a Tartar Control Toothpaste. J.M. TANZER, J. PELLEGRINO, R.M. BUCH, and H.M. FARES* (*University of Connecticut Health Center, Farmington, and SmithKline Beecham Consumer Healthcare, Parsippany, NJ, USA*).

1398 Anticaries Potential of a New Antitartar Dentifrice Formulation. M. RAPOZO-HILO*, J.D.B. FEATHERSTONE, and A.M. PFARRER (*University of California, San Francisco, and Procter and Gamble Company, Cincinnati, OH, USA*).

1399 Fluoridating Efficiency of a New Antitartar Toothpaste. R.V. FALLER* and A.M. PFARRER (*Procter & Gamble Company, Cincinnati, OH, USA*).

1400 Anticaries Efficacy of a New Dentifrice for Hypersensitivity. S.W. FISHER*, E.A. TAVSS, R.J. GAMBOGI, and M.T. JOZIAK (*Colgate-Palmolive, Piscataway, NJ, USA*).

1401 Mechanism of Action of a Dentin Desensitizer. R.J. GAMBOGI*, A.N. MATUKONIS, M.A. STRANICK, A. MOSKWA, C.M. MURPHY, S.W. FISHER, E.A. TAVSS, and M.T. JOZIAK (*Colgate-Palmolive, Piscataway, NJ, USA*).

1402 Effect of Fluoride Application on Stripped Enamel Surfaces. M. EL-DOMIATY, M. TAMISH, S. YOUNES*, H. ABDELLA, and W. EL-KINANY (*Alexandria University, Egypt*).

Seq#: 167 Friday, March 9, 3:45 pm - 5:00 pm
Poster Session, Exhibition Hall

Implantology Research - Clinical Performance

1403 Clinical Performance of Immediately Loaded One-stage Frialoc® Implants in the Edentulous Lower Jaw. F. KISTLER*, G. BAYER, and ST. KISTLER (*Private Practice, Landsberg on Lech, Department of Prosthodontics, University of Munich, and Private Practice, Nördlingen, Germany*).

1404 Three-year Clinical Status of Dental Implants after Immediate Loading. A.M. POLSON, I. LEE*, D. SHARKEY, A.P. POLSON, H. SALAMA, L. MINSK, L. ROSE, and M. FELDSTEIN (*University of Pennsylvania, Philadelphia, and MDCL, North Attleboro, MA, USA*).

1405 Three-year Alveolar Bone Levels of Dental Implants after Immediate Loading. A.M. POLSON*, D. SHARKEY, I. LEE, A.P. POLSON, L. MINSK, H. SALAMA, L. ROSE, and M. FELDSTEIN (*University of Pennsylvania, Philadelphia, and MDCI, North Attleboro, MA, USA*).

1406 The Clinical Success of Dental Implants Replacing a Missing Single Anterior Maxillary Tooth. D. SCHWARTZ-ARAD* and E. DOLEV (*School of Dental Medicine, Tel Aviv University, Israel*).

1407 Intermediate Analysis of a Hydroxyapatite (HA) vs. Titanium-plasma-sprayed (TPS) Bio-Lok Implant Clinical Trial. E.A. MCGLUMPHY, P.E. LARSEN, L.J. PETERSON, and J.J. EATON* (*College of Dentistry, Ohio State University, Columbus, USA*).

1408 Five-year Clinical Retrospective Study of Root-form Dental Implants. J. GILLESPIE*, J. CAIN, and D. MITCHELL (*University of Oklahoma, Oklahoma City, USA*).

1409 Comparative Pre-implant Assessment with Panoramic or Tomographic Images Using Software Analysis. M.D. BERGMAN* and W.C. SCARFE (*Department of Hospital & Surgical Dentistry, University of Louisville, KY, USA*).

1410 Statistical and Clinical Analysis between Different Osseointegrated Implant Systems: 4-year Study. V. MURATORE*, M.A. BOTTINO, F. TODESCAN, P. TORTAMANO, L.R. GIUGNI, and A. DIAS (*F.O. de São José dos Campos-UNESP, São Paulo, Brazil*).

1411 Comparison of Two Different Retentive Attachments in Implant-supported Overdentures. T. TOSUN*, C. KARABUDA, and S. ÖZEL (*University of Istanbul, Turkey*).

1412 Matrix Metalloproteinases in Gingival Crevicular Fluids of Peri-implantitis Patients. H. ARAKAWA*, T. KUBOKI, J. UEHARA, S. KOJIMA, T. MIZUSHIMA, W. SONOYAMA, M. KANYAMA, and H. YATANI (*Dental School, Okayama University, Japan*).

Seq#: 168 Friday, March 9, 3:45 pm - 5:00 pm
Poster Session, Exhibition Hall

Implantology Research - Surface and Cell-Surface Analyses

1413 Surface Roughness of Titanium Prepared with Carbide and Diamond Burs. C.S. DAULAT*, C.F. DRISCOLL, S.C. SIEGEL, E. ROMBERG, G.A. THOMPSON, and D.A. RUNYAN (*University of Maryland, and US Army Dental Research Detachment, Great Lakes, IL, USA*).

1414 Microtopographical Analyses of Selected Commercial and Prototype Dental Implant Surfaces. B. KELLOGG*, J.F. LAFFOON, R. NESSLER, C.M. STANFORD, and J.C. KELLER (*University of Iowa, Iowa City, USA*).

1415 Analysis of the Effect of Implant Surface Roughness on Osteoblast Mineralization. M. CLEGG*, H. PERINPANAYAGAM, R. ZAHARIAS, C.M. STANFORD, J.C. KELLER, and G. SCHNEIDER (*College of Dentistry, University of Iowa, Iowa City, USA*).

1416 Oral Health Considerations for the Technology-dependent Child. T.B. HENSON*, N.A. LENSER, and E.M. MENENDEZ (*University of Texas Health Science Center at San Antonio, and Nova Southeastern University, Ft. Lauderdale, FL, USA*).
(See abstract #1666 in *J Dent Res*.)

1417 Proliferation and Differentiation of Human Osteoblast-like Cells on Titanium Surfaces. L. RAMAGLIA, G. DI DOMENICO*, L. POSTIGLIONE, S. MONTAGNANI, G. ROSSI, and L. SBORDONE (*University of Naples "Federico II" and University of Pisa, Italy*).

1418 Immunolocalization of Phosphorylated ERK (p42/p44 MAPK) in Perturbed Osteoblast Monolayers. K. CHOUDHARY* and R.W. KATZ (*College of Dentistry, Howard University, Washington, DC, and School of Dental and Oral Surgery, Columbia University, New York, USA*).

1419 Bone Response Histomorphometric Analysis to Machined and Sandblasted Acid-etched Titanium Implants. M. QUARANTA*, F. RIPARI, A. SCARANO, G. POMPA, and A. QUARANTA (*University of Chieti and University of Rome, Italy*).

1420 Two Implant/Abutment Joint Designs under Cyclic Loading. A. KHRAISAT*, R. STEGAROIU, N. TAGUCHI, S. OKAWA, S. NAKANO, M. KOBAYASHI, and O. MIYAKAWA (*Niigata University, Japan*).

Seq#: 169 Friday, March 9, 3:45 pm - 5:00 pm
Poster Session, Exhibition Hall

Oral Health Research - Oral Health Services, Tobacco Use, Gingival Contours, Oral Cancer and Tooth Eruption

1421 Prevalence of Tobacco Use in a Dental School Patient Population. T.R. DUNAVANT*, B.A. DESPAIN-EDEN, M.E. NUNN, and T.K. HASEGAWA (*Baylor College of Dentistry, Texas A&M University System HSC, Dallas, USA*).

1422 Analysis of Changes in Gingival Contour from 3-D Co-ordinate Data. K. UNDERWOOD*, V. JOVANOVSKEI, E. LYNCH, R.A. CAWSON, M. SEYMOUR, J.M. THOMASON, and L. ZOU (*Optiva Corp., USA; St. Bart's & the Royal London Hospital, Queen's of Belfast, and University of Newcastle, UK*).

1423 Impact of Concurrent Medical Illnesses on Dental Care in Subjects Seeking Prosthodontic Treatment. A. SAMANT, J. SCHWARTZ, E. SACKS*, J. MARTIN, and M. JANAL (*New Jersey Dental School, UMDNJ, Newark, USA*).

1424 An Analysis of Oral Cancer in Pennsylvania Counties. E. TAYLOR* and K.A. DOBROSIELSKI-VERGONA (*University of Pittsburgh, PA, USA*).

1425 Tooth Eruption Symptoms: A Survey of Parents and Health Professionals. B.S. BARLOW*, M.J. KANELIS, and R.L. SLAYTON (*University of Iowa, Iowa City, USA*).

1426 Dental Material Preference for Class II Restorations by UK Practitioners. P. BRUNTON, G. CHRISTENSEN, F.J.T. BURKE, S. KAN, and N.H.F. WILSON* (*University of Manchester, Birmingham, UK; and Clinical Research Associates, Provo, UT, USA*).

1427 Time Trade-offs for Oral Health Utility in Older Adults. T.E. THIERER* and M.E. MOSS (*University of Rochester, NY, USA*).

1428 Parents/Caregivers Reported Dental Service Utilization of HIV-seropositive Children. C. OKUNSERI*, V.M. BADNER, M. ROSENBERG, and A. WIZNIA (*Montefiore Medical Center and Jacobi Hospital, Bronx, NY, USA*).

1429 Fluoride Use by Public Dental Clinics in the Houston Area. D.P. WARREN* and J.T. CHAN (*Houston Dental Branch, University of Texas, USA*).

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Poster Session, Exhibition Hall

Mineralized Tissue - Tissue Engineering/BMPs/Calcified Tissue Analysis

1430 Protein Adsorption on Poly(α -hydroxy acids)/Hydroxyapatite Scaffolds. R. ZHANG* and P.X. MA (*University of Michigan, Ann Arbor, USA*).

1431 Rats' Bone-marrow-derived Pre-osteoblast in Collagen Scaffold. M. TAIRA*, J. TAKAHASHI, and Y. ARAKI (*Iwate Medical University, Morioka, and Osaka University, Suita, Japan*).

1432 Geometry of Apatitic Carrier Controls BMP-induced Ectopic Bone Formation. Q.-M. JIN*, H. TAKITA, T. KOHGO, and Y. KUBOKI (*Department of Oral Health Science and Department of Oral Pathobiology, Graduate School of Dentistry, Hokkaido University, Japan*).

1433 Advantages of Microwave Irradiation for Immunolocalization of Noncollagenous Matrix Proteins in Calcified Tissues. V.E. ARANA-CHAVEZ* and A. NANJI (*University of São Paulo, Brazil; and Université de Montréal, Québec, Canada*).

1434 Microwave Irradiation Improves Preservation of Ethanol-fixed Bone, Allowing for its Ultrastructural Immunolabeling. O. LABOUX*, V.E. ARANA-CHAVEZ, and A. NANJI (*Université de Nantes, France; and Université de Montréal, QC, Canada*).

Seq#: 171 Friday, March 9, 3:45 pm - 5:00 pm
Poster Session, Exhibition Hall

Mineralized Tissue - Genetic Disorders of Bones and Teeth/Bone Density

1435 Mutational Analysis of *CBFA1* in Cleidocranial Dysplasia. V.A. MARTINEZ*, J. DONG, C. NURKO, J. SCHULZE, and M. MacDOUGALL (*Dental School, University of Texas Health Science Center at San Antonio, USA*).

1436 ED3/Downless Gene Mutational Analysis in an Autosomal-dominant Hypohidrotic Ectodermal Dysplasia Family. S.A. TEVIS*, J. DONG, and M. MacDOUGALL (*Dental School, University of Texas Health Science Center at San Antonio, USA*).

1437 Phenotypic Variability of Dentin Dysplasia Type II. M.A. ROSSITCH*, R.B. QUINONES, and J.T. WRIGHT (*School of Dentistry, University of North Carolina, Chapel Hill, USA*).

1438 The Phenotype and Genotype of Hypocalcified Amelogenesis Imperfecta. M.F. SAVAGE*, P.S. HART, T.C. HART, and J.T. WRIGHT (*University of North Carolina, Chapel Hill, and University of Pittsburgh, PA, USA*).

1439 Exclusion of Autosomal-dominant Amelogenesis Imperfecta Family from the *AIH2* Locus. R. SILBERSTEIN*, J. DONG, and M. MacDOUGALL (*Dental School, University of Texas Health Science Center at San Antonio, USA*).

1440 Bone, Dentin, and Cementum Phenotype in Hypophosphatasia. L.M. CARDENAS* and J.T. WRIGHT (*University of North Carolina at Chapel Hill, USA*).

1441 Fabry Mice Display Structural Defects in Teeth. C. DUNGLAS, D. SEPTIER, M. GOLDBERG, P. QASBA, T. SREENATH*, and A.B. KULKARNI (*Paris Vth Faculté de Chirurgie, France; DMNB, NINDS, and Functional Genomics Unit, NIDCR, NIH, Bethesda, MD, USA*).

1442 Relationship between Mandibular and Skeletal Bone Density. M. ANALOUI, H. EGGERTSSON*, W.E. ROBERTS, L.P. GARETTO, E.T. PARKS, and G.J. ECKERT (*School of Dentistry, Indiana University, Indianapolis, USA*).

Seq#: 172 Friday, March 9, 3:45 pm - 5:00 pm
Poster Session, Exhibition Hall

Microbiology/Immunology & Infection Control - Antimicrobials: Mechanisms and Resistance

1443 Interaction of Human Leukocyte Defensins with Bacterial Lipopolysaccharide. K.W. MARTIN*, S.A. SISK, M.M. JEFFERSON, J.P. BABU, M.J. PABST, and E.L. THOMAS (*Dental Research Center & Biochemistry Department, University of Tennessee, Memphis, USA*).

1444 Histatin 5 Differs from Pore-forming Antimicrobial Peptides: Amphipathicity, Hydrophobicity, and Effects on Cell and Mitochondrial Membrane Integrity. E.J. HELMERHORST*, W. VAN 'T HOF, P. BREEUWER, E.C.I. VEERMAN, T. ABEE, R.F. TROXLER, A.V. NIEUW AMERONGEN, and F.G. OPPENHEIM (*Goldman School of Dental Medicine, Boston University, MA, USA*).

1445 Broad-spectrum Efficacy of a Small Cationic Antimicrobial Peptide. S.P. CONCANNON* (*US Army Dental Research Detachment, Great Lakes, IL, USA*).

1446 Inhibitory Effects of Basic Peptides on the Adherence of *Streptococcus mutans*. M. MARUYAMA*, M. MIYAKE, Y. OCHIAi, and K. KANEKO (*Oral-Care Research Laboratories, Lion Corp., Kanagawa, Japan*).

1447 Zinc-dependent Antibacterial Activity of Salivary Histatin Peptides. E.L. THOMAS*, M.M. JEFFERSON, and T.A. SAVELL (*Dental Research Center & Biochemistry Department, University of Tennessee, Memphis, USA*).

1448 Chitin Hydrolases of the Oral Pathogen, *Candida albicans*. C.H. HONG* and C.A. SPECHT (*Boston University, MA, USA*).

1449 Activity of Quinolones to Oral Anaerobic and Capnophilic Bacteria. W. PFISTER*, S. EICK, and S. ASSEFA (*University of Jena, Germany*).

1450 Antimicrobial Resistance of Subgingival Isolates from Indigenous Indians of Guatemala. S.A. DOWSETT*, M.J. KOWOLIK, L. ARCHILA, B.J. PASTER, and D.J. LEBLANC (*IUSD, Indianapolis, USA; Faculta Odontologia UMG, Guatemala City; and The Forsyth Institute, Boston, USA*).

1451 Alcian Blue: Photodynamic Effects on Micro-organisms Using Different Light Sources. N. PHILLIPS* and M.C. GOLDSCHMIDT (*University of Texas Health Science Center at Houston, USA*).

1452 Genetic Relationship between *S. mutans* Isolates before and after Xylitol Exposure. M.C. ROBERTS*, C.A. RIEDY, S.E. COLDWELL, K. JUDGE, and P. MILGROM (*University of Washington, Seattle, USA*).

1453 Gram-positive Macrolide and Mercury Genes Transfer Together in Bacteria. V.A. LUNA*, H.S. LUIS, M. BERNARDO, J. LEITÃO, and M.C. ROBERTS (*University of Washington, Seattle, USA; and University of Lisbon, Portugal*).

1454 β -lactamases and Antimicrobial Susceptibilities in Periodontal Bacteria Isolated in Norway. T. HANDAL*, D.A. CAUGANT, and I. OLSEN (*University of Oslo and National Institute of Public Health, Oslo, Norway*).

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Poster Session, Exhibition Hall

Periodontal Research - Periodontal Disease Measures and Markers

1455 Prevalence of Periodontitis and Risk Indicators. F. HERRERA*, M. ZAZUETA, and G. JIMÉNEZ (*Faculty of Dentistry, Autonomous University of Campeche, Mexico*).

1456 Common Supragingival Plaque Scores in Regularly Maintained Patients without Further Disease Progression. E.A. MONIN, M.P. CARR, and J.E. HORTON* (*Ohio State University, Columbus, USA*).

1457 Identifying and Surveying Individuals with Periodontitis Using Third-party Data. M.A. DEL AGUILA* and P.P. HUJOEL (*University of Washington and Washington Dental Service, Seattle, USA*).

1458 Localized Juvenile Periodontitis in Kuwaiti High School Students. J. AL-ANSARI*, W. AL-ALI, and G.M. GILLESPIE (*Public Authority for Applied Education and Ministry of Health, Kuwait*).

1459 Relationship among Gender, Race, Age, and Keratinized Gingiva Width in Deciduous Teeth. I.S. GOMES-FILHO*, S.C. TRINDADE, J.S. PASSOS, S.S. CRUZ, and T.N. MACEDO (*Feira de Santana State University, Brazil*).

1460 *In vitro* Study for Ultrasound Diagnostics in Periodontology and Implantology by Amplitude and Brightness Scans. P. HERMANUTZ*, A. HOMMENS, and G. WAHL (Department of Oral Surgery, University of Bonn, Germany).

1461 Periodontal Disease Diagnosis Using a Non-invasive Sonographic Probe. J.E. LYNCH*, G.B. MCCOMBS, and M.K. HINDERS (College of William and Mary, Williamsburg, and Old Dominion University, Norfolk, VA, USA).

1462 Evaluation of Computer Display Systems for the Detection of Periodontal Bone Loss. J.C. GUIDRY*, S.B. DOVE, W.S. MOORE, and W.D. MCDAVID (University of Texas Health Science Center at San Antonio, USA).

1463 Comparable Percent Bone Loss Scores Using Periapical or Panoramic Radiography. D. ADAMS*, H. GREENWELL, C. DRISKO, and J.P. SCHEETZ (University of Louisville, KY, USA).

1464 Use of Computed Tomography in the Early Stage of Periodontal Diseases. A. PISTORIUS*, K. MILDENBERGER, and B. WILLERSHAUSEN (Department of Restorative Dentistry and Clinic for Radiology, Johannes Gutenberg University Mainz, Germany).

