CURRICULUM VITAE

Brian D. Athey, Ph.D.
Michael A. Savageau Collegiate Professor and Chair
Department of Computational Medicine and Bioinformatics
Professor, Department of Psychiatry and
Department of Internal Medicine
University of Michigan Medical School
Co-Director, Michigan Institute for Data Science (MIDAS)
University of Michigan Office of Research

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100 Washtenaw Ave.
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Email: bleu@umich.edu

EDUCATION

1976-1977 St. John's College; Annapolis, MD (Major: Classical Studies)

1980-1982 B.S. (Major: Biochemistry; Minors: Physics and Mathematics)
University of Michigan-Dearborn; Dearborn, MI

1982-1990 Ph.D. (Cellular and Molecular Biology: Biophysics Concentration)
Advisor: Professor John P. Langmore
Dissertation Title: "Chromatin Fibers are Left-handed Double Helicies"
University of Michigan; Ann Arbor, MI

PREDOCTORAL TRAINING

1983-1985 National Institutes of Health Predoctoral Fellowship
Cellular and Molecular Biology (CMB) Training Program: Biophysics Concentration
Mentors: Professors John P. Langmore and Martha L. Ludwig
University of Michigan Medical School; Ann Arbor, MI

POSTDOCTORAL TRAINING

1990-1991 NIH Postdoctoral Fellowship
Developmental Biology Training Program
Mentors: Professors Bruce M. Carlson and Michael J. Welsh
University of Michigan Medical School; Ann Arbor, MI

1991-1993 NIH Postdoctoral Fellowship
Chemical and Hearing Senses Training Program
Mentors: Professors Richard A. Altshuler and David J. Anderson

Kresge Hearing Research Institute
University of Michigan Medical School; Ann Arbor, MI

SENIOR POSTDOCTORAL TRAINING

1998 CNS Anatomy Course, St. Hugh's College, University of Oxford (UK)

ACADEMIC APPOINTMENTS

1991-1993 Adjunct Lecturer, Department of Biology
University of Michigan

1995-1998 Assistant Professor, Department of Anatomy and Cell Biology (ACB)
University of Michigan Medical School

1997-2000 Assistant Professor, Graduate Program in Medical Illustration
University of Michigan School of Art and Design

1997-2003 Visiting Assistant Professor, Optical Engineering (with Professor Emmett Leith)
Electrical Engineering and Computer Science (EECS)
College of Engineering
University of Michigan

1998-2003 Assistant Professor, Department of Cell and Developmental Biology
University of Michigan Medical School

1998-2003 Assistant Professor and Founding Member
Center for Biologic Nanotechnology
Department of Internal Medicine, Division of Allergy and Immunology
University of Michigan Medical School

2003-2008 Associate Professor, Biomedical Informatics
Department of Psychiatry and Comprehensive Depression Center
University of Michigan Medical School

2003- 2008 Associate Professor, Biophysics
Michigan Nanotechnology Institute for Medicine and Biological Sciences (M-NIMBS)
Department of Internal Medicine, Division of Allergy and Immunology
University of Michigan Medical School

2003- 2007 Visiting Associate Professor of Computer Science and Engineering (CSE Division)
Electrical Engineering and Computer Science (EECS)
College of Engineering
University of Michigan

2003-2005 Visiting Associate Professor of Optical Engineering (with Professor Emmett Leith)
Electrical Engineering and Computer Science (EECS)

College of Engineering
University of Michigan

2005- 2008 Associate Professor, Bioinformatics and Computational Biology
Bioinformatics Graduate Program
Center for Computational Medicine and Bioinformatics (CCMB)
University of Michigan Medical School

2008- Professor (with Tenure)
Department of Psychiatry and Comprehensive Depression Center
University of Michigan Medical School

2008- Professor, Bioinformatics and Computational Biology
Bioinformatics Graduate Program
Center for Computational Medicine and Bioinformatics (CCMB)
University of Michigan Medical School

2008- Professor, Biophysics
Michigan Nanotechnology Institute for Medicine and Biological Sciences (M-NIMBS)
Department of Internal Medicine, Division of Allergy and Immunology
University of Michigan Medical School

2009-2011 Collegiate Professor and Chair (Designate), Center for Computational Medicine and Bioinformatics (CCMB)

2009-2011 Director, Academic Informatics (Medical School)

2009-2013 Associate Director, Biomedical Informatics (NIH CTSA)
Michigan Institute for Clinical and Health Research (MICHR)

2012- Michael A. Savageau Collegiate Professor and Founding Chair
Department of Computational Medicine and Bioinformatics (DCM&B; Tenure home).

2015 - Co-Director, University of Michigan Data Science Initiative. (U-M Office of Research).

RESEARCH APPOINTMENTS

1994-1995 Research Investigator, Department of Anatomy and Cell Biology

2008 - 2011 Research Professor, Center for Computational Medicine and Bioinformatics (CCMB)

ADMINISTRATIVE APPOINTMENTS

2000-2001	Academic Liaison, Research and Instructional Computing for the Health Sciences; Office of the Chief Information Officer (CIO) University of Michigan
2001	Interim Director, Michigan Center for Biological Information (MCBI) Office of the Vice President for Research (OVPR) University of Michigan
2001-2006	Director, Michigan Center for Biological Information (MCBI) Office of the Vice President for Research (OVPR) University of Michigan (Absorbed into the UM Center for Computational Medicine and Bioinformatics, CCMB, in 2006)
2003-2006	Director, Biomedical Informatics Core Department of Psychiatry and Comprehensive Depression Center University of Michigan Medical School
2005-2009	Section Head, Bioinformatics and Laboratories Department of Psychiatry University of Michigan Medical School
2005-2009	Associate Director and Co-founder (with Gilbert S. Omenn) UM Center for Computational Medicine and Bioinformatics (CCMB) University of Michigan Medical School
2006-2009	Director of Information Technology (IT) Department of Psychiatry University of Michigan Medical School
2006-	Director, Biomedical Informatics Program (NIH CTSA) Michigan Institute for Clinical and Health Research (MICHR)
2009-2011	Chair Designate, Computational Medicine and Bioinformatics; Medical School
2009-2011	Director, Academic Informatics (Medical School)
2009- 2013	Associate Director, Biomedical Informatics (NIH CTSA) Michigan Institute for Clinical and Health Research (MICHR)
2012-2017	Michael A. Savageau Collegiate Professor and Chair, Department of Computational Medicine and Bioinformatics (DCM&B)
2015-2020	Co-Director, Michigan Institute for Data Science (MIDAS) University of Michigan Office of Research

INDUSTRIAL POSITIONS

1997-1998 Director, Biological Programs (DARPA Consultant and Contractor)
ERIM International, Inc.; Ann Arbor, MI

NOT-FOR-PROFIT POSITIONS

1995-1997 Director, Biological Programs (DARPA Contractor)
Environmental Research Institute of Michigan (ERIM); Ann Arbor, MI

2