1465 Independent Analyses of Microbiological Samples by Three Oral Testing Laboratories. L. COHEN*, T.E. RAMS, J. SLOTS, and C. WALKER (University of Florida, Gainesville, Temple University, Philadelphia, and USC, Los Angeles, USA).

Seq#: 174 Friday, March 9, 3:45 pm - 5:00 pm
Poster Session, Exhibition Hall

Periodontal Research - Microbial Virulence, Fibroblasts, Bone

1466 Effects of *Porphyromonas gingivalis* Complex Lipids on Human Gingival Fibroblasts. G. BETANCOURT* and F.C. NICHOLS (School of Dental Medicine, University of Connecticut, Farmington, USA).

1467 The Influence of the Bacterial LPS on the CGRP Immuno-reactive Nerve Fibers in Rat Gingival Tissue. A. SUGAYA*, H. SUGIMOTO, N. MOGI, H. TSUJIGAMI, and S. DEGUCHI (Department of Periodontology, Kanagawa Dental College, Yokosuka, Japan).

1468 Stealth Lipopolysaccharide and Lipid A from *Prevotella denticola* and *P. intermedia*. T. EALY*, R.H. GENTZLER, III, K.M. PABST, J.P. BABU, and M.J. PABST (College of Dentistry, University of Tennessee, Memphis, USA).

1469 Terminal Restriction Fragment Length Polymorphism Analysis of Dental Plaque. R.J. HUBBARD* and K.D. PARRISH (University of Kentucky, Lexington, USA).

1470 Construction of a Transposition System for *Prevotella intermedia*. K.-P. LEUNG, A.S. LEWIS*, and S.P. CONCANNON (US Army Dental Research Detachment, Great Lakes, IL, USA).

1471 Partial Purification of Dipeptidyl Peptidase IV of *Capnocytophaga gingivalis*. P.J. TEMPRO* and L. MIKULSKI (School of Dental Medicine, University at Buffalo, NY, USA).

1472 Lipopolysaccharide's Effect on hTLR mRNA in Monocytes and Endothelial Cells. D.R. DIXON*, S. TANG, B.W. BAINBRIDGE, R.P. DARVEAU, and F.A. ROBERTS (University of Washington, Seattle, and the US Army Dental Corps, USA).

1473 Expression of Human Toll-like Receptor mRNA in Gingival Cells. N.S. ESMAIL*, S. TANG, D.R. DIXON, S. BORDIN, and F.A. ROBERTS (University of Washington, Seattle, USA).

1474 The Role of Spindle Cell Variants of OSCC in Matrix Metalloproteinase Expression. T. BURKE*, M. DABBOUS, A. CAMERON, M. BLANCET, M. EL-TORKY, K. ROBBINS, and L. HANEY (Health Science Center, University of Tennessee, Memphis, USA).

1475 Periodontal Fibroblast-derived HGF Induces Gingival Epithelial Cell Chemotaxis. M. OHSHIMA*, K. AKITOMI, S. SATO, M. MAENO, and K. OTSUKA (Department of Biochemistry, School of Dentistry, Nihon University, Tokyo, Japan).

1476 Possible Implication of Senescent Gingival Fibroblasts in Gingival Microenvironment. K. WATANABE*, B.-D. CHANG, and I.B. RONINSON (University of Illinois at Chicago, USA).

1477 Non-antimicrobial CMTs are Potent Inhibitors of Endotoxin-induced Alveolar Bone Loss. M.E. RYAN, M.K. BOOKBINDER*, H.M. LEE, N.S. RAMAMURTHY, and L.M. GOLUB (SUNY at Stony Brook, USA).

1478 Progestational Effects on Matrix Metalloproteinases in Human Gingival Fibroblasts. J.E. LOHSE*, C.A. LAPP, J.B. LEWIS, D. DICKINSON, P.J. HANES, and M.A. BILLMAN (Medical College of Georgia, Augusta, USA).

1479 Impairment of Osteocalcin Production in Senescent Periodontal Ligament Fibroblasts. Y. SAWA*, Y. YAMAOKA, and S. YOSHIDA (Graduate School of Dental Medicine, Hokkaido University, Sapporo, Japan).

1480 Cyclosporine-A, Nifedipine, and Phenytoin Alter Macrophage Differentiation and Gene Expression. S. NARES*, G.M. ALBRIGHT, K.K.H. SVOBODA, C.W. CUTLER, and A.M. IACOPINO (Baylor College of Dentistry, Texas A & M University System, Dallas, USA).

Seq#: 175 Friday, March 9, 3:45 pm - 5:00 pm
Poster Session, Exhibition Hall

Periodontal Research - Antimicrobial and Anti-inflammatory Drugs, Root Conditioning

1481 Locally Delivered Microencapsulated Minocycline (MPTS) in the Treatment of Moderate Adult Periodontitis. R. WILLIAMS, D. PAQUETTE*, S. OFFENBACHER, T.E. VAN DYKE, N.P. LANG, D.L. COCHRAN, R.C. PAGE, G. McDONALD, E. SANTUCCI, and J. LESSEM (University of North Carolina, University of Bern (Switzerland), Boston University, University of Texas San Antonio, University of Washington, and OraPharma, Inc., Warminster, PA, USA).

1482 Topical Use of GM-CSF Helps Control Radiation-induced Mucositis. B. LEBLEBICIOGLU*, M. ALTUN, R. COSAR, G. HAFIZ, E. KAYTAN, H. KOYUNCU, H. NOGAY, E. ORAL, B. ONGEN, and S. TAS (University of Istanbul, Turkey).

1483 Inhibitory Effect of Incadronate for Bone Resorption Induced by *P. gingivalis*. N. TANI-ISHII*, D. SAITOH, G. MINAMIDA, H. OMURO, A. SUGAYA, N. HAMADA, Y. TAKAHASHI, A. TSUNODA, K. CHIEDA, S. KIYOHARA, I. KASHIMA, T. TERANAKA, and T. UMEMOTO (Kanagawa Dental College, Japan).

1484 Ciprofloxacin Enhances Phagocytic Killing of *Actinobacillus actinomycetemcomitans* by PMNs. D.A. CACCHILLO*, T.A. HIRE, R.J. NAKKULA, and J.D. WALTERS (Ohio State University, Columbus, USA).

1485 Subantimicrobial Dose Doxycycline (SDD) Reduces TNF- α & MMP-9 Production in Human Monocytes. H.M. LEE*, L. HERNANDEZ, S. SIMON, Y. LIU, M.E. RYAN, and L.M. GOLUB (SUNY at Stony Brook, USA).

1486 The Effect of EDTA in Attachment Gain and Root Coverage. M.M. KASSAB*, S. ANDREANA, P.J. BUSH, and R.E. COHEN (SUNY at Buffalo, NY, USA).

1487 An *in vitro* Model for Characterization of Fluoroquinolone Transport by Oral Epithelium. J.J. BRAYTON and J.D. WALTERS* (Section of Periodontology, Ohio State University, Columbus, USA).

Seq#: 176 Friday, March 9, 3:45 pm - 5:00 pm
Poster Session, Exhibition Hall

Oral & Maxillofacial Surgery - Dento-alveolar, Craniofacial, and Orthognathic Surgery

1488 Difference in Incidence of Osteoradionecrosis of the Mandible among Patients Who Were Referred for Pre-radiation Dental Evaluation Compared with Those Who Were Not Referred. C.T. LIBBEY* and A.O. ABUBAKER (*School of Dentistry, Virginia Commonwealth University, Richmond, USA*).

1489 Dental Extraction Prevalence for Patients on Anticoagulant Therapy at Virgen Macarena University Hospital. C. MACHUCA*, C. GUERRA, A. MARQUEZ, F. SANCHEZ-CASTILLO, J. SAIZ-MOREJON, F. CARRASCO, M. LOPEZ, and P. BULLON (*Department of Stomatology and Department of Hematology, Virgen Macarena University Hospital, and School of Dentistry, University of Seville, Spain*).

1490 Histomorphometric Analysis of Mineralized Freeze-dried Bone as a Grafting Material for Sinus Lift Procedure. E. REZVAN*, J.C. MITCHELL, and L. KUPP (*Ohio State University, Columbus, USA*).

1491 Meta-analysis of Efficacy of Chlorhexidine in Prevention of Alveolar Osteitis. L.G. HUNG*, A. CASO, and O.R. BEIRNE (*University of Washington, Seattle, USA*).

1492 Chlorhexidine Rinsing and Dry Socket after Surgical Extraction of Third Molars. J.R. PICHLER* and O.R. BEIRNE (*University of Washington, Seattle, USA*).

1493 Tooth Position and Patients' Perceived Recovery Following Third Molar Surgery. G.C. HEYMANN*, C. PHILLIPS, D.C. SHUGARS, and R. WHITE (*School of Dentistry, University of North Carolina, Chapel Hill, USA*).

1494 Patient Satisfaction Following Nerve Repair Surgery. N.P. LAM* and T.B. DODSON (*Harvard School of Dental Medicine, Massachusetts General Hospital, Boston, USA*).

1495 An Analysis of Selected Bioimplants for Closure of Critical Size Cranial Vault Defects. H.G. MOGHADAM, M. LIT*, D.K. HWANG, and C.M.L. CLOKIE (*Orthobiologics Research Group, University of Toronto, Canada*).

1496 Pre-hospital Interventions for Patients with Craniofacial and Maxillofacial Fractures. S.P. MURPHY*, L.A. ASSAEL, L.M. JACOBS, M.T. GOUPIL, and D.M. SHAFER (*University of Connecticut, Farmington, USA*).

1497 The Determination of Readiness for Orthognathic Surgery. C. WILLIAMS*, J.D. RUGH, J.P. HATCH, and L.W. WHITE (*University of Texas Health Science Center at San Antonio, USA*).

1498 Cephalogram, Soft Tissue Face, and Dental Cast 3D Image Alignment. J. GANNE*, D. DEAN, M.G. HANS, J.M. PALOMO, and J. MIN (*Case Western Reserve University, Cleveland, OH, USA*).

Seq#: 177 Friday, March 9, 3:45 pm - 5:00 pm
Poster Session, Exhibition Hall

Pharmacology, Therapeutics, & Toxicology - Oral Health and Therapeutics

1499 Purification of Dental Monomers to Improve Biocompatibility. R.E. SMITH*, J.D. EICK, E.L. KOSTORYZ, and D.M. YOURTEE (*University of Missouri-Kansas City, USA*).

1500 Chronic Effects of Dental Fissure Sealant on *Gambusia affinis*. S.L. CHEUK, G.W. CHEUK, R.A. BARRETT*, and N.K. SARKAR (*LSU School of Dentistry, New Orleans, USA*).

1501 Effect of Fissure Sealant Leachate on Embryo Mortality of Zebrafish. S.L. CHEUK*, G.W. CHEUK, and N.K. SARKAR (*LSU School of Dentistry, New Orleans, USA*).

1502 Evaluation of the Subjective Component in Dental Hypersensitivity Studies. F. CURRO, L. GENDREAU, A. SWERN, E. TROULLOS*, and J. SOWINSKI (*Block Drug Company, Inc., Jersey City, NJ, and Erie Community College, N. Buffalo, NY, USA*).

1503 Inhibitory Effects of Oxidizing Water on Early Plaque Formation. K. SHIMADA*, M. KAMAGA, and K. ITO (*School of Dentistry, Nihon University, Tokyo, Japan*).

1504 Clinical Evaluation of a Smoking-deterrent Mouthwash. K.L. KIRKWOOD, S.G. CIANCIO, and M.L. MATH-ER* (*Center for Dental Studies, University at Buffalo, NY, USA*).

1505 Fluoride Concentration in Infant Foods and Risk of Dental Fluorosis. D.R.M. FERNANDES, C.M. TABCHOURY, and J.A. CURY* (*Faculty of Dentistry of Piracicaba, UNICAMP, Brazil*).

1506 Treatment of Dental Fluorosis with Non-invasive Techniques. J.P. LOYOLA*, A.J. POZOS, M.R. BERUMEN, and F.M. HERNANDEZ (*Dental Research Center, San Luis Potosi University, Mexico*).

1507 Fluoride Content of Selected Popular Beverages in America. C.R. OAKLEY* and J.T. CHAN (*Houston Dental Branch, University of Texas Health Science Center, USA*).

1508 Development of Sustained-release Anti-oxidants for Use in Wound Healing Therapy. F. CANCAÑÓN, N.J. JOHNSON, G.L. BARNETT, H. HIXSON, D. RODRIGUEZ, J.R. AMMANN, and B.F. PAULUS* (*US Army Dental Research Detachment, Great Lakes, IL, USA*).

1509 Inhibition of Tumor Cell Invasiveness by Chemically Modified Tetracyclines. Y. GU*, M. KOTHARI, H.M. LEE, E. ROEMER, L.M. GOLUB, and S. SIMON (*State University of NY at Stony Brook, USA*).

1510 Effects of Three Mouthrinses on Oral Malodor. L.C. BORDEN*, E.S. CHAVES, J. BOWMAN, B.M. FATH, and G.L. HOLLAR (*Hill Top Research, W. Palm Beach, FL, and Miamiville, OH, and Discus Dental, Inc., Culver City, CA, USA*).

Seq#: 178 Friday, March 9, 3:45 pm - 5:00 pm
Poster Session, Exhibition Hall

Oral Medicine & Pathology - Human Oral Cancer/Precancer; Clinical Oral Medicine

1511 Oral Mucosal Variations in Differentially Expressed Squamous Cell (DESC1) Expression. S.P. JACOBSON*, S.R. MALLERY, G.M. NESS, and J.C. LANG (*Ohio State University, Columbus, USA*).

1512 Leukoplakia with High-risk Genotype is Inadequately Treated: A Molecular Analysis. L. ZHANG*, C.F. POH, W.L. LAM, J. EPSTEIN, X. CHENG, X. ZHANG, R. PRIDDY, J. LOVAS, N.D. LE, F. QIAO, L. XIE, and M.P. ROSIN (*University of British Columbia and Simon Fraser University, BC, Canada*).

1513 Loss of Heterozygosity, A Sign of Premalignancy in Verrucous Lesions. C.F. POH*, L. ZHANG, W.L. LAM, X. ZHANG, J. EPSTEIN, D. AN, C. CHAU, R. PRIDDY, M. LIU, H. NAKAMURA, and M.P. ROSIN (*University of British Columbia and Simon Fraser University, BC, Canada*).

1514 Chromosomal Regions Potentially Involved in Oral Cancer Progression. A.S. ISHKANIAN*, D. WALSH, M.P. ROSIN, L. ZHANG, and W.L. LAM (*British Columbia Cancer Agency, Vancouver, Canada*).

1515 Cystatin C and E/M in Oropharyngeal Squamous Cell Carcinomas. N. VIGNESWARAN*, S. MULLER, and W. ZACHARIAS (*Houston Dental Branch, University of Texas, Emory University, and University of Louisville, USA*).

1516 Inflammatory Cytokine Levels in Oral Fluids of Patients with Oral Lichen Planus (OLP). V. HO*, N.L. RHODUS, S. MYERS, and F. ONDREY (*University of Minnesota, Minneapolis, USA*).

1517 Antifungal Susceptibility in Radiation Patients Receiving Fluconazole Pre-emptive Therapy. S. REDDING*, W.R. KIRKPATRICK, J.L. LOPEZ-RIBOT, A. FOTHERGILL, M. RINALDI, and T.F. PATTERSON (*University of Texas Health Science Center, San Antonio, USA*).

1518 Molecular Analysis of *Candida* in Radiation Patients Receiving Pre-emptive Fluconazole. W.S. WHITE*, S. REDDING, M. MARTINEZ, B.J. COCO, J.L. LOPEZ-RIBOT, W.R. KIRKPATRICK, and T.F. PATTERSON (*University of Texas Health Science Center and South Texas Veterans Health System, San Antonio, USA*).

1519 Conditions Influencing Heteroduplex Tracking Analysis of Salivary HIV-1. S.A. FREEL* and D.C. SHUGARS (*Schools of Dentistry and Medicine, UNC, Chapel Hill, USA*).

Seq#: 179 Friday, March 9, 3:45 pm - 5:00 pm
Poster Session, Exhibition Hall

Craniofacial Biology - Orthodontic Diagnosis and Treatment Outcome: Predictors, Methods of Evaluation

1520 Predictors of Uptake of Surgical-orthodontic Treatment. L.C. KRONER*, S.V. SHANKER, M. BECK, and K.W.L. VIG (*Ohio State University, Columbus, USA*).

1521 Use of Cervical Vertebrae for Skeletal Assessment in Pre-adolescents. L. PITNER* and J.F.C. TULLOCH (*University of North Carolina, Chapel Hill, USA*).

1522 Wrist Bone Maturation Compared with Dental Age in Girls. H.T. LOEVY*, L. TASCHINI, and A.F. GOLDBERG (*University of Illinois at Chicago, Veterans Affairs Medical Center, North Chicago, and Northwestern University School of Dentistry, USA*).

1523 Magnetic Resonance Image Diagnosis and Surgical Finding in TMJ Disorder Patients. J.O. PARKER, B.C. STACK, Jr., D.J. FERGUSON, D.M. KILLIANY, and J.L. GARCIA* (*CADE, Saint Louis University, MO, USA*).

1524 Reliability of *in vitro* Ultrasound Measurements of Human Masseter Volume. P.K. UPATHAM*, G.S. THROCKMORTON, and P.H. BUSCHANG (*Baylor College of Dentistry, Texas A&M University Health Science Center, Dallas, USA*).

1525 Cephalometric Digitization: Determination of Minimum Scanner Settings for Precise Landmark Identification. C.L. HELD, D.J. FERGUSON, D.M. KILLIANY, and J.J. MAGINIS* (*CADE, Saint Louis University, MO, USA*).

1526 Peer Assessment Rating Index and Functional Outcome. K. HANYSAK*, J.D. RUGH, J.P. HATCH, and B.H. JOO (*University of Texas Health Science Center at San Antonio, USA; and Samsung Medical Center, Seoul, Korea*).

1527 Comparison of Digital vs. Physical Records of an Orthodontic Patient. D. KALAKECH*, J.M. PALOMO, and M.G. HANS (*CADE, Saint Louis University, MO, and Case Western Reserve University, Cleveland, OH, USA*).

1528 Arch Growth and Development in American Black Children. D.A. SINGLETON* and E.F. HARRIS (*University of Tennessee, Memphis, USA*).

1529 Long-term Skeletal Changes in Early Treated Hyperdivergent Class II Division 1 Patients. J.B. JUNKIN, L.M. ANDRIA*, and M.J. DEL SIGNORE (*Medical University of South Carolina, Charleston, USA*).

Seq#: 180 Friday, March 9, 3:45 pm - 5:00 pm
Poster Session, Exhibition Hall

Craniofacial Biology - Tooth Movement: Biology, Mechanical Factors

1530 Osteoclast Recruitment to Sites of Compression in Orthodontic Tooth Movement. W.J. RODY, Jr.*, G.J. KING, and G. GU (*Departments of Orthodontics and Oral Biology, School of Dentistry, University of Washington, Seattle, USA*).

1531 Root Resorption during Orthodontic Tooth Movement in an Animal Model of Post-menopausal Osteoporosis. D.A. COVELL, Jr.*, H. CHUNG, B. MACEDO, and R.D. HARTEN (*University of Medicine and Dentistry of New Jersey, Newark, USA*).

1532 Time-lapse Imaging and Quantification of Collagen Alignment by Human Periodontal Ligament Fibroblasts. R.K. SAWHNEY* and J. HOWARD (*University of Washington, Seattle, USA*).

1533 The Novel IPG Insulin Inhibitor, Fraction V₃, Stimulates Apoptosis in Fibroblasts. G. GALASKO* (*School of Dental Medicine, Southern Illinois University, Alton, USA*).

1534 Trans-mucosal Delivery of Drugs to the Periodontium. D.E. WOJTKOWSKI*, G. GU, A. VAKOULA, G.J. KING, and K.W. SNOWDOWNE (*University of Washington, Seattle, and University of the Pacific, San Francisco, CA, USA*).

1535 Apoptosis of Osteoclasts at Compression Sites during Orthodontic Tooth Movement. S.J. NOXON*, G.J. KING, G. GU, and G.J. HUANG (*University of Washington, Seattle, USA*).

1536 Effects of Surface Topography and Ligation on the Frictional Characteristics of Orthodontic Brackets and Wire Combinations. R.M. YOON, B. SHROFF*, J.A. VON FRAUNHOFER, and D. AROLA (*Dental School and School of Engineering, University of Maryland, Baltimore, USA*).

1537 Comparison of the Shear Bond Strength of Two Orthodontic Adhesives in Dry and Moisture-contaminated Environment. J.M. WYMAN, J. POTTER*, D.P. GIPE, and B. SHROFF (*Dental School, University of Maryland, Baltimore, USA*).

1538 Interbracket Distances in Facial and Lingual Orthodontic Appliances. D.D. CHAMBERLAIN*, A.D. BRITTO, and S.J. LINDAUER (*School of Dentistry, Virginia Commonwealth University, Richmond, USA*).

1538B Evaluation of the Elemental Release for Tynin High-Copper Dental Amalgam. B.I. COHEN* and B. PENUGONDA (*Essential Dental Laboratories, S. Hackensack, NJ, and New York University, USA*).

Seq#: 181 Saturday, March 10, 8:00 am - 8:45 am
Plenary Session, Grand Ballroom F

Surgeon General's Report on Oral Health: Update and Framework for Action

1539 8:00 Oral Health Improvement: Opportunities at the Intersection of Good Intention and Action. C. EVANS* (*Washington, DC, USA*).

Seq#: 182 Saturday, March 10, 9:00 am - 11:00 am
AADR Group-sponsored Symposia
Grand Ballroom B

Oral Health Research and Periodontal Research Groups – Clinical Significance of Non-surgical Periodontal Therapy: An Evidence-based Approach

Chairpersons: M. Jeffcoat and R. Wilder

1540 9:00 Clinical Significance of Non-surgical Periodontal Therapy: An Evidence-based Perspective. R.S. WILDER* and R.D. FINKELMAN (*School of Dentistry, University of North Carolina, Chapel Hill, and AstraZeneca LP, Westboro, MA, USA*).

9:10 Clinical Significance of Scaling and Root Planing. C.M. COBB (*University of Missouri, Kansas City, US*).

9:40 Clinical Significance of Systemic Chemotherapies, S.G. CIANCIO (*State University of New York, Buffalo, US*).

10:05 Clinical Significance of Local Chemotherapies. W.J. KILLOY (*Kapoiei, HI, US*).

10:40 Perspectives on Treatment – What is Clinical Significance? M.K. JEFFCOAT (*University of Alabama, Birmingham, US*).

Seq#: 183 Saturday, March 10, 9:00 am - 11:00 am
AADR Group-sponsored Symposia
Grand Ballroom F

Behavioral Sciences & Health Services Research Group – Opportunity: Creating a National Oral Health Plan

Chairperson: C. Evans

1541 9:00 Opening Comments

9:05 Framework for Action. C. EVANS (*NIH, Bethesda, MD, US*).

9:25 Building and Involving Constituencies. W. MOURADIAN (*University of Washington, Seattle, US*).

9:45 Involving Communities. A. BOLDEN (*Boston University, MA, US*).

10:05 Implications for Research and Academia. I. MANDEL (*Cedar Grove, NJ, US*).

10:25 Implications for Dental Practices. L. SELDIN (*ADA, New York, US*).

10:45 Discussion

Seq#: 184 Saturday, March 10, 9:00 am - 11:00 am
AADR Group-sponsored Symposia
Regency B

Dental Materials and Implantology Research Groups – Tooth- and Implant-supported Prostheses Biomechanics

Chairperson: T. Vijayaraghavan

1542 9:00 Symposium: Tooth- and Implant-supported Prostheses and Biomechanics. I. ZINNER, M. PINES, A.B. CARR, J.B. BRUNSKI, and T.V. VIJAYARAGHAVAN (*NYUCD, New York, Ohio State University, Columbus, and RPI Troy, NY, USA*).

9:05 Clinical Practices: Biological and Implant-supported Prostheses. I. ZINNER (*New York University, NY, US*).

9:40 Clinical Success – Biological- and Implant-supported Prostheses. A.B. CARR (*Mayo Graduate School of Medicine, Rochester, MN, US*).

10:15 Biomechanical Principles: Modeling and Implant/Prostheses Design. J.B. BRUNSKI (*Rensselaer Polytechnic Institute, Troy, NY, US*).

10:50 Discussion

Seq#: 185 Saturday, March 10, 9:00 am - 11:00 am
Oral Session, Columbus Hall C

Cariology Research - Caries Diagnosis, Soft Drinks, Radiation, and Caries

Chairpersons: K. Heller and M. Analoui

1543 9:00 Dental Behaviors and Attitudes in Children in Radiated Areas of Ukraine. K. SPIVAK*, C. HAYES, J. MAGUIRE, V. LAZAREV, S. IARUK, G. GORBUNOVA, and E. SCHWAB (*Harvard School of Dental Medicine, Boston, MA, USA*).

1544 9:15 Associations between Sugared Soda Consumption and Permanent Tooth Caries. K. HELLER*, B. BURT, and S. EKLUND (*Dental Public Health, School of Public Health, University of Michigan, Ann Arbor, USA*).

1545 9:30 Visual Assessment of Occlusal Caries: A Web-based Dentists' Survey. S.F. ROSENSTIEL* and R.G. RASHID (*Ohio State University, Columbus, USA*).

1546 9:45 Relationship among CVA, ECM, and DIAGNOdent. R.K. CHESTERS*, E. HUNTINGTON, A. KVEDARIENE, R. SABALAITE, A. GENDIVILYTE, G. MATULIENE, and J.A. NICHOLSON (*Unilever Research, Port Sunlight, UK; and Vilnius University, Lithuania*).

1547 10:00 Use of DIAGNOdent for Caries Diagnosis on Posterior Approximal Surfaces. J.R. MATHESON*, I. BALCIUNINE, A. GENDIVILYTE, E. HUNTINGTON, A. KVEDARIENE, and N.B. PITTS (*Unilever Research, Port Sunlight, UK; Vilnius University, Lithuania; and Dundee University, UK*).

1548 10:15 High-resolution Computed Tomography for Caries Validation: A Pilot Study. M. ANALOUI*, H. EGGERTSSON, A. LAIB, and G.K. STOOKEY (*School of Dentistry, Indiana University, Indianapolis, and University of California at San Francisco, USA*).

10:30 Discussion

Seq#: 186 Saturday, March 10, 9:00 am - 11:00 am
Oral Session, Columbus Hall G

Craniofacial Biology - Sutures and Craniofacial Defects

Chairpersons: J. Borke and M. Ignelzi

1549 9:00 FGF2 Down-regulates *FgfR2* and *M-Twist* in Mouse Calvarial Sutures. M.A. IGNELZI, Jr.*, W. WANG, J.L. DREIER, and G.S. KANG (*Department of Orthodontics and Pediatric Dentistry, School of Dentistry, University of Michigan, Ann Arbor, USA*).

1550 9:15 Perturbation of TGFβ2 Inhibits Rat Cranial Suture Fusion. A.M. MOURSI*, P.L. WINNARD, A.V. WINNARD, and M.P. MOONEY (*Ohio State University, Columbus, and University of Pittsburgh, PA, USA*).

1551 9:30 TGF-β1 Regulates Hyaluronan-mediated Growth in Cranial Base Synchronoses. P.T. GAKUNGA* and L.A. OPPERMAN (*University of Texas Health Science Center, San Antonio, and Baylor College of Dentistry, Texas A&M University System Health Sciences Center, Dallas, USA*).

1552 9:45 TGF-β3 in Collagen Gels Rescues Rat Posterior Frontal Sutures from Fusion *in vivo*. G.M. COOPER*, J.R. SAYNE, A. WILLIAMS, A.M. MOURSI, and L.A. OPPERMAN (*Baylor College of Dentistry, Texas A&M University Health Sciences Center, Dallas, USA*).

1553 10:00 Cell Ca⁺⁺ Increase in Immature Sutures under Tension is Independent of Traditional Ca⁺⁺-channel and ER Ca⁺⁺-ATPase Function. J.L. BORKE*, K. FRYBURG, and J.C. YU (*Medical College of Georgia, Augusta, USA*).

1554 10:15 Cyclopamine and Cyclopamine-4-en-3-one-induced Craniofacial Defects. J. OH*, D. CORDERO, and J.A. HELMS (*Harvard School of Dental Medicine and University of California at San Francisco, USA*).

1555 10:30 Transgenic *Bmp4* Expression Rescues Cleft Palate in *Mx1*-deficient Mice. Y.P. CHEN*, Z. ZHANG, Y. SONG, X. ZHAO, and X. ZHANG (*Tulane University, New Orleans, LA, USA*).

1556 10:45 Identification of a Candidate Gene for Cleft Lip and Palate. S. BEIRAGHI*, M. ZHU, and J. SUMEGI (*University of Minnesota, Minneapolis, and University of Nebraska Medical Center, Omaha, USA*).

Seq#: 187 Saturday, March 10, 9:00 am - 11:00 am
Poster Discussion Session
Grand Ballroom C

Craniofacial Biology - Dental Morphology and Development

Chairpersons: T. Popowics and H. Loevy

1557 9:20 Reliability of Estimating the Proximity of Posterior Occlusal Surfaces. S. OWENS*, P.H. BUSCHANG, G.S. THROCKMORTON, and J. ENGLISH (*Baylor College of Dentistry, Texas A&M University System Health Science Center, Dallas, USA*).

1558 9:30 Are Intercuspal Distances, Cusp Heights, and Tooth Sizes Related? D. CIESLA*, P.H. BUSCHANG, G.S. THROCKMORTON, and J. ENGLISH (*Baylor College of Dentistry, Texas A&M University Health Science Center, Dallas, USA*).

1559 9:40 Thickness of Enamel at Proximal Contact Areas of Premolar Teeth. T. JOLLEY*, J. BURCH, and F. ERASO (*Nova Southeastern University, Ft. Lauderdale, FL, USA*).

1560 9:50 Attrition Patterns in the Primary Dentition. T. YONEZU*, J.J. WARREN, S.E. BISHARA, and K.L. STEINBOCK (*Tokyo Dental College, Chiba City, Japan; and University of Iowa, Iowa City, USA*).

1561 10:00 Effects of Chorionicity on Tooth Size of Monozygotic Twins. B.G. BURRIS*, E.F. HARRIS, and R.H. POTTER (*University of Tennessee, Memphis, USA*).

1562 10:10 Cementum Hypoplasia in Patients with Cleidocranial Dysplasia. C. NURKO*, X.H. SUN, and J.C.-C. HU (*University of Texas Health Science Center at San Antonio, USA*).

1563 10:20 The Effect of Ultrasound on Transected Incisors in Osteodistracted Rabbit Mandibles. T. EL-BIALY*, C.A. EVANS, and A.E. ZAKI (*College of Dentistry, University of Illinois at Chicago, USA*).

1564 10:30 Enamel Structure and Cusp Strain in Human and Pig Molars. T.E. POPOWICS*, J.M. RENSBERGER, and S.W. HERRING (*University of Washington, Seattle, USA*).

10:40 Discussion

Seq#: 188 Saturday, March 10, 9:00 am - 11:00 am
Oral Session, Regency A

Dental Materials - Resin Composite Bonding to Enamel, Dentin, and Metal Substrates

Chairpersons: M. Latta and J. Walden

1565 9:00 Glow Discharge Treatment Improves Shear Bond Strength of "Linked" Composite to Metal. A. SAMPATH*, P. McCABE, R.E. BAIER, and A.E. MEYER (*State University of New York at Buffalo, USA*).

1566 9:15 Fracture Strength of Conventionally and Adhesively Cemented FRC-FPDs. M. BEHR*, M. ROSENTRITT, E. LEDWINSKY, R. LANG, and G. HANDEL (*University of Regensburg, Germany*).

1567 9:30 Bond Strength of Single-bottle Adhesives to Dual-cured Cements on Dentin. M.Y. SCHILTZ, P.L. BROWN*, L. SHARP, and B.I. SUH (*Bisco, Inc., Schaumburg, IL, USA*).

1568 9:45 Microtensile Bond Strength of Composite to Different Enamel Rod Angulations. M.A. VARGAS, M.A. LATTA*, G. IBARRA, and S.R. ARMSTRONG (*Creighton University, Omaha, NE, and University of Iowa, Iowa City, USA*).

1569 10:00 Shear Bond Strengths of Precision-aligned Orthodontic Brackets to Enamel. K. NORTON* and E.P. LAUTENSCHLAGER (*Northwestern University Dental School, Chicago, IL, USA*).

1570 10:15 Acidic Primers Utilized to Bond Orthodontic Resins to Enamel. R.G. STRATMANN* and J.M. POWERS (*Houston Biomaterials Research Center, Houston Dental Branch, University of Texas, USA*).

1571 10:30 Degradation Analysis of Resin-Dentin Bonds Using NaOCl Storage Testing. M. YAMAUTI*, M. HASHIMOTO, H. SANO, M. KAGA, R.M. CARVALHO, H. OHNO, and H. OGUCHI (*USP Bauru, Brazil; Hokkaido University, and Health Sciences University of Hokkaido, Japan*).

1572 10:45 Marginal Adaptation of Compomer and Composite Restorations Using Dentin Adhesives. R. IHM, J. MUNACK*, W. GEURTSEN, and G. HILLMANN (*Dental School, Medical University, Hannover, Germany*).

Seq#: 189 Saturday, March 10, 9:00 am - 11:00 am
Poster Discussion Session, Grand Ballroom D

Dental Materials - Adhesives: Bond Strength and Microleakage Studies

Chairpersons: L. Gettleman and J. Powers

1573 9:20 Shear Bond Study of Dental Adhesives. R.L. LIT-TLEJOHN*, A.D. PUCKETT, J.E. LONGINO, and C.C. INMAN (*University of Mississippi Medical Center, Jackson, USA*).

1574 9:30 Comparison of 5th- and 6th-generation Dentin Bonding Agents. J. GOLE*, A.L. NEME, P. YAMAN, W.C. WAGNER, and F.E. PINK (*University of Detroit Mercy and University of Michigan, Ann Arbor, USA*).

1575 9:40 Relationship between Nanoleakage and Long-term Durability of Dentin Bond. M. OKUDA*, P.N.R. PEREIRA, S. YAMAGUCHI, M. NAKAJIMA, and J. TAGAMI (*Tokyo Medical and Dental University, Japan; and University of North Carolina, USA*).

1576 9:50 Effects of Saliva Contamination on Resin-Resin Bond Strength. S.O. EIRIKSSON*, P.N.R. PEREIRA, E.J. SWIFT, Jr., and H.O. HEYMANN (*University of North Carolina at Chapel Hill, USA*).

1577 10:00 FEA Stresses in Restored Cervical Lesions under Combined Loading Conditions. R. HECOX-HOHL* and M.W. BEATTY (*College of Dentistry, University of Nebraska, Lincoln, USA*).

1578 10:10 Bond Strength of Estenia-Panavia System to Dentin and Enamel. M.J. PELUSO*, J. VAIDYANATHAN, T.K. VAIDYANATHAN, and V.P. THOMPSON (*NJ Dental School, UMDNJ, Newark, USA*).

1579 10:20 Bond Strength to Air-abraded Dentin of Dry/Hydrated One-step Bonding Agents. J.E. WALDEN, L. GETTLEMAN*, and F.M. PARKINS (*School of Dentistry, University of Louisville, KY, USA*).

1580 10:30 Bond Strength of Eight Dentin Bonding Systems to Self-curing Composite. M.S. HAGGE* and J.S. LINDEMUTH (*University of the Pacific, San Francisco, and Travis Air Force Base, CA, USA*).

10:40 Discussion

Seq#: 190 Saturday, March 10, 9:00 am - 11:00 am
Oral Session, Regency C

Dental Materials - Fluoride Release, Biocompatibility, Resin Curing

Chairpersons: G. Schmalz and M. Staninec

1581 9:00 Fluoride Content Uniformity and Release Characteristics of Fluoridated Varnishes. C. SHEN*, J. AUTIO, and C. NOWACKI (*University of Florida, Gainesville, USA*).

1582 9:15 Attachment of Osteoblast-like Cells to Bioactive Glasses. S. FOPPIANO*, D.J. ROWE, P.W. JOHNSON, A.P. TOMSIA, G.W. MARSHALL, and S.J. MARSHALL (*University of California, San Francisco, and Lawrence Berkeley National Laboratory, CA, USA*).

1583 9:30 Apoptosis-resistant Lymphocyte Selection: A Primary Step in 2-hydroxyethylmethacrylate Sensitization. A. JEWETT, M. WANG, and W.R. HUME* (*UCLA School of Dentistry, Los Angeles, USA*).

1584 9:45 Cytotoxic and Mutagenic Effects of Oxiranes and Siloranes in Mammalian Cells. G. SCHMALZ* and H. SCHWEIKL (*Department of Operative Dentistry and Periodontology, University of Regensburg, Germany*).

1585 10:00 Dentin Tensile Strength: Effect of Location and Distance from Pulp. M. STANINEC*, S.A. GANSKY, G.W. MARSHALL, D.H. PASHLEY, and S.J. MARSHALL (*University of California, San Francisco, and Medical College of Georgia, Augusta, USA*).

1586 10:15 Effects of a Triphenolic Disinfectant on Dental Impression Materials. R. PUTTAIAH*, D.G. CHARLTON, C.M. SARGENT, and D. PHAM (*Baylor College of Dentistry, TAMUS HSC, Dallas, and USAF-DIS, Great Lakes, IL, USA*).

1587 10:30 Human Gingival Epithelial Cell Adhesion to a Fluoropolymer Surface. D. YOUNG, D. RUMPF, A. MARIOTTI, and R.R. SEGHI* (*College of Dentistry, Ohio State University, Columbus, USA*).

1588 10:45 Curing Depth of Flowable Composites with a Xenon Curing Light. X. YU* and R.L. IBSEN (*Den-Mat, Santa Maria, CA, USA*).

Seq#: 191 **Saturday, March 10, 9:00 am - 11:00 am**
Oral Session, Columbus Hall K

Mineralized Tissue - Dentin Matrix Proteins/Regulation

Chairperson: A. George

1589 9:00 Transcriptional Regulation of the Proximal DSPP Promoter. S. CHEN, P. PAPAGERAKIS, T.T. GU, and M. MACDOUGALL* (*Dental School, University of Texas Health Science Center at San Antonio, USA*).

1590 9:15 Ectopic Bone DSPP Expression in Transgenic DSPP-1447 to +54^{LacZ} Mice. N. SMITH*, P. PAPAGERAKIS, J. SCHULZE, and M. MACDOUGALL (*Dental School, University of Texas Health Science Center at San Antonio, USA*).

1591 9:30 Targeted Expression of Cre Recombinase in Teeth: Animal Model for Generating Tooth-specific Gene Knockout Mice. T. SREENATH, A. CHO*, T. THYAGARAJAN, and A.B. KULKARNI (*Functional Genomics Unit and Gene Targeting Facility, NIDCR/NIH, Bethesda, MD, USA*).

1592 9:45 Cloning and Characterization of Rat Dentin Matrix Protein 1 Gene and Its 5'-upstream Region. K. NARAYANAN*, A. RAMACHANDRAN, M. SODHI, T. SMITH, K. LIU, and A. GEORGE (*University of Illinois at Chicago, USA*).

1593 10:00 Dysplastic Dentin: Regulation of Dentin Sialoprophosphoprotein by Transforming Growth Factor- β 1 in Transgenic Mice. T. THYAGARAJAN*, T. SREENATH, A. CHO, J.T. WRIGHT, and A.B. KULKARNI (*Functional Genomics Unit, NIDCR, National Institutes of Health, Bethesda, MD, and University of North Carolina, Chapel Hill, USA*).

1594 10:15 Identification of Dentin Matrix Protein 1 in Bone and Dentin. C. QIN, J.C. BRUNN, A. RAMACHANDRAN, A. GEORGE, and W.T. BUTLER* (*University of Texas-Houston Dental Branch and University of Illinois at Chicago, USA*).

1595 10:30 The Relationship between Rat DSP-PP Multiple Transcripts and Phosphoryn Isoforms. H.H. RITCHIE* (*School of Dentistry, University of Michigan, Ann Arbor, USA*).

1596 10:45 A Comparative Study on Bone and Dentin Sialic-acid-rich Proteins. J. JONES*, J.C. BRUNN, C. QIN, and W.T. BUTLER (*Houston Health Science Center, Dental Branch, University of Texas, USA*).

Seq#: 192 **Saturday, March 10, 9:00 am - 11:00 am**
Oral Session, Columbus Hall A

Oral & Maxillofacial Surgery - Implants, Dento-alveolar Surgery, and Trauma

Chairpersons: J. Swift and M. Sharawy

1597 9:00 Correlated Kaplan-Meier Estimates for the Survival of Dental Implants. S.K. CHUANG*, L. TIAN, L.J. WEI, A. MUFTU, S. DAHER, and T.B. DODSON (*Harvard School of Dental Medicine, Harvard School of Public Health, Massachusetts General Hospital, Boston University Goldman School of Dental Medicine, and Tufts University School of Dental Medicine, Boston, MA, USA*).

1598 9:15 Bone Quality and Surgeon's Assessment during Maxillary Implant Replacement. W.M. PIETZ*, R.G. BURTON, K.L. FRIDRICH, and C.M. STANFORD (*College of Dentistry, University of Iowa, Iowa City, USA*).

1599 9:30 Bone Regeneration in the Presence of Alloplastic Vinyl Styrene Beads. M. SHARAWY*, J.M. MAILHOT, V. LARKE, and C. PENNINGTON (*School of Dentistry, Medical College of Georgia, Augusta, USA*).

1600 9:45 Elimination of Mandible Defects in Children with the Use of the Synthetic Biocomposite Material Poly-HAP Previously Exposed in CO Supercritical Medium. V.V. ROGINSKY*, A.I. VOLOZHIN, O.Z. TOPOLNITSKY, V.K. POPOV, and A.P. KRASNOV (*The Moscow Centre of Maxillofacial Surgery, Moscow State University of Medicine and Dentistry, Russia*).

1601 10:00 GTR in Peri-radicular Surgery of Teeth with Apicomarginal Defects. Th. DIETRICH*, P. ZUNKER, D. DIETRICH, and J.-P. BERNIMOULIN (*Department of Periodontology and Synoptic Dentistry, Charité, Humboldt University of Berlin, and Oral & Maxillofacial Surgeon, Berlin, Germany*).

1602 10:15 Retrospective Study of the Treatment of Mandibular Angle Fractures. J.A. KASPRZAK*, M.C. GOLDSCHMIDT, and D.M. SHAFER (*School of Dental Medicine, University of Connecticut, Farmington, USA*).

1603 10:30 Long-term Outcomes of Unerupted Third Molars. M.D. FISH*, E.A. KRALL, and R.I. GARCIA (*VA Boston Healthcare System and Goldman School of Dental Medicine, Boston University, MA, USA*).

1604 10:45 Effects of Nerve Transection on Plasma Extravasation and i-Substance P Levels. J.Q. SWIFT*, A.S. LEONG, C. HARDING-ROSE, T.A. BOWLES, and W.R. BOWLES (*School of Dentistry, University of Minnesota, Minneapolis, USA*).

Seq#: 193 **Saturday, March 10, 9:00 am - 11:00 am**
Oral Session, Grand Ballroom A

Periodontal Research - Genetics and Systemic Disease Interactions

Chairpersons: B. Loos and G. Meyers

1605 9:00 Periodontal Pathogens in the Atheromas of Coronary Arteries. G. MEYERS*, N. BISSADA, D. DELUCA, A. WEINBERG, E. ROBINSON, and E. BALRAJ (*Case Western Reserve University and Coroner's Office, Cleveland, OH, USA*).

1606 9:15 Investigation of the Association among Coronary Heart Disease, Periodontal Disease, and an Interleukin-1 Composite Genotype. S. MALTHANER*, S. MOORE, M. MILLS, R. SAAD, R. SABATINI, V. TAKACS, A. MCMAHAN, and T. OATES (*Wilford Hall Medical Center and University of Texas HSC, San Antonio, USA*).

1607 9:30 Association of a Fibrinogen Gene Polymorphism with Periodontitis. S.E. SAHINGUR*, A. SHARMA, A. HO, R.J. GENCO, and E. DeNARDIN (*SUNY at Buffalo, USA*).

1608 9:45 Systemic Comparisons of Sjögren's Syndrome Patients with Periodontal Disease. M.J. STEFFEN*, M. MONTGOMERY, L. BRADLEY, D. JOHNSON-ALVARES, and J.L. EBERSOLE (University of Kentucky, Lexington, and UTHSCSA, San Antonio, USA).

1609 10:00 Genetic Polymorphism of FcγRIIa Represents a Severity Factor in Periodontitis. B.G. LOOS*, F.G.J. LEPPERS, J.G.J. VAN DE WINKEL, and U. VAN DER VELDEN (Department of Periodontology, ACTA, Amsterdam, and Department of Immunology, UMC Utrecht, The Netherlands).

1610 10:15 The Interleukin-1 Genotype in Diabetes Mellitus. D. KHULLAR* and J. KATANCIK (University of Tennessee, Memphis, USA).

1611 10:30 Effect of Rabbit Antibody on *Porphyromonas gingivalis*-induced Platelet Aggregation. D. BEKISH, K. PHAM, D. FEIK, B.F. HAMMOND, T.E. RAMS, and E.J. WHITAKER* (School of Dentistry, Temple University, Philadelphia, PA, USA).

1612 10:45 Periodontal Interleukin-1β Expression in a Murine Model of Tobacco-dependence. A.N. PUGH, B.T. NOREN, K.E. HAMILTON*, K. LAMPI, M. TAYLOR, B.K. MADDOX, and T.E. MADDEN (Oregon Health Sciences University, Portland, USA).

Seq#: 194 **Saturday, March 10, 9:00 am - 11:00 am**
Oral Session, Columbus Hall E

Pharmacology, Therapeutics, & Toxicology - Oral Prevention and Heavy Metal Exposures

Chairpersons: D. Donaldson and D. Haas

1613 9:00 Identification and Antibiotic Susceptibility Test of Micro-organisms in the Dental Environment. T.R. MATTOS FILHO*, R.H.L. MOTTA, F.C. GROPPPO, and A.B.N.D. PACHECO (Department of Physiologic Sciences-UNICAMP, São Paulo, Brazil).

1614 9:15 Clinical Evaluation of a Breath Care Treatment Program on Halitosis. S. ANDREANA*, S.G. CIANCIO, M.L. MATHER, and C. BENEDUCE (Center for Dental Studies, University at Buffalo, NY, USA).

1615 9:30 Braun Oral-B D-17, Sonicare Plus, and ADA Reference Brushes Function. J.J. HEFFERREN*, E. ERSEN, L. COFFMAN, and M.L. BERG (University of Kansas, Lawrence, USA).

1616 9:45 Clinical Trial Comparing Tooth Whitening by Peroxide-containing Strips with Whitening by a Marketed Whitening Dentifrice. J.F. SIMON, S.F. MCCLANAHAN*, and R.W. GERLACH (University of the Pacific, San Francisco, CA, and Procter & Gamble, Mason, OH, USA).

1617 10:00 Short-term Antiplatelet/Antigingivitis Effectiveness of an Essential-oil-containing Dentifrice. J. COELHO, B. KOHUT, L. KUMAR, S. MANKODI, and N. CONFORTI* (WL Consumer Group, Pfizer, Inc., NJ, and Dental Products Testing, Inc., FL, USA).

1618 10:15 Plaque Fluoride Concentrations after Using a Fluoridated or a Placebo Dentifrice. G.M. WHITFORD*, J.L. WASHINGTON, T.E. SCHAFER, and S.M. ADAIR (School of Dentistry, Medical College of Georgia, Augusta, USA).

1619 10:30 Determinants of Urinary Mercury in Healthy Working Adults. N. MERVISH*, P.R. FACTOR-LITVAK, G. HASSELGREN, M. BEGG, J. KLINE, J. GEIER, and J. GRAZIANO (Columbia University, New York, USA).

1620 10:45 Tooth Heavy Metal Biomarkers for Exposure Assessment. J.E. ERICSON*, A. RINDERKNECHT, and M.T. KLEINMAN (University of California, Irvine, USA).

Seq#: 195 **Saturday, March 10, 9:00 am - 11:00 am**
Oral Session, Toronto

Prosthodontics Research - Removable Prosthodontics: Overdentures, Soft Liners, Impressions, Processing Error, Denture Tooth Retention, Enamel Finishing and Polishing

Chairpersons: J. Walton and R. Cibirka

1621 9:00 Evaluation of Fluoride-releasing Restorative Materials for Sealing Overdenture Abutments. K. IKEBE*, R.L. ETTINGER, and J.S. WEFEL (Osaka University, Japan; and University of Iowa, Iowa City, USA).

1622 9:15 Prosthetic Outcomes with Implant Overdentures: A Randomized Clinical Trial. J.N. WALTON*, M.I. MacENTEE, and N. GLICK (University of British Columbia, Vancouver, Canada).

1623 9:30 Concentration and Surface Effect of Triclosan on Fungal Growth on PermaSoft® Denture Liner. C.A. LEFEBVRE, J.C. WATAHA, R.M. CIBIRKA*, and G.S. SCHUSTER (School of Dentistry, Medical College of GA, Augusta, USA).

1624 9:45 In vivo Evaluation of a New Silicone Soft Liner—Sofreliner MS. J.D. JONES* and W. GARDNER (University of Texas Dental School at San Antonio, USA).

1625 10:00 Pressure Underneath Complete Denture Impressions. R.M. MASRI*, C.F. DRISCOLL, J.A. VON FRAUNHOFER, J. BURKHARDT, and E. ROMBERG (University of Maryland and US Naval Academy, USA).

1626 10:15 Vertical Dimension Changes of Four Denture Resin Processing Methods. T.J. SMITHY*, G.J. ZIEBERT, and A.J. ZIEBERT (School of Dentistry, Marquette University, Milwaukee, WI, USA).

1627 10:30 The Effect of Chemical Modification of Denture Teeth on Retention in Microwave Cure Acrylic. F. STANGE*, V. VERDEROSA, Y. FREEMAN, and M.S. WOLFF (Department of General Dentistry, State University of New York at Stony Brook, USA).

1628 10:45 An Evaluation of Different Methods of Finishing and Polishing for Enamel. E.T. GIAMPAOLO*, A.L. MACHADO, C.E. VERGANI, A.C. PAVARINA, M.A.M. DOMINGUES, and R. MAGNANI (UNESP, Araraquara, SP, Brazil).

Seq#: 196 **Saturday, March 10, 11:00 am - 12:15 pm**
Poster Session, Exhibition Hall

AADR/Warner-Lambert Hatton Competition - Junior Category Presentations

1629 Risk Factors for Loss of Endodontically Treated Teeth. J.B. CHASEN*, E.A. KRALL, J. LIN, and R.I. GARCIA (School of Dental Medicine, Boston University, Harvard School of Dental Medicine, and VA Boston Healthcare System, MA, USA).

1630 Spatial Frequency Analysis of Dental Radiographs in Sick Cell Anemia. T.D. FABER*, D.C. YOON, and S.C. WHITE (University of California, Los Angeles, USA).

1631 Tensile Strain Antagonizes Interleukin-1β Actions in Periodontal Ligament Cells. J. CERNANSKY*, P. LONG, G. YANG, M.J. BUCKLEY, N.P. PIESCO, and S. AGARWAL (University of Pittsburgh, PA, USA).

1632 Dura Mater Controls Calvarial Suture Patency and Fusion. C.M. PATRIANAKOS*, G.S. KANG, J.L. DREIER, and M.A. IGNEZLI, Jr. (Department of Orthodontics and Pediatric Dentistry, School of Dentistry, University of Michigan, Ann Arbor, USA).

1633 *Idd3* and *Idd5* Alleles from NOD Mice Mediate Sjögren's Syndrome-like Autoimmunity. S. CHA*, H. NAGASHIMA, A.B. PECK, and M.G. HUMPHREYS-BEHER (University of Florida, Gainesville, USA).

1634 Immunohistochemical Identification of Antigen-presenting Cells (APC) in Rat Salivary Ducts. C.A. STASULIS* and A.R. HAND (*School of Dental Medicine, University of Connecticut, Farmington, USA*).

1635 Functional Role of NMA/BAMI during Mandibular Morphogenesis. C. KNIGHT*, X. LUAN, and M. MacDOUGALL (*Dental School, University of Texas Health Science Center at San Antonio, USA*).

1636 Bone Sialoprotein (BSP) Enhances Tumor Cell Transmigration. B. BARNETT*, J.A. RODRIGUEZ, T. YONEDA, and J. CHEN (*Departments of Pediatric Dentistry and Medicine, University of Texas Health Science Center at San Antonio, USA*).

1637 Limited Exposure of *C. albicans* to Fluconazole: Effects on Growth. T. SIFRI*, A. HOLKE, R. SRIKANTHA, and K. VARGAS (*University of Iowa, Iowa City, USA*).

1638 Proper Enamel Formation Requires the Presence of Functional SATB1 Protein. G. GLAYZER*, R. MARCUCIO, T. KOHWI-SHIGEMATSU, and J.A. HELMS (*University of California at San Francisco, USA*).

1639 *Fgf8* Expression Predicts Divergent Beak Morphologies in Distinct Avian Species. A.H. KVICHAK*, R.A. SCHNEIDER, J. CHOU, D. HU, and J.A. HELMS (*University of California at San Francisco, USA*).

1640 Lipopolysaccharide Stimulates Bone Formation in Mice Lacking 5-Lipoxygenase. R.Q. GREEN*, M.A. FLYNN, D.L. CARNES, and L.F. BONEWALD (*University of Texas Health Science Center, San Antonio, USA*).

Seq#: 197 **Saturday, March 10, 11:00 am - 12:15 pm**
Poster Session, Exhibition Hall

AADR/Warner-Lambert Hatton Competition - Senior Category Presentations

1641 Soluble Fibrin-related Factors Induce Angiogenic Factor Expression in Oral Tumors. R.V. LALLA*, M.L. TANZER, and D.L. KREUTZER (*University of Connecticut, Farmington, USA*).

1642 A Nonsense Mutation in MSX1 Causes Ectodermal Dysplasia Tooth and Nail Syndrome. D. JUMLONGRAS*, M. BEI, U. FELBOR, R. MAAS, J.G. SEIDMAN, and B.R. OLSEN (*Harvard School of Dental Medicine and Harvard Medical School, Boston, MA, USA*).

1643 Analysis of Genes Differentially Expressed in Osteoblasts vs. Gingival Fibroblasts. X.Z. HAN*, A.L. BOLCATO, N. WEILL, and S. AMAR (*School of Dental Medicine, Boston University, MA, USA*).

1644 Anabolic Effects of PTH in Bone are Dependent on *c-fos*. B. DEMIRALP*, H. CHEN, A.J. KOH, E.T. KELLER, and L.K. McCAULEY (*University of Michigan, Ann Arbor, USA*).

1645 Wnt-1 Inhibits Apoptosis by Activating β -catenin/Tcf Transcription. A.M. FRIBLEY*, S. CHEN, and C.-Y. WANG (*Laboratory of Molecular Signaling and Apoptosis, University of Michigan, Ann Arbor, USA*).

1646 Neuroendocrine Suppression of Interferon Gene Expression during Primary HSV-1 Infection. G.C. ORTIZ*, J.F. SHERIDAN, and P.T. MARUCHA (*Ohio State University, Columbus, USA*).

1647 Identification and Testing of *Porphyromonas gingivalis* Virulence Genes Using *in vivo* Expression Technology. Y. WU*, J.D. HILLMAN, and A. PROGULSKE-FOX (*Center for Molecular Microbiology, University of Florida, Gainesville, USA*).

1648 Basement Membrane Degradation and Epithelial-Mesenchymal Transformation during Palate Fusion Require PI-3 Kinase. P. KANG* and K.K.H. SVOBODA (*Baylor College of Dentistry, Texas A & M University System, Dallas, USA*).

1649 PACAP Reactivates HSV-1 from Quiescently Infected Neurally Differentiated PC12 Cells. S.A. BLACK*, R.J. DANAHER, A.D. SAVELLS-ARB, R.J. JACOB, and C.S. MILLER (*College of Dentistry, University of Kentucky, Lexington, USA*).

1650 Modulation of Tissue Factor by Endothelial Cells during Heat Shock. D.L. BASI*, K.F. ROSS, J.S. HODGES, and M.C. HERZBERG (*School of Dentistry, University of Minnesota, Minneapolis, USA*).

1651 Surface Roughness Plays a Major Role in Osteoblast Response to Fluid Flow-induced Shear Force. S. BANNISTER*, C.H. LOHMANN, D.D. DEAN, V.L. SYLVIA, D.L. COCHRAN, Z. SCHWARTZ, and B.D. BOYAN (*University of Texas HSC, Lackland AFB, San Antonio, USA; Georg-August University, Göttingen, Germany; and Hebrew University, Jerusalem, Israel*).

1652 CIITA is an Effective CBP Inhibitor in IFN- γ -mediated Promoter Suppression. X.S. ZHU* and J.P. TING (*University of North Carolina, Chapel Hill, USA*).

Seq#: 198 **Saturday, March 10, 11:00 am - 12:15 pm**
Poster Session, Exhibition Hall

AADR/Warner-Lambert Hatton Competition - Post-doctoral Category Presentations

1653 PTH-dependent Inhibition of Mineralization in Osteoblasts is Mediated by MGP. R. GOPALAKRISHNAN*, H.J. OUYANG, M.J. SOMERMAN, L.K. McCAULEY, and R.T. FRANCESCHI (*Dental School, University of Michigan, Ann Arbor, USA*).

1654 Amelogenin Gene Splice Product [A-4] Binds to Embryonic Fibroblasts *in vitro*. K. TOMPKINS* and A. VEIS (*Northwestern University Dental School, Chicago, IL, USA*).

1655 Somatostatin Inhibits RhoA Activation and Assembly of Actin Stress Fibers. C.-Y. LIN* and D.L. BARBER (*University of California, San Francisco, USA*).

1656 *alk8* Patterning of CNC-derived Craniofacial Cartilages in Zebrafish. T.L. PAYNE* and P.C. YELICK (*The Forsyth Institute, Boston, MA, USA*).

1657 Differential Expression of IL-6, KC, and TGF- β 1 in Oral and Skin Wounds. A.M. SZPADERSKA* and L.A. DiPIETRO (*Loyola University Chicago, Maywood, IL, USA*).

1658 *In situ* Atomic Force Microscopy (AFM) of Human Dentin Collagen-I Fibril. S. HABELITZ*, M. BALOOCH, S.J. MARSHALL, and G.W. MARSHALL (*University of California, San Francisco, and Lawrence Livermore National Laboratory, CA, USA*).

Seq#: 199 **Saturday, March 10, 11:00 am - 12:15 pm**
Poster Session, Exhibition Hall

AADR Caulk/Dentsply Competition - Basic Sciences Category Presentations

1659 Controlled-release Induction Chemotherapy in Murine Squamous Cell Carcinoma Model. J.R. CIMINIERI*, A. SHENDEROVA, P. PEI, R. WILSON, and S.R. MALLERY (*Ohio State University, Columbus, USA*).

1660 Expression of *c-myc* during Osteoclastogenesis. D. KIM*, R. BATTAGLINO, and P. STASHENKO (*Department of Cytokine Biology, The Forsyth Institute, and Harvard School of Dental Medicine, Boston, MA, USA*).

1661 Immunolocalization of RANKL in Mouse Dental Tissue during Odontogenesis. A. MARTIN*, S. RANI, H.F. THOMAS, and M. MacDOUGALL (*Dental School, University of Texas Health Science Center at San Antonio, USA*).

1662 Rofecoxib, a Cyclooxygenase-2 Inhibitor, Decreases Levels of CGRPi in an Animal Model of Chronic TMJ Inflammation. H. PATEL*, R. SPEARS, and B. HUTCHINS (*Baylor College of Dentistry, Texas A & M University System Health Science Center, Dallas, USA*).

1663 Identification of Functional Estrogen Receptors in Gingival Fibroblasts. J. NUSSBAUM, B. REDDI*, J. GRBIC, and A.I. DONGARI-BAGTZOGLOU (*Columbia University, New York, USA*).

1664 The Effect of Fluid Flow on the Expression of Osteoblast-associated Genes. V.Q. TO*, A. VILLAREAL, J. GLUHAK-HEINRICH, and D. PAVLIN (*University of Texas Health Science Center, San Antonio, USA*).

1665 Effects of Tissue-engineered Hydrogels on Osteoblast Cell Adhesion. M. ABRAHAM*, R. ZAHARIAS, A. ENGLISH, C.M. STANFORD, J.C. KELLER, and G. SCHNEIDER (*College of Dentistry, University of Iowa, Iowa City, USA*).

Seq#: 200 Saturday, March 10, 11:00 am - 12:15 pm
Poster Session, Exhibition Hall

AADR Caulk/Dentsply Competition - Clinical Sciences Category Presentations

1666 Effects of Titanium Roughness on the Adhesiveness of MG63 Cells. J.A. DACY*, K. LEE, C.F. ZHU, J.L. ONG, R. CAVIN, and D.H. SHIN (*University of Texas Health Science Center at San Antonio, USA*). (See abstract #1416 in *J Dent Res*.)

1667 Mandibular Third Molars Increase the Risk of Angle Fractures. D.R. HALMOS* and T.B. DODSON (*Massachusetts General Hospital, Boston, USA*).

1668 Epstein-Barr Virus Replication Effect on Langerhans Cells in Oral Hairy Leukoplakia Pathogenesis. F.G. HOSEIN*, C.M. FLAITS, C.M. NICHOLS, and D.M. WALLING (*University of Texas-Houston Dental Branch and University of Texas Medical Branch, Galveston, USA*).

1669 Chemical Flushing to Reduce Contamination in Dental Unit Waterlines. A. MALAVOLTI*, C. BAIK, A.J. GOBETTI, J. QIN, J.R. BAYLIS, J.P. GOBETTI, D.F. TURNER, J.C. FENNO, K.W. STOFFERS, and M.A. IGNELEZI, Jr. (*University of Michigan, Ann Arbor, USA*).

1670 Dental Unit Water Line Bacteria Levels: Effect of Microfiltration. J.D. McINTYRE* and F. CHIAPPELLI (*Harvard School of Dental Medicine, Boston, MA, USA*).

1671 Evaluation of Pharmacological Therapy for Treatment of Neurogenic Facial Pain. A. RABINOVICH* and S.J. SCRIVANI (*SDOS, Columbia University, New York, USA*).

1672 Predicting Maxillary Sinus Graft Volumes: Clinician Estimates vs. Computer Software. D.D. RADCLIFF*, C.C. PEACH, and M.E. ALDER (*University of Texas Health Science Center at San Antonio Dental School, USA*).

Seq#: 201 Saturday, March 10, 11:00 am - 12:15 pm
Poster Session, Exhibition Hall

Prosthodontics Research - Crown Margin Adaptation, Impression Materials, Bleaching

1673 Marginal Evaluation of Complete Crowns: Variation among Clinicians and Techniques. M.F. AYAD* (*College of Dentistry, University of Tanta, Egypt*).

1674 Design of Finishing Line and the Marginal Fit of Crowns. A. LEYKA*, T. BLÖSSER, P. FERGER, and B. WÖSTMANN (*Department of Prosthodontics, Justus-Liebig-University, Giessen, Germany*).

1675 Marginal Fit of Crowns Resulting from Different Impression Materials and Techniques. A. KRAFT*, B. WÖSTMANN, and P. FERGER (*Department of Prosthodontics, Justus-Liebig-University, Giessen, Germany*).

1676 Experimental Study about Marginal Precision of Cast Titanium. A. SCRASCIA, M. QUARANTA, L. MALCHIODI, and P. AVVANZO* (*Dental School, La Sapienza University, Rome, Italy*).

1677 Detail Reproduction of Three Mechanically Mixed Monophase Impression Materials. X. LEPE*, G.H. JOHNSON, and T.C. AW (*Department of Restorative Dentistry, University of Washington, Seattle, USA*).

1678 Accuracy of Three Monophase Impression Materials with Immersion Disinfection. K. PHILLIPS*, T.C. AW, and G.H. JOHNSON (*University of Washington, Seattle, USA*).

1679 Wet Detail Reproduction and Dynamic Contact Angle of Impression Materials. W. JIA* and J.A. SORENSEN (*Department of Prosthodontics, Oregon Health Sciences University, Portland, USA*).

1680 The Effect of Storage Time on the Accuracy and Dimensional Stability of Reversible Hydrocolloid Impression Material. P.E. SCHLEIER*, F.M. GARDNER, S.K. NELSON, and D.H. PASHLEY (*Medical College of Georgia, Augusta, USA*).

1681 Determining Cast-impression Accuracy Using Stock and Custom Trays. P.L. MILLSTEIN* (*School of Dental Medicine, Tufts University, Boston, MA, USA*).

1682 Materials and Techniques in Transfer Coping Procedures. D.M. RODRIGUES*, S.C. DIAS, and W. MATSUMOTO (*University of Ribeirão Preto, USP, São Paulo, Brazil*).

1683 Efficacy of Desensitizing Gel in Reducing Tooth Sensitivity during Whitening. L.R. SMITH*, R.H. LEONARD, J.C. EAGLE, W.C. MURDOCK, G.E. GARLAND, and D.J. CAPLAN (*School of Dentistry, University of North Carolina, USA*).

1684 Nightguard Vital Bleaching—Stability and Side-effects 4 Years Post-treatment. R.H. LEONARD*, J.C. EAGLE, G.E. GARLAND, W.C. MURDOCK, C. PHILLIPS, and C. BENTLEY (*UNC, Chapel Hill, USA*).

1685 Ten Years' Post-treatment Safety and Stability of Nightguard Vital Bleaching. A.V. RITTER*, R.H. LEONARD, A.J. ST-GEORGES, and D.J. CAPLAN (*University of North Carolina, Chapel Hill, USA*).

1686 Efficacy and Morphological Variances in Trayless vs. Conventional Whitening Systems. J.R. BURKE-HILL*, R.H. LEONARD, A.V. RITTER, and W.W. AMBROSE (*UNC, Chapel Hill, USA*).

Seq#: 202 Saturday, March 10, 11:00 am - 12:15 pm
Poster Session, Exhibition Hall

Dental Materials - Resin Bonding: Effect of Dentin Substrate

1687 Enamel/Dentin Bonding of Self-etching Primers after Er:YAG Laser Preparation. J.E. WALDEN*, L. GETTLEMAN, C.H. ZIEGLER, and F.M. PARKINS (*School of Dentistry, University of Louisville, KY, USA*).

1688 Influence of Sodium Hypochlorite in Shear Bond Strength of Four One-bottle Adhesive Systems. V.G. ARIAS*, A.K.B. BEDRAN DE CASTRO, and L.A.F. PIMENTA (*Dentistry School of Piracicaba UNICAMP, Brazil*).

1689 Effect of Vital Bleaching on Dentin Bond Strength of Composite. J. SOUYIAS*, A.L. NEME, W.C. WAGNER, P. YAMAN, and F.E. PINK (*University of Detroit Mercy and University of Michigan, Ann Arbor, USA*).

- 1690** Shear Bond Strength of an Adhesive System to Enamel Bleached with Different Carbamide Peroxide Agents. R.T. BASTING, R. OLIVEIRA*, J.A. RODRIGUES, L.A.F. PIMENTA, M.C. SERRA, and P.M. FREITAS (*Dentistry School of Piracicaba, UNICAMP, São Paulo, Brazil*).
- 1691** Shear Bond Strength of Resin to Dentin Treated with 10% Carbamide Peroxide. P.M. FREITAS*, R.T. BASTING, J.A. RODRIGUES, L.A.F. PIMENTA, M.C. SERRA, and R. OLIVEIRA (*Dentistry School of Piracicaba, UNICAMP, São Paulo, Brazil*).
- 1692** Influence of Different Smear Layer Treatments on Bond Strength. P. CHAVES*, M. GIANNINI, and G.M.B. AMBROSANO (*Campinas State University, Piracicaba, SP, Brazil*).
- 1693** Influence of Simulated Pulpal Pressure on Bond Strength to Dentin. R. JENATSCHKE*, S. RINKE, and K. DERMANN (*Private Practice, Hanau, and Freie Universität, Berlin, Germany*).
- 1694** Effect of Depth on Tensile Bond Strength to Dentin. A.F. REIS*, M. GIANNINI, V. CAVALLI, and A.N.K. KONNO (*Campinas State University, Piracicaba, SP, Brazil*).
- 1695** Moisture-insensitive Adhesives: Reactivity and Bond Strength to Wet and Saliva-contaminated Enamel. T. ELIADES, E. KATSAVRIAS, G. ELIADES, T.G. BRADLEY, and F. VILLALOBOS* (*Departments of Orthodontics and Dental Materials, University of Athens, Greece; and Marquette University, Milwaukee, WI, USA*).
- 1696** Effects of Cavity Cleanser Agents and Air Abrasion on Bond Strength to Dentin. L.C.G. PEREIRA* and R.M. CARVALHO (*João Prudente Dental School, FAEE, and Bauru School of Dentistry, USP, Brazil*).
- 1697** Self-etching Adhesive Dentin Bond Strength with Eugenol Containing Contaminates. G. SIMONEAU*, X. XU, and J.O. BURGESS (*School of Dentistry, LSUHSC, New Orleans, USA*).
- 1698** Effects of Conditioning and Adhesive Systems on Dentin Cohesive Strength. F.T. SADEK* and P.E.C. CARDOSO (*University of São Paulo, Brazil*).
- 1699** Effect of Dentinal Tubule Orientation on Microtensile Bond Strength. J.O. DEAN*, S.J. BURDS, M.A. VARGAS, and S.R. ARMSTRONG (*University of Iowa, Iowa City, USA*).
- 1700** Microtensile Strength of Gingival vs. Axial Walls in *in vitro* Premolars. J.H. PURK*, D.C. KRENKEL, A.G. GLAROS, P. SPENCER, and J.D. EICK (*School of Dentistry, University of Missouri-Kansas City, USA*).
- 1701** Correlation of Leakage and Bond Strength in Dentin Adhesion Evaluation. S. GUZMAN* and S.R. ARMSTRONG (*University of Kentucky, Lexington, and University of Iowa, Iowa City, USA*).
- 1702** Adhesiveness of a Composite Resin to Er-YAG Laser-irradiated Dentin. N. YAMAMOTO* and T. IKEMI (*School of Dentistry, Nihon University at Matsudo, Chiba, Japan*).
- 1705** Effects of Antimicrobial Agents on the Morphology of Primary Dentin. R.M. PUPPIN-RONTANI*, E. CAETANO, F. GARCÍA-GODOY, and M.F. GÓES (*FOP—UNICAMP/Brazil; and Tufts University, Boston, MA, USA*).
- 1706** Immunocytochemical Identification of Type I Collagen on Etched Human Dentin. L. BRESCHI*, M. LOPES, P. GOBBI, G. MAZZOTTI, and J. PERDIGÃO (*University of Bologna, Italy; and MDRCB, University of Minnesota, USA*).
- 1707** Immunohistochemical Evaluation of Proteoglycans' Involvement in Dentin Adhesion. A. OYARZUN and E. DREYER* (*Chile University Dental School, Santiago*).
- 1708** Etching Kinetics of a Self-etching Primer. S.S.A. OLIVEIRA*, S.J. MARSHALL, J.F. HILTON, and G.W. MARSHALL (*University of California, San Francisco, USA*).
- 1709** Micromorphological Evaluation of Prompt-L-Pop, a Self-etching Primer Adhesive. P.D.S. TELLES*, M.A.A.M. MACHADO, and J.E. NÖR (*School of Dentistry of Bauru, University of São Paulo, Brazil; and University of Michigan, Ann Arbor, USA*).
- 1710** The Interfacial Morphology Study of Self-etching Adhesive System. Y. WANG*, L. SHARP, and M. HEISS (*Bisco, Inc., Schaumburg, IL, USA*).
- 1711** Evaluation of Resin-Dentin Interfaces in Function of Cavity Depth. L.N. BARATIERI*, G.C. LOPES, J. PERDIGÃO, and M. LOPES (*Federal University of Santa Catarina, Florianópolis, Brazil; and University of Minnesota, Minneapolis, USA*).
- 1712** SEM Evaluation of Resin-Dentin Interfaces of Self-etch Primers Inserted *in vivo*. G.C. LOPES*, J. PERDIGÃO, L.C.C. VIEIRA, and L.N. BARATIERI (*Federal University of Santa Catarina-UFSC, Florianópolis, Brazil; and University of Minnesota, Minneapolis, USA*).
- 1713** Effect of One-bottle Adhesives on Dimensional Changes in Wet-demineralized Dentin. M. NAKAJIMA*, M. OKUDA, P.N.R. PEREIRA, J. TAGAMI, and D.H. PASHLEY (*Tokyo Medical and Dental University, Japan; University of North Carolina and Medical College of Georgia, USA*).
- 1714** Quality of the Hybrid Layer Formed under Wet Bonding Conditions. Y. WANG*, M.P. WALKER, T.R. MCMANN, and P. SPENCER (*School of Dentistry, University of Missouri-Kansas City, USA*).
- 1715** Morphologic and Chemical Characterization of the Dentin/Self-etch Interface. Y. WANG, T.R. MCMANN*, M.P. WALKER, and P. SPENCER (*School of Dentistry, University of Missouri-Kansas City, USA*).
- 1716** Marginal Quality of Packable Composites/Ormocers after Loading. H.P. FLESSA*, A. ALBRECHT, J. MANHART, H.Y. CHEN, and R. HICKEL (*Department of Restorative Dentistry, Dental School of the LMU, Munich, Germany*).
- 1717** Shear Bond Strength of One-bottle Primer for Light-cured Glass-ionomer Cement. S. ANDO*, K. IWASAKI, M. MIYAZAKI, K. HIROTA, and H. ONOSE (*School of Dentistry, Nihon University, and GC Corporation, Tokyo, Japan*).

Seq#: 203 Saturday, March 10, 11:00 am - 12:15 pm
Poster Session, Exhibition Hall

Dental Materials - Adhesive Microstructure Analysis

- 1703** SEM Evaluation of Enamel and Dentin Etched with Vinylidene-Diphosphonic Acid. G.E. FERNANDEZ* and P.C. MOON (*School of Dentistry, Virginia Commonwealth University, Richmond, USA*).
- 1704** Environmental SEM of Hydrated, Etched, and Resin-infiltrated Dentin. J.D. EICK, F.A. DE WET*, P.J. VAN DER VYVER, and V.M. DUSEVICH (*University of Pretoria, South Africa; and University of Missouri-Kansas City, USA*).

Seq#: 204 Saturday, March 10, 11:00 am - 12:15 pm
Poster Session, Exhibition Hall

Dental Materials - Mechanical and Physical Properties of Copolymers and Composites

- 1718** Monitoring Curing of Composites with Varied BHT Levels Using DMA and PhotoDSC. M.D. PAYNE*, J.L. FERRACANE, and R.L. SAKAGUCHI (*Oregon Health Sciences University, Portland, USA*).

1719 Pulse-delayed and Ramped Cure Polymerization Effects on Composite Hardness. J.J. LARSON*, H.W. ROBERTS, D.F. MURCHISON, and D.L. LEONARD (*Wilford Hall Medical Center, Lackland AFB, TX, and USAF Dental Investigation Service, Great Lakes, IL, USA; and 35 DS, Misawa AB, Japan*).

1720 Effect of Photoinitiator Complexation in Methacrylated Beta-Cyclodextrin (MCD) Composite Formulations. L.A. HUSSAIN*, S.H. DICKENS, and R.L. BOWEN (*Paffenbarger Research Center, American Dental Association Health Foundation, National Institute of Standards and Technology, Gaithersburg, MD, USA*).

1721 Effect of Eugenol-contaminated Dentin on Superficial Micro-hardness of Composite Resins. M. TRUQUE*, C. LEIVA, and J.D. LAFUENTE (*School of Dentistry, University of Costa Rica, San José*).

1722 The Effect of Prolonged Packing on the Surface Hardness of Posterior Composites. L.W. STOCKTON* and P.T. WILLIAMS (*University of Manitoba, Winnipeg, Canada*).

1723 Filler-Silane-Matrix Interactions in Silica/Poly-methylmethacrylate Composites. Q. LIU, J. DING, D. CHAMBERS, S. DEBNATH, S. WUNDER*, and G.R. BARAN (*Temple University, Philadelphia, PA, USA*).

1724 Nanofiller—A Solid Diluting Agent in Dental Composite. R. YIN*, L. SHARP, W.G. DE RIJK, and B.I. SUH (*Bisco, Inc., Schaumburg, IL, USA*).

1725 Formulating the Filler of a Model Composite. S.J. DURAY*, K.A. HAYES, and B.I. SUH (*Bisco, Inc., Schaumburg, IL, USA*).

1726 Dental Composites Based on Hybridized and Surface-modified Amorphous Calcium Phosphate Fillers. D. SKR-TIC*, J.M. ANTONUCCI, E.D. EANES, and N. EIDELMAN (*ADAHF-Paffenbarger Research Center and NIST, Gaithersburg, MD, USA*).

1727 New Water-soluble Polymers Containing N-vinylpyrrolidone Residues for Dental Restoratives. M.H. DOTRONG* and B.M. CULBERTSON (*College of Dentistry, Ohio State University, Columbus, USA*).

1728 Setting Reaction of Water-soluble N-Vinyl-pyrrolidone-copolymer-modified Glass Ionomer. E.C. KAO*, Y. JIN, P.W. JAGODZINSKI, and B.M. CULBERTSON (*West Virginia University and Ohio State University, USA*).

1729 Synthesis of Poly(acrylic acid-co-itaconic acid) in Supercritical CO₂. Y. HUANG*, B.M. CULBERTSON, S.R. SCHRICKER, F. GAO, and S. OLESIK (*Department of Chemistry, College of Dentistry, Ohio State University, Columbus, USA*).

1730 Improvement of Flexural Strength by Modifying N-methacryloylglutamic Acid Copolymer. M.H. DOTRONG and B.M. CULBERTSON* (*College of Dentistry, Ohio State University, Columbus, USA*).

1731 Torque at Fracture during Torsional Stress on Nickel-Titanium Files. S. SHIMI* and G. YARED (*University of Toronto, Canada*).

1734 Comparison of Cure Depths Using Different Composite Curing Lights. D.Y. LIM*, B.M. OWENS, and R.S. WELLS (*College of Dentistry, University of Tennessee, Memphis, USA*).

1735 Depths of Cure with QTH and Plasma Arc Curing Lights. M. TONIOLI*, M.R. BOUSCHLICHER, F.A. RUEGGER-BERG, and D. METTENBURG (*University of Iowa, Iowa City, and School of Dentistry, MCG, Augusta, USA*).

1736 Depth of Cure of Core-build Material with Three Different Curing Lights. C. YOU*, X. XU, and J.O. BURGESS (*School of Dentistry, LSUHSC, New Orleans, USA*).

1737 Polymerization Shrinkage Force with Xenon Short Arc or QTH Photoillumination. M.R. BOUSCHLICHER* and A.D. HEINER (*University of Iowa, Iowa City, USA*).

1738 Effects of Shade and Energy on the Degree of Conversion of a Composite Resin. M.A. LATTA, C.M. MURDOCK, P.D. HAMMESFAHR, and L.M. ROMITO* (*School of Dentistry, Creighton University, Omaha, NE, and Dentsply/Caulk, Milford, DE, USA*).

1739 Curing Efficiency of Resin Polymerized through Veneers with Various Lights. F.H. RASETTO*, C.F. DRISCOLL, and J.A. VON FRAUNHOFER (*Dental School, University of Maryland, Baltimore, USA*).

1740 Effects of Composite Type and Curing Source on Conversion Values at 2-mm Depth. R. POHJOLA*, F.A. RUEGGER-BERG, and S.T. HACKMAN (*School of Dentistry, Medical College of Georgia, Augusta, USA*).

1741 Development of a Novel Cure-monitoring System for Photo-cured Composite Resin. K. KOMATSU*, F.W. WANG, and K. NEMOTO (*Nihon University, Chiba, Japan; and National Institute of Standards and Technology, Gaithersburg, MD, USA*).

1742 Evaluation of the Total Energy Concept: Microhardness Testing. F.A. RUEGGERBERG*, D. METTENBURG, M.R. BOUSCHLICHER, and S. WHALEN (*School of Dentistry, Medical College of Georgia, Augusta, and School of Dentistry, University of Iowa, Iowa City, USA*).

1743 Vicker Hardness of Hybrid Composites Cured by High-power Curing Lights. X. WANG* and J. SANG (*Dentsply/Caulk, Milford, DE, USA*).

1744 Comparison of Composite Polymerization Using Different Curing Light Intensities. S.C. DI LORENZO*, M.A. LATTA, C.M. MURDOCK, and T.M. WILWERDING (*School of Dentistry, Creighton University, Omaha, NE, USA*).

1745 Surface Hardness and Polymerization Heat of Halogen/LED-cured Composites. M. HARTUNG* and R. KÜRSCHNER (*ESPE Dental AG, Seefeld, Germany*).

1746 Evaluations of Buccal and Lingual Light Activation on Composite Restorations. K.H. WILSON, M.L. CANNON, and R. JURADO* (*Northwestern University and Children's Medical Center, Chicago, IL, USA*).

Seq#: 206 Saturday, March 10, 11:00 am - 12:15 pm
Poster Session, Exhibition Hall

Seq#: 205 Saturday, March 10, 11:00 am - 12:15 pm
Poster Session, Exhibition Hall

Dental Materials - Polymer Materials: Photoactivation and Depth of Cure

1732 Influence of the Activation Mode on Properties of Resin Cements. R.R. BRAGA, P.F. CESAR, C.C. GONZAGA*, and J. BIANCHI (*University of São Paulo, Brazil*).

1733 Curing Mode Effect on Physical Properties of New Resin Cements. F. BANASR* and D. NATHANSON (*Boston University, MA, USA*).

Dental Materials - Mechanical and Frictional Properties of Dental Alloys

1747 Static Frictional Resistance of Titanium Brackets. E. LEE*, F.C. EICHMILLER, and E.M. KUDLICK (*College of Dentistry, Howard University, Washington, DC, USA*).

1748 Friction of Low-friction and Common Orthodontic Arch Wires. D.C. MALLORY*, S.D. KERR, and J.M. POWERS (*Houston Biomaterials Research Center, Houston Dental Branch, University of Texas, USA*).

1749 Friction Effects in the Movement of Orthodontic Wires in Bracket Slots. S.D. JOSELL, G.S. COAKLEY*, G.M. HOLT, and J.A. VON FRAUNHOFER (*Dental School, University of Maryland, Baltimore, USA*).

1750 *In vitro* Wear and Explant Investigations of Altered Titanium Surfaces. B. CHAMBLISS* and J.E. LEMONS (*UAB School of Dentistry, Birmingham, AL, USA*).

1751 Resistance to Sliding of Passive vs. Active Self-ligating Brackets. G.A. THORSTENSON* and R.P. KUSY (*University of North Carolina, Chapel Hill, USA*).

1752 3-D Comparison: Marginal Fit of PFM vs. Pressed Porcelain Crowns. R. PERRY, N. VELAZQUEZ*, and K.-H. KUNZELMANN (*School of Dental Medicine, Tufts University, Boston, MA, USA; University of Puerto Rico, San Juan; and University of Munich, Germany*).

1753 Ceramic Bonding to Surface-modified Cast CP Titanium. Z. CAI*, L. CARRASCO, J.A. GRIGGS, M.E. NUNN, and T. OKABE (*Baylor College of Dentistry, Texas A & M University System Health Science Center, Dallas, USA*).

1754 Fatigue Limits and Fracture Characteristics for Two High-palladium Casting Alloys. D. LI*, W.A. BRANTLEY, J.C. MITCHELL, G.S. DAEHN, P. MONAGHAN, and E. PAPA-ZOGLOU (*Ohio State University, Columbus, USA*).

1755 Torsional Performance of Nickel-Titanium Gates Glidden Drills with an Applied Bending Deflection. N.H. LUEBKE, L.L. LAUSTEN, W.A. BRANTLEY, A.G. GEGAUFF*, and J.C. MITCHELL (*Wisconsin Dental Group, Waukesha, UMKC, Kansas City, MO, and Ohio State University, Columbus, USA*).

1756 Laser Welding of Dental Alloys. T. YOSHIDA*, S. NAGASAWA, T. MIZOGUCHI, M. ITO, and Y. OSHIDA (*Matsumoto Dental University, Nagano, Japan; and School of Dentistry, Indiana University, Indianapolis, USA*).

1757 Mechanical Properties of New and Used Nickel-Titanium Files. G. GAMBARINI, S. MENDUNO*, B. BRACCI, G. PONGIONE, M. DE LUCA, L. RONCONI, and M. QUARANTA (*University of Rome "La Sapienza," Italy*).

1758 Investigation of Potential Autoclaving Effects on Stainless Steel Ligature Wires. J.A. BUSCHMAN, J.A. HUNTER, M.G. DUNCANSON, Jr., and S.S. KHAJOTIA* (*College of Dentistry, University of Oklahoma, Oklahoma City, USA*).

Seq#: 207 Saturday, March 10, 11:00 am - 12:15 pm
Poster Session, Exhibition Hall

Dental Materials - Silanation, Surface Roughness, Air Abrasion, Biocompatibility

1759 Effect of Silanation on Mechanical Properties of Homogeneous Nanofilled Resin. L. LOGAN*, S.M. DOWELL, B.R. FURMAN, D.P. NICOLELLA, J. LANKFORD, H.R. RAWLS, and J.L. ONG (*University of Texas Health Science Center and Southwest Research Institute, San Antonio, USA*).

1760 Surface Roughness of Two Laboratory Composites. L.B. ROEDER*, C.P. TRAJTENBERG, W.H. TATE, and J.M. POWERS (*Houston Biomaterials Research Center, UT-Houston Dental Branch, USA*).

1761 Surface Roughness of Composite Resins when Finished and Polished. C.T. SATO*, C.E. FRANCCI, A.D. LOGUERCIO, and J. BIANCHI (*Dental School, NAPEM, University of São Paulo, Brazil*).

1762 Surface Roughness of Restorative Materials Treated with Prophylactic Polishing Agents. T.L. DEBNER*, H.H. HENSON, D.P. WARREN, and J.M. POWERS (*Houston Dental Branch, University of Texas, USA*).

1763 Influence of Preparation Angle on the Efficacy of Air Abrasion. J. MANHART, G. KRING*, H.Y. CHEN, A. MEHL, and R. HICKEL (*Department of Restorative Dentistry, Dental School of the LMU, Munich, Germany*).

1764 Cutting Efficacy of Air Abrasion Units. M. CARLTON*, A. RIPPS, and J.O. BURGESS (*School of Dentistry, LSU-HSC, New Orleans, USA*).

1765 Growth of PDL Fibroblasts on Composite Resin. D.R. CERUTIS, M.A. LATTA, C.M. MURDOCK, and T.M. McVANEY* (*School of Dentistry, Creighton University, Omaha, NE, USA*).

1766 Biocompatibility of Chemically and Thermally Activated Acrylic Resins. M. HAMMES*, R.M. SUZUKI, G.F. DALLA VECCHIA, A.C. SOLETTI, P.V. RADOS, and C.K. RÖSING (*Faculty of Dentistry-UFRGS, Brazil*).

1767 Residues of Cements in Temporary Crown Restorations—An *in vivo* Study. C.-P. ERNST, M. KRULL*, M. BRANDENBUSCH, and B. WILLERSHAUSEN (*Department for Operative Dentistry, Johannes Gutenberg-University Mainz, Germany*).

1768 Evaluation of Microleakage on Three High-density Composite Resins. F.H.B. AGUIAR*, A.F. REIS, L.B. KROLL, and J.R. LOVADINO (*Campinas State University, Piracicaba, Brazil*).

1769 Evaluation *in vitro* of the Microleakage of Two Adhesive Systems in Enamel and Dentin. P.E.C. CARDOSO, C.C.S. LOUREIRO, J. GAZZOLA*, and L.T. POSKUS (*University of São Paulo and University Fed. Santa Maria, Brazil*).

1770 Occlusal Detection of Suspicious Pits and Fissures in Posterior Teeth. C.A. CAVALLINO*, J.O. BURGESS, A. RIPPS, and X. XU (*School of Dentistry, LSUHSC, New Orleans, USA*).

1771 Demineralization of Cervical Lesions and Tensile Stresses in Tooth Models. D.R. DAVIS* (*University of California, San Francisco, USA*).

Seq#: 208 Saturday, March 10, 11:00 am - 12:15 pm
Poster Session, Exhibition Hall

Dental Materials - Endodontic Materials

1772 Flow Property of a New Root Canal Filling: "In vitro" Comparative Study. P.V. DEL AGUILA*, J.P. TORRES, M. SARAVIA, and H. VILLENA (*Universidad Peruana Cayetano Heredia, Lima, Perú*).

1773 Two-year Recall Study for EZ-Fill Root Canal Obturation System. A.S. DEUTSCH*, B.I. COHEN, B.L. MUSIKANT, and D. KASE (*Essential Dental Laboratories, S. Hackensack, NJ, USA*).

1774 Retention of a Flexi-Flange Post with Bonded Ti-Core Cores. B.L. MUSIKANT*, B.I. COHEN, Y. VOLOVICH, and A.S. DEUTSCH (*Essential Dental Laboratories, S. Hackensack, NJ, USA*).

1775 Effects of Surface Characteristics on the Attachment of Cementoblasts to Mineral Trioxide Aggregate. T.S. THOMSON*, J.E. BERRY, M.J. SOMERMAN, and K.L. KIRKWOOD (*SUNY at Buffalo, NY, and University of Michigan, Ann Arbor, USA*).

1776 *In vitro* Study of Hydroxyapatite Cement as a Retrograde Filling Material. M.M. MANSOUR, I.R. MATTHEW*, and J.G. COIL (*Faculty of Dentistry, University of British Columbia, Vancouver, Canada*).

1777 *In vitro* Apexification Evaluating Leakage of MTA and Gutta Percha. M.T. HIGGINBOTHAM*, V.T. HIMEL, J.P. BABU, J.F. WOLCOTT, and D.L. KELLY (*University of Tennessee, Memphis, USA*).

1778 Bond Strengths of Endodontic Sealers to Dentin and Gutta-Percha. C.N. WEBSTER*, A.P. GOLDBECK, S.S. KHAJOTIA, and M.G. DUNCANSON, Jr. (*College of Dentistry, University of Oklahoma, Oklahoma City, USA*).

1779 Evaluation of Bacterial Migration in Endodontically Treated Teeth Using Different Sealers and Filling Techniques. L.R. BRITTO*, F.J. VERTUCCI, and N.J. GRIMAUDO (*University of Florida, Gainesville, USA*).

1780 Microleakage of Sub-basis Products Used after Pulpectomy in Primary Molars: *In vitro* Study. M.D.M. OLIVEIRA*, C.R.D.M. RODRIGUES, A.F. GONÇALVES, L.B. OLIVEIRA, and R.O. ROCHA (*University of São Paulo, Brazil*).

1781 Apical Dye Leakage Resulting from Various Instrumentation/Obturation Techniques. C.C. SMITH*, D.E. PARSELL, R.S. GATEWOOD, and C.W. EMERSON (*University of Mississippi Medical Center, Jackson, USA*).

Seq#: 209 **Saturday, March 10, 11:00 am - 12:15 pm**
Poster Session, Exhibition Hall

Geriatric Oral Research - Aging and Oral Health in Special Populations

1782 Oral Health Care Needs of Alzheimer's Patients in Nursing Homes. K.A. DOBROSIELSKI-VERGONA* (*University of Pittsburgh, PA, USA*).

1783 An Oral Health Survey of Nursing Home Residents in the City of Curitiba. A.G. FERREIRA ZANDONÁ*, K.K. SALMÓRIA, P.L.C. GUIMARÃES, G.J. ECKERT, F. ZARDO, and S. MYACHI (*University Tuiuti do Paraná and Prefeitura Municipal de Curitiba, Brazil; and Indiana University, Indianapolis, USA*).

1784 Oral Health among Residents of Canadian Long-term-care Facilities. C.C.L. WYATT* and M.I. MacENTEE (*University of British Columbia, Vancouver, Canada*).

1785 Denture Status among Older Adults in Arizona. R.G. BERG*, D.B. BERKEY, J.M.W. TANG, C. BAINE, and D. ALTMAN (*University of Colorado, University of North Carolina at Chapel Hill, and Arizona Department of Health Services, USA*).

1786 An Investigation of *Candida* Carriage and Halitosis in Elderly People. E. HONDA*, M. ISHIKAWA, N. MAEDA, T. MUTOH, M. MORITO, Y. ANDO, K. SHIBUYA, and H. MIYAZAKI (*School of Dental Medicine, Tsurumi University, Yokohama, LION Corp., Odawara, and School of Dentistry, Niigata University, Japan*).

1787 Smoking and Alcohol Habits Following Head and Neck Cancer. P.J. ALLISON* (*Faculty of Dentistry, McGill University, Montreal, Canada*).

Seq#: 210 **Saturday, March 10, 11:00 am - 12:15 pm**
Poster Session, Exhibition Hall

Behavioral Sciences/Health Services Research - Knowledge, Attitudes, and Behaviors: The Practitioner's Perspective

1788 Biological Monitoring Compliance of Dentists: Three-year Results. J.M. OLDHAM, M.E. MALLATT*, and C.H. MILLER (*Indiana State Department of Health, and School of Dentistry, Indiana University, Indianapolis, USA*).

1789 High School Students' Report of School Absenteeism and Oral Health. S.A. NESMITH, L.M. KASTE*, and Y. MICHEL (*James Island High School, College of Dental Medicine, Medical University of South Carolina, MUSC Center for Health Care Research, and MUSC College of Medicine, Charleston, USA*).

1790 Harm Reduction Programs for Alcohol Use: Survey of Dental Students. M.T. KOENIG*, S.G. REED, and M.E. SALADIN (*College of Dental Medicine, College of Health Professions, Medical University of South Carolina, Charleston, USA*).

1791 Mercury-containing Amalgams and Neuropsychological Function in Healthy Adults. P.R. FACTOR-LITVAK*, G. HASSELGREN, D.M. JACOBS, M. BEGG, J. KLINE, N. MERVISH, J. GEIER, and J. GRAZIANO (*Columbia University, New York, USA*).

1792 Beliefs/Behaviors among Dentists Toward the Intervention of Bulimic Patients. S.M. MINER*, D.O. BORN, and D.R. NEUMARK-STAINER (*University of Minnesota, Minneapolis, USA*).

1793 Subjective Oral Health Status Indicators Asked by Dentists during Initial Examinations of Older Adult Patients. R.J. HAWKINS* and D. LOCKER (*University of Toronto, Ontario, Canada*).

1794 Development of a Measure of Clinicians' Attitudes Toward Science Transfer. R.D. HULME*, J.D. RUGH, J.H. LITTLEFIELD, J.P. HATCH, and A.C. LARME (*University of Texas Health Science Center at San Antonio, USA*).

1795 Attitudes Toward Eating Disorders and Expanded Dental Roles. N.K. ANDERSON*, H.P. WEBER, and D.B. GIDDON (*Harvard University, Boston, MA, USA*).

1796 Knowledge, Attitudes, and Practices of Dentists toward Intimate Partner Violence. K.D. FOSTER*, B.A. DESPAIN-EDEN, and M.E. NUNN (*Baylor College of Dentistry, Texas A&M University System HSC, Dallas, USA*).

1797 Knowledge of and Attitudes toward Fluoride Prescribing among Dentists in Houston. S.D. TURNER*, S. NARENDHAN, H. KEENE, and J.T. CHAN (*Dental Branch, University of Texas, Houston, USA*).

1798 Health Care Provider and Maternal Perception of Teething in Children. P. DIXIT*, S. FADAVI, I.C. PUNWANI, and A. KOERBER (*University of Illinois at Chicago, USA*).

1799 Dentists' Awareness of Intra-oral Body Piercing. S. KUHN*, S. FADAVI, and A. KOERBER (*Department of Pediatric Dentistry, University of Illinois at Chicago, USA*).

Seq#: 211 **Saturday, March 10, 11:00 am - 12:15 pm**
Poster Session, Exhibition Hall

Cariology Research - Forensics and Ancient Teeth

1800 Root Translucency: A Simple, Reliable Method for Human Age Estimation. C.M. HARRIS*, H. PATEL, S.T. BADEN, and J.W. SIMMELINK (*School of Dentistry, Case Western Reserve University, Cleveland, OH, USA*).

1801 Fluoride and Heavy Metal Concentrations of Teeth in Ancient Populations. C.D. SMITH*, J.A. LALUMANDIER, and D.R. SAWYER (*Case Western Reserve University, Cleveland, OH, USA*).

Seq#: 212 **Saturday, March 10, 11:00 am - 12:15 pm**
Poster Session, Exhibition Hall

Mineralized Tissue - Tooth Movement

1802 Association of Orthodontic Root Resorption and the Immune System. A.L. COUNTS*, Y.G. PARK, Y.J. LEE, Z. BURSAC, and Z. DAVIDOVITCH (*College of Dentistry, University of Oklahoma, Oklahoma City, USA*).

1803 WITHDRAWN

Seq#: 213 **Saturday, March 10, 11:00 am - 12:15 pm**
Poster Session, Exhibition Hall

Mineralized Tissue - Mineralization/Physical-Chemical Aspects

1804 Solution Fluoride (F) and Adsorbed Fluoride Governing F-pretreated Carbonated Apatite Solubility. A.B. BARRY*, H. ZHUANG, A.A. BAIG, and W.I. HIGUCHI (*University of Utah, Salt Lake City, USA*).

1805 Effect of Polypyrophosphate on the Spontaneous Precipitation of DCPD. A.A. BAIG* and D.J. WHITE (*Procter & Gamble, Mason, OH, USA*).

1806 Determination of Surface Complex Composition Governing CAP Solubility. G. YAN*, H. ZHUANG, A. CHHETTRY, A.A. BAIG, and W.I. HIGUCHI (*University of Utah, Salt Lake City, USA*).

1807 Imaging Dentin Proteins on Enamel Crystal Using Atomic Force Microscopy. M.L. WALLWORK, J. KIRKHAM, L. HAIFENG, D. BORRIONE*, S.-X. CHANG, and B.H. CLARKSON (*University of Michigan, Ann Arbor, USA; and Leeds Dental Institute, UK*).

1808 "Threshold" Concentrations for Solution Fluoride Influencing Carbonated Apatite Solubility. H. ZHUANG*, A.B. BARRY, A.A. BAIG, and W.I. HIGUCHI (*Department of Pharmaceutics, University of Utah, Salt Lake City, USA*).

1809 Ultrastructural Investigation of Calculus-Enamel and Calculus-Dentin Interface. R. ROHANIZADEH*, D. MIJARES, P.C. PAN, and R.Z. LeGEROS (*College of Dentistry, New York University, and Warner-Lambert Consumer Healthcare Division, Pfizer Inc.*).

1810 Mineral Concentration in Normal and Transparent Dentin with Age. T.M. BREUNIG*, G.W. MARSHALL, J.H. KINNEY, and S.J. MARSHALL (*University of California, San Francisco, USA*).

1811 Effects of Storage on Nanomechanical Properties of Dentin and Enamel. S. HABELITZ, M. BALOOCH, J.F. HILTON, G.W. MARSHALL, and S.J. MARSHALL* (*University of California, San Francisco, and Lawrence Livermore National Laboratory, CA, USA*).

1812 Atomic Force Microscopic Investigations of the Translucent Root Dentin. L. SARUWATARI* and N. OHNO (*School of Dentistry, Aichi-Gakuin University, Nagoya, Japan*).

1813 Effects of Six Common Beverages on Human Enamel Erosion. K.L. RENCHER* and K.A. BAKER (*University of Iowa, Iowa City, USA*).

1814 *In vitro* Abrasivity Assessments of a New MultiCare Whitening Toothpaste. M.A. KAMINSKI*, A.M. PFARRER, and R.V. FALLER (*Procter & Gamble Company, Cincinnati, OH, USA*).

Seq#: 214 Saturday, March 10, 11:00 am - 12:15 pm
Poster Session, Exhibition Hall

Salivary Research - Salivary Molecules

1815 Characteristics of Salivary Progesterone Measurement Utilizing an Enzyme Immunoassay Method. B. GANDARA*, L. LeRESCHÉ, and L. MANCL (*University of Washington, Seattle, USA*).

1816 Stress Evaluation in Children during Dental Treatment. E. KOERPERICH*, E.A. HOLTGRAVE, and M. MUELLER (*University Hospital Benjamin Franklin, Free University Berlin, Germany*).

1817 Synergistic Effects of Zinc and Some Cationic Antibacterial Agents in Inhibiting Oral Malodor. A. YOUNG, G. JONSKI, and G. RÖLLA* (*Faculty of Dentistry, University of Oslo, Norway*).

1818 Therapeutic Salivary Oxidizing Activity of a Novel Antibacterial Ozone-generating Device. C.J. SILWOOD*, E. LYNCH, A. BAYSAN, B. MILLS, and M. GROOTVELD (*Restorative Dentistry, Queen's University, Belfast, UK*).

1819 Oxidative Consumption of Salivary Biomolecules by a Mouthrinse. M. GROOTVELD*, E. LYNCH, A. CLAXSON, B. MILLS, and C.J. SILWOOD (*Medical Unit, SBRLHSMD, London, UK; and Department of Restorative Dentistry, RVH, Belfast, Northern Ireland*).

1820 Enamel and Oral Mucosa Wetting by Mouthwash Constituents and Pure and Whole Salivas. M. CODIPILLY and I. KLEINBERG* (*Department of Oral Biology and Pathology, State University of New York, Stony Brook, USA*).

1821 Quantification of Common Food Beverage Effects on Oral Wetness. M. CODIPILLY* and I. KLEINBERG (*Department of Oral Biology and Pathology, State University of New York, Stony Brook, USA*).

Seq#: 215 Saturday, March 10, 11:00 am - 12:15 pm
Poster Session, Exhibition Hall

Microbiology/Immunology & Infection Control - Viruses

1822 Permissive Factors for HIV-1 Infection in Tonsil Lymphoid Cells. N.M. MOUTSOPOULOS*, T. G.-WILD, H. H.-DONZE, J. HORN, J.M. ORENSTEIN, and S.M. WAHL (*NIDCR, NIH, Bethesda, MD, and GWU, Washington, DC, USA*).

1823 Persistent EBV Replication in Normal Tongue Epithelial Cells *in vivo*. D.M. WALLING*, C.M. FLAITZ, C.M. NICHOLS, S.D. HUDNALL, and K.A. STORTHZ (*University of Texas Medical Branch at Galveston, Houston Dental Branch, University of Texas, and Bering Dental Clinic, Houston, USA*).

1824 Evaluation of Epstein-Barr Virus Strains Using a Heteroduplex Analysis. D. SITKI* and N. RAAB-TRAUB (*University of North Carolina, Chapel Hill, USA*).

1825 Update of Hepatitis C Infection among Dental Professionals. S.E. GRUNINGER, C. SIEW, K.L. AZZOLIN, and D.M. MEYER* (*ADA Health Foundation, Chicago, IL, USA*).

1826 Tumor Necrosis Factor-alpha Expression in HIV-associated Ulcers: A Clinical and Immunocytochemical Study. P.Y. RAMACHANDRAN*, N. VIGNESWARAN, C.M. NICHOLS, and C.M. FLAITZ (*Dental Branch, University of Texas at Houston, USA*).

1827 Hepatitis and Dental Visits in a Representative US Population. M.A. FISHER* (*West Virginia University, Morgantown, USA*).

1828 Salivary IgA Antibodies to gp41 in HIV-positive Patients. M.J. TORO*, L. ESCALONA, P. CHAIYARIT, N.A. WARNER, and R.L. GREGORY (*School of Dentistry and School of Medicine, Indiana University, Indianapolis, USA; and Central University of Venezuela, Caracas*).

1829 Primary Dentition Caries and Gingival Health in Pediatric HIV Infection: A Longitudinal Study. C.M. FLAITZ*, J. HICKS, S. CRON, B. CARTER, C. SIMON, S. ROSSMANN, G. DEMMLER, and M. KLINE (*University of Texas-Houston HSC-Dental Branch, Baylor College of Medicine, and Texas Children's Hospital, USA*).

Seq#: 216 Saturday, March 10, 11:00 am - 12:15 pm
Poster Session, Exhibition Hall

Oral & Maxillofacial Surgery - Surgical Wound Healing/Surgical Pathology

1830 Osteoradionecrosis of the Jaws: A Case Control Study of the Causative Factors. S. SHAREGHI*, R. O'NEILL, A.O. ABUBAKER, and C. AMIR (*School of Dentistry, MCV/VCU, Richmond, USA*).

1831 Thymidylate Synthase and Dihydropyrimidine Dehydrogenase Expressions in Oral Carcinoma. G. KAWASAKI*, I. YOSHITOMI, S. YANAMOTO, and A. MIZUNO (*First Department of Oral and Maxillofacial Surgery, Nagasaki University School of Dentistry, Japan*).

1832 Expression of Intercellular Adhesion Molecule Cadherins during the Carcinogenesis Process. T. SAKAKI*, H. KADOTA, T. YASUI, S. MORITA, K. KAKUDO, M. WATO, and A. TANAKA (*Osaka Dental University, Japan*).

1833 Immunohistochemical Study on Cell Kinetics and Angiogenesis in the Carcinogenesis Process. H. KADOTA*, T. SAKAKI, I. TAMURA, Y. YAMANEGI, S. MORITA, A. TANAKA, and K. KAKUDO (*Osaka Dental University, Japan*).

1834 Effects of Glucocorticoids on Early Intraosseous Wound Healing in Rats. C.I. ORTIZ*, S.S. HEYING, J.M. TOBLER, and M.T. ROSZKOWSKI (*Department of Oral and Maxillofacial Surgery, UTHSCSA, USA*).

1835 Differing Patterns of Intraosseous Wound Angiogenesis in Diabetic Rats. S.S. HEYING*, C.I. ORTIZ, J.M. TOBLER, and M.T. ROSZKOWSKI (*Department of Oral and Maxillofacial Surgery, UTHSCSA, USA*).

1836 Clonal p53 Gene Mutation in Ameloblastoma. T. SHIBATA*, D. NAKATA, I. CHIBA, Y. ABIKO, and M. ARISUE (*Health Sciences University of Hokkaido, Tobetsu, and Hokkaido University, Sapporo, Japan*).

1837 Microencapsulation of Bovine Albumin Serum (BSA) and TGF- β 1 Using PLGA. D.J. VERBRIGGHE and S.G. PATEL* (*United States Army Dental Research Detachment, Great Lakes, IL, USA*).

1838 Factors That Regulate VEGF Expression in Keloid Fibroblasts. H. FALLAH*, A. LE, P. KELLY, C.N. BERTOLAMI, and D.V. MESSADI (*School of Dentistry, University of California, Los Angeles, School of Dentistry, University of San Francisco, and Charles Drew University, CA, USA*).

1839 Receptor Activation Sensitizes Oral Cancer Cells to LHRH-targeted Chemotherapy. L.J. KREBS* and C. LIEBOW (*University of Connecticut and SUNY at Buffalo, NY, USA*).

Seq#: 217 **Saturday, March 10, 11:00 am - 12:15 pm**
Poster Session, Exhibition Hall

Craniofacial Biology - Developmental Biology - Morphogenesis

1840 Molecular Genetic Study of Missing Teeth in EL Mice. Y. ASADA*, R. NOMURA, K. MIYOSHI, and T. MAEDA (*Department of Pediatric Dentistry, Nihon University School of Dentistry at Matsudo, Chiba, Japan*).

1841 Profiles of *Cbfa1* mRNA & Protein Expression in Mature Murine Dental Tissues. A.L.J.J. BRONCKERS, M. ENGELSE, A. CAVENDER*, J.S. GAIKWAD, and R. D'SOUZA (*Vrije Universiteit, Amsterdam, The Netherlands; and University of Texas Health Science Center-Houston, USA*).

1842 The Temporo-spatial Distribution of Matrix-metalloproteinases during Facial Morphogenesis. S. SCANTLEBURY* and J. MORRIS-WIMAN (*Department of Orthodontics, Dental College, University of Florida, Gainesville, USA*).

1843 Role of Epithelial-Mesenchymal Interactions in Ameloblastin Gene Expression. J.D. KIM*, S. DHAMIJA, and P.H. KREBSBACH (*School of Dentistry, University of Michigan, Ann Arbor, USA*).

1844 Gene Analysis of Two Distal-less Homologs Involved in Craniofacial Development. B.A. HAVENS*, M.A. GIONFRIDDO, M. MINA, and W.B. UPHOLT (*School of Dental Medicine, University of Connecticut Health Center, Farmington, USA*).

1845 Identification of a Single Nucleotide Polymorphism in the PAX9 Gene. J.T. MILTON*, E. GRIMM, A.C. LIDRAL, B. STRONG, and R.L. SLAYTON (*University of Iowa, Iowa City, USA*).

1846 Smad2 Misexpression in Chick Embryo Results in Asymmetric Body Development. K. OGBUREKE* and Y. LI (*Forsyth Institute, Boston, MA, USA*).

1846B Histopathological Study of Human Pulp in Teeth with Periodontal Disease. T.R.S. AGUIAR*, R.F. LOTUFO, M.JAEGER, and D. MANDARINO (*University Federal Fluminense, Brazil*).

Seq#: 218 **Saturday, March 10, 11:00 am - 12:15 pm**
Poster Session, Exhibition Hall

Craniofacial Biology - Biological Mechanisms of Tooth Movement and Cellular Adaptation

1847 Plasma Membrane Disruption in Orthodontic Tooth Movement in the Rat. M.F. ORELLANA*, A.K. SMITH, and J.L. BORKE (*Medical College of Georgia, Augusta, USA*).

1848 Adenovirus-mediated CTGF Gene Delivery to Cultured Osteoblasts *in vitro*. M. KANYAMA*, T. KUBOKI, T. NAKANISHI, T. EGUCHI, K. NAWACHI, T. MIZUSHIMA, W. SONOYAMA, T. FUJISAWA, H. YATANI, and M. TAKIGAWA (*Dental School, Okayama University, Japan*).

1849 *In vivo* Analysis of Regulatory Domains of the *alk8* Gene. T.L. PAYNE and P.C. YELICK* (*The Forsyth Institute, Boston, MA, USA*).

1850 Soft Diet in Enzyme Activity and Structures of Masseter Mitochondria. I. SATO* and M. SUNOHARA (*Nippon Dental University, Tokyo, Japan*).

Seq#: 219 **Saturday, March 10, 1:45 pm - 3:45 pm**
**AADR Group-sponsored Symposia **
Grand Ballroom B

Salivary Research Group - Protection in the Oral Cavity by the Mucosal Immune System

Chairperson: F. Rahemtulla

1851 1:45 Protection in Oral Cavity by Mucosal Immune System. F. RAHEMTULLA* (*School of Dentistry, University of Alabama, USA*).

1:50 The Oral Cavity and the Mucosal Immune System. S. MICHALEK (*University of Alabama, Birmingham, US*).

2:15 Functions of Immunoglobulin. S. CHALLACOMBE (*Guy's Hospital, London, UK*).

2:40 Development of an Oral Vaccine. D. SMITH (*Forsyth Institute, Boston, MA, US*).

3:05 Microbial Evasion of Immunoglobulin. M. KILIAN (*Aarhus University, Denmark*).

3:30 Discussion

Seq#: 220 **Saturday, March 10, 1:45 pm - 3:45 pm**
Poster Discussion Session, Grand Ballroom C

Behavioral Sciences/Health Services Research - Methods in Health Services Research

Chairperson: S. Reed

1852 2:05 Accuracy of Parent-reported Health Histories of Orthodontic Patients. N.M. SCHEFFLER*, J.F.C. TULLOCH, and L.J. ROGERS (*University of North Carolina, Chapel Hill, USA*).

1853 2:15 Validity of Self-reported Six-monthly Dental Visits during a 48-month Period: Comparison with Data from Dental Charts. G.H. GILBERT and J.S. ROSE* (*School of Dentistry, University of Alabama, Birmingham, USA*).

1854 2:25 Dental Examination Reliability for Population-based Research. G. HASSELGREN*, P.R. FACTOR-LITVAK, J. KLINE, N. MERVISH, L. ZUBIAURRE, D. CALEV, and J. SILBERMAN (*Columbia University, New York, USA*).

1855 2:35 Concordance of Direct Observation with Dental Chart Information. S. DHALIWAL*, S. NELSON, S. WOTMAN, and J.A. LALUMANDIER (*Case Western Reserve University, Cleveland, OH, USA*).

1856 2:45 Oral Health and Overall Health: Systematic Review of GCRC Studies. S.G. REED*, M.D. SILVERSTEIN, and L.L. KEY (*College of Dental Medicine, College of Medicine, Medical University of South Carolina, Charleston, USA*).

1857 2:55 Direct Observation of Preventive Behaviors among Dentists and Hygienists. S. NELSON*, S. DHALIWAL, S. WOTMAN, and J.A. LALUMANDIER (Case Western Reserve University, Cleveland, OH, USA).

3:05 Discussion

Seq#: 221 Saturday, March 10, 1:45 pm - 3:45 pm

Oral Session, Grand Ballroom F

Behavioral Sciences/Health Services Research - Racial Disparities in Oral Health

Chairpersons: J. Riley and S. Narendran

1858 1:45 Oral Health Practices, Perceived Need, and Access to Care of Two Hispanic Subgroups. D.L. MERCADO-GALVIS*, G.D. CRUZ, S. BARROW, D. MIJARES, A.R. LeGEROS, H. KHAN, and R.Z. LeGEROS (College of Dentistry, New York University, and The Forsyth Institute, Boston, USA).

1859 2:00 Dental Caries Prevalence among African-American Adults in New York City. S. BARROW*, X. XUE, M. SNEAD, D. MIJARES, A.R. LeGEROS, M. TAVARES, G.D. CRUZ, and R.Z. LeGEROS (Research Center for Minority Oral Health, College of Dentistry, New York University, and The Forsyth Institute).

1860 2:15 Factors Influencing the Effect of Race on Periodontal Disease Prevalence. L.N. BORRELL*, G.W. TAYLOR, W.S. BORGNACKE, L.V. NYQUIST, M.W. WOOLFOLK, D.J. ALLEN, and W.P. LANG (University of Michigan, Ann Arbor, USA).

1861 2:30 The Tuskegee Legacy Project: Comparative Willingness of African-Americans vs. Whites to Participate in Biomedical Research, a Logistic Regression Analysis. R.V. KATZ*, S.S. KEGELES, N.R. KRESSIN, B.L. GREEN, and S.A. JAMES (New York University, University of California at Berkeley, Boston University, University of Alabama at Birmingham, and University of Michigan, USA).

1862 2:45 Ethnic/racial Differences in the Subjective Report of Orofacial Pain Symptoms. J.L. RILEY, III* and G.H. GILBERT (University of Florida, Gainesville, and University of Alabama at Birmingham, USA).

1863 3:00 Disparities in Oral Health and Dental Care Utilization among Hispanics. S. NARENDRA* (Dental Branch, University of Texas Health Science Center, Houston, USA).

1864 3:15 Racial Variation in the Provision of VA Dental Services. N.R. KRESSIN*, U. BOEHMER, D. BERLOWITZ, A. PITMAN, C. CHRISTIANSEN, and J.A. JONES (VAMC, Bedford, and School of Public Health, Boston University, USA).

1865 3:30 Racial Disparity in Dental Service Utilization among Alabama Medicaid Clients. Y. LI*, A.P. DASANAYAKE, K. KIRK, J. BRONSTEIN, and N.K. CHILDERS (Schools of Dentistry & Public Health, University of Alabama at Birmingham, USA).

Seq#: 222 Saturday, March 10, 1:45 pm - 3:45 pm

Oral Session, Columbus Hall I

Craniofacial Biology - Developmental Biology

Chairpersons: M. Mina and T. Diekwisch

1866 1:45 Suppressed *Cbfa1* Expression in Pre-hypertrophic TMJ Articular Chondrocytes *in vivo*. T. KUBOKI*, M. KANYAMA, K. NAWACHI, W. SONOYAMA, T. FUJISAWA, Y. YAMAAL, T. NAKANISHI, H. YATANI, and M. TAKIGAWA (Dental School, Okayama University, Japan).

1867 2:00 Expression and Regulation of Type I BMP Receptors in the Mandibular Arch. M. MINA*, B. RODGERS, Y.-H. WANG, and D.A. VELONIS (School of Dental Medicine, University of Connecticut Health Center, Farmington, USA).

1868 2:15 The Role of pp60^{C-Src} in Mandibular Distraction Osteogenesis. S.D. KESLER*, S.T. RHEE, S.R. BUCHMAN, S.A. GOLDSTEIN, and M.A. IGNEZI, Jr. (University of Michigan, Ann Arbor, USA).

1869 2:30 CP27 Genomic Organization and Basic Gene Regulation Analysis. X. LUAN and T.G.H. DIEKWISCH* (Baylor College of Dentistry, Texas A&M Health Science Campus, Dallas, USA).

1870 2:45 Alternative RNA Splices May Generate Human Undulin and Collagen XIV. R.W. TAYLOR* and G.H. GLASS (Baylor College of Dentistry, Texas A&M University Health Science Center, Dallas, and School of Dentistry, University of Alabama, Birmingham, USA).

1871 3:00 Signaling Underlying α PDGF Receptor-mediated Activation of Src in Fibroblasts. S.L. GODWIN*, P. ZHAN, A. KAZLAUSKAS, and S.P. SOLTOFF (Department of Orthodontics, University of Connecticut Health Center, Farmington, and The Schepens Eye Research Institute, Harvard Medical School, and Division of Signal Transduction, Beth Israel Deaconess Medical Center, Boston, MA, USA).

1872 3:15 Gingival, Dermal, & Periodontal Ligament Fibroblasts Express Different Extracellular Matrix Receptors. T.E. LALLIER*, A.A. PALAIOLOGUO, R.A. YUKNA, and R. MOSES (School of Dentistry, Louisiana State University, New Orleans, USA).

3:30 Discussion

Seq#: 223 Saturday, March 10, 1:45 pm - 3:45 pm

Oral Session, Columbus Hall G

Craniofacial Biology - Orthodontics: Bonding Materials, Imaging Methods

Chairpersons: S. Bishara and E. Kao

1873 1:45 Effect of Using Self-etch Primer/Adhesive on Orthodontic Bracket Bond Strengths. S.E. BISHARA*, L. VONWALD, J.F. LAFFOON, and J.J. WARREN (College of Dentistry, University of Iowa, Iowa City, USA).

1874 2:00 Effect of Repeated Bonding Orthodontic Bracket on Shear Strength. S.E. BISHARA, L. VONWALD*, J.F. LAFFOON, and J.J. WARREN (University of Iowa College of Dentistry, Iowa City, USA).

1875 2:15 *In vitro* Enamel Decalcification and Fluoride Release among Orthodontic Adhesives. P. NGAN*, C.T. RAMOS, E.C. KAO, K. KOHLI, and M. GLADWIN (School of Dentistry, West Virginia University, Morgantown, USA).

1876 2:30 Shear Bond Strength of Orthodontic Adhesive Polymerized by Argon Laser. B. ECKLEY*, E.C. KAO, V. KISH, and P. NGAN (West Virginia University, Morgantown, USA).

1877 2:45 Initial Testing of a Computer Program to Improve Landmark Location Reliability. S.K. CARLSON*, S. BAUMRIND, R.L. BOYD, and S. CURRY (University of the Pacific, San Francisco, USA).

1878 3:00 Centographic Analysis of One- or Two-phase Orthodontic Treatment. R.E. SCHADER*, C. DOLCE, S.P. MCGORRAY, and T.T. WHEELER (University of Florida, Gainesville, USA).

1879 3:15 Mass Properties of the Human Mandible. F. ZHANG*, C.C. PECK, and A.G. HANNAM (University of British Columbia, Vancouver, Canada).

3:30 Discussion

Seq#: 224 Saturday, March 10, 1:45 pm - 3:45 pm
Oral Session, Columbus Hall C

Dental Materials - Tooth-colored Indirect Restorations

Chairpersons: S. Suzuki and S. Rinke

1880 1:45 Clinical Evaluation of New Composite Bridge with Metal Bonding Retainer. S. SUZUKI* and D.A. GIVAN (*School of Dentistry, University of Alabama, Birmingham, USA*).

1881 2:00 Clinical Evaluation of Fiber-reinforced Composite Fixed Partial Dentures: Two-year Data. J.C. MEIERS*, M.A. FREILICH, J.P. DUNCAN, and A.J. GOLDBERG (*School of Dental Medicine, University of Connecticut Health Center, Farmington, USA*).

1882 2:15 Clinical Evaluation of CAD/CIM-generated Polymer Ceramic Inlays. D.J. FASBINDER*, J.B. DENNISON, D. HEYS, and K. LAMPE (*University of Michigan, Ann Arbor, USA; and University of Zürich, Switzerland*).

1883 2:30 Three-year Clinical Performance of CAD/CIM-generated Ceramic Onlays. D.J. FASBINDER, K. LAMPE, J.B. DENNISON*, M.C. PETERS, and K. NEMATOLLAHI (*University of Michigan, Ann Arbor, USA; and University of Zürich, Switzerland*).

1884 2:45 Retrospective Clinical Evaluation of PFM Crowns. S. RINKE*, J. EIFERT, and A. HÜLS (*Georg-August-University, Göttingen, and Private Practice, Halle, Germany*).

3:00 Discussion

Seq#: 225 Saturday, March 10, 1:45 pm - 3:45 pm
Oral Session, Columbus Hall E

Dental Materials - Polymer Materials: Mechanical and Physical Testing

Chairpersons: D. Eick and S. Bayne

1885 1:45 A New Oxirane/Polyol Low-shrinkage/Low-stress Dental Composite. J.D. EICK*, G.A. LAUGHLIN, D.C. KRENKEL, S.M. ROZZI, B.D. CRAIG, and M.G. REIMAN (*University of Kansas City-Missouri and 3M Company, St. Paul, MN, USA*).

1886 2:00 Whisker-silica Filler Reinforcement of Resin Composites. J.B. QUINN*, H.H.K. XU, A.A. GIUSEPPETTI, F.C. EICHMILLER, G.E. SCHUMACHER, and J.M. ANTONUCCI (*ADAHF-PRC, NIST, Gaithersburg, MD, USA*).

1887 2:15 Mechanical Properties of Oxirane-based Dental Composite Materials. B.D. CRAIG*, M.G. REIMAN, J.D. OXMAN, D.W. JACOBS, and S.M. ROZZI (*3M Company, St. Paul, MN, USA*).

1888 2:30 A New Highly Filled Polishable Flowable Composite. C. ANGELETAKIS*, C. LUU, C. TRAN, and E. SHEL-LARD (*Kerr Corp., Orange, CA, USA*).

1889 2:45 Mechanical Properties vs. Time for Prototype Controlled-shrinkage Dental Composite. S.C. BAYNE*, J.Y. THOMPSON, and T. STEET (*Department of Operative Dentistry, UNC School of Dentistry, Chapel Hill, USA*).

1890 3:00 Effect of Silane on Degradation Resistance of Dental Resin Composites. A. KARMAKER*, A. PRASAD, and N.K. SARKAR (*Jeneric/Pentron, Inc., Wallingford, CT, and LSU School of Dentistry, New Orleans, USA*).

1891 3:15 Creep Behavior of Provisional Crown Materials. J. VAIDYANATHAN*, Z. CHERIAN, and T.K. VAIDYANATHAN (*NJ Dental School, Newark, USA*).

1892 3:30 Long-term Creep Response of Dental Composites. T.K. VAIDYANATHAN*, Z. CHERIAN, and J. VAIDYANATHAN (*NJ Dental School, UMDNJ, Newark, USA*).

Seq#: 226 Saturday, March 10, 1:45 pm - 3:45 pm
Oral Session, Columbus Hall A

Dental Materials - Endodontic Materials

Chairpersons: F. Eichmiller and W. Dasch

1893 1:45 Tear-strength Measurement Methods for Latex Rubber Dam. F.C. EICHMILLER*, J. RIAZI, and A.A. GIUSEP-PETTI (*ADAHF Paffenbarger Research Center, NIST, Gaithersburg, MD, and The Hygenic Corporation, Akron, OH, USA*).

1894 2:00 Calcium Release and pH of Gutta Percha Points Containing Calcium Hydroxide. U. LOHBAUER, U. DAHL, W. DASCH*, and A. PETSCHT (*Policlinic for Operative Dentistry and Periodontology, University of Erlangen-Nuremberg, Germany*).

1895 2:15 An *in vitro* Evaluation of Current Obturation Techniques. D. CORONEL and N.J. MCDONALD* (*Baltimore College of Dental Surgery, Dental School, University of Maryland, USA*).

1896 2:30 Bur Preference of Endodontic Directors for Preparation in Ceramic Crowns. P.M. LLOYD and W.T. JOHNSON* (*University of Iowa, Iowa City, USA*).

1897 2:45 The Effect of Polishing the Slots of Ceramic Brackets on Frictional Resistance. C. BRIDI*, R. POBER, and R.A. GIOR-DANO, II (*Boston University, MA, USA*).

3:00 Discussion

Seq#: 227 Saturday, March 10, 1:45 pm - 3:45 pm
Poster Discussion Session, Grand Ballroom D

Implantology Research - Biomechanics/Bone Remodeling/Animal Studies

Chairperson: L. Garetto

1898 2:05 Dynamic Fatigue Properties of Implant/Abutment Interfaces. S.A. HOYER*, C.M. STANFORD, T. MCIFFE, and T.A. FRIDRICH (*Dows Institute and Department of Orthopaedic Surgery, University of Iowa, Iowa City, USA*).

1899 2:15 Finite Element Analysis of Transmandibular Implant. T. NOMURA*, M.P. POWERS, E. GOLD, and J.L. KATZ (*Case Western Reserve University, Cleveland, OH, USA*).

1900 2:25 Development of the Ankylotic Pure-gold Artificial Root with Plastic Periodontium. K. NISHIHARA* and M. KUWA-TA (*University of Tokyo and Kuwata College, Tokyo, Japan; and Boston University, MA, USA*).

1901 2:35 Implant Osseointegration in Dog Mandibles as Measured by Impedance Nonlinearity. L.C. RAMP, D.L. KOTH, and R.L. JEFFCOAT* (*School of Dentistry, University of Alabama, Birmingham, and School of Dentistry, MCG, Augusta, GA, USA*).

1902 2:45 Bone Remodeling Adjacent to Hydroxyapatite-coated and Titanium-coated Titanium Implants. B.E. WILLIAMS*, S.S. HUJA, and L.P. GARETTO (*School of Dentistry, Indiana University, Indianapolis, and College of Dentistry, University of Nebraska, Lincoln, USA*).

1903 2:55 Effects of Etidronate in Healing of Implant-supporting Bone. A.M. de la ROSA*, M.E. WOHLFORD, T. HIRANO, D.B. BURR, and L.P. GARETTO (*Schools of Dentistry and Medicine, Indiana University, Indianapolis, USA*).

1904 3:05 Diabetic Bone Response to Implants in Sprague-Dawley and Wistar Rats. M.S. MCCracken*, R.P. HAYES, J.E. LEMONS, F. RAHEMTULLA, and C. PRINCE (*University of Alabama at Birmingham, USA*).

1905 3:15 Expression of Extracellular Matrix Proteins Decreases in Osteoporotic-like Bone. M. ROEHM*, G. SCHNEIDER, K. KRIZAN, and J.C. KELLER (*University of Iowa, Iowa City, USA*).

3:25 Discussion

Seq#: 228 Saturday, March 10, 1:45 pm - 3:45 pm
Oral Session, Columbus Hall K

Mineralized Tissue - Mineralization, Physical - Chemical Aspects

Chairpersons: A. Boskey and J. Vogel

1906 1:45 Osteopontin-Osteocalcin Mixtures Enhance Mineralization in a Gelatin Gel. A.L. BOSKEY*, A. ILG, M. TAN, and L. SPEVAK (*Hospital for Special Surgery, New York, USA*).

1907 2:00 Phosphorylated Recombinant Dentin Matrix Protein-1 Effects on Mineralization *in vitro*. M. DOULAVERAKIS*, A.L. BOSKEY, L. SPEVAK, M. TAN, A. RAMACHANDRAN, M. SODHIS, and A. GEORGE (*Columbia University and Hospital for Special Surgery, New York, and University of Illinois, Chicago, IL, USA*).

1908 2:15 Intrafibrillar Collagen Mineralization May Be Inhibited in Dentinogenesis Imperfecta Type II (DI-II). J.H. KINNEY*, J.A. POPLER, C. DRIESSEN, G.W. MARSHALL, and S.J. MARSHALL (*University of California, San Francisco, SSRL, Stanford, CA, USA; and University of Pretoria, South Africa*).

1909 2:30 Analysis of Dentinogenesis by FTIR Imaging. K. VERDELIS*, M.A. CRENSHAW, L.P. PASCHALIS, S.B. DOTY, E. ATTI, and A.L. BOSKEY (*Hospital for Special Surgery, New York, University of North Carolina, Chapel Hill, and Rutgers University, Newark, NJ, USA*).

1910 2:45 Analogues for Matrix Vesicle Nucleation Core and Calcifiable Proteolipids. J.J. VOGEL* and A.L. BOSKEY (*Houston Dental Branch, University of Texas, and Hospital for Special Surgery, New York, USA*).

1911 3:00 Constant Composition Simultaneous Dissolution Kinetics of Mixed Calcium Phosphate Phases. G.H. NANCOLLAS*, W. WU, M. HAAS, R. TANG, and M.M. CRISANTI (*SUNY at Buffalo, NY, and Procter & Gamble, Mason, OH, USA*).

1912 3:15 Characterization of Calcified Bovine Pericardium Explants by Various X-ray Methods. N. EIDELMAN*, W. TESCH, P. ROSCHGER, G. GOLOMB, H. COHEN, and P. FRATZL (*ADAHF, PRC, NIST, Gaithersburg, MD, USA; University of Leoben and Ludwig Boltzmann Institute of Osteology, Vienna, Austria; and Hebrew University, Jerusalem, Israel*).

3:30 Discussion

Seq#: 229 Saturday, March 10, 1:45 pm - 3:45 pm
Oral Session, Grand Ballroom A

Periodontal Research - Periodontal Disease, Risk Factors and Indicators

Chairpersons: A. Tanner and M. Ronderos

1913 1:45 Cigarette Smoking and Periodontal Disease. I. Clinical Parameters. A.D. HAFFAJEE* and S.S. SOCRANSKY (*The Forsyth Institute, Boston, MA, USA*).

1914 2:00 Cigarette Smoking and Periodontal Disease. II. Microbiological Parameters. S.S. SOCRANSKY* and A.D. HAFFAJEE (*The Forsyth Institute, Boston, MA, USA*).

1915 2:15 Transmission of *Bacteroides forsythus* within Multigenerational Families. S. PARKER*, A.L. GRIFFEN, and E.J. LEYS (*Ohio State University, Columbus, USA*).

1916 2:30 Stability of Colonization of Subgingival Species in Pre-school Children. A.C.R. TANNER*, P. MILGROM, S.A. MOKEEM, C.A. RIEDY, and B.D. THOMAS (*The Forsyth Institute, Boston, MA, and University of Washington, Seattle, USA*).

1917 2:45 Association of DMFT with Periodontal Disease: Evaluation of NHANES III. M. RONDEROS* and K. RAMIREZ (*University of the Pacific, San Francisco, CA, USA*).

1918 3:00 The Relationship between Stress/Anxiety and Adult Periodontitis. M.V. VETTORE*, A.T.T. LEÃO, R.S. QUINTANILHA, and A.M. MONTEIRO DA SILVA (*Federal University of Rio de Janeiro/UNIGRANRIO, Brazil*).

1919 3:15 Variations in Rates of Periodontal Attachment Loss during Adult Life. M. SCHÄTZLE*, H. LÖE, N.P. LANG, W. BÜRGIN, Å. ÅNERUD, and H. BOYSEN (*School of Dental Medicine, University of Berne, Switzerland*).

1920 3:30 Monitoring of Periodontal Disease with Crevicular Fluid Variables. H. JENTSCH* and R. GÖCKE (*University of Rostock, Germany*).

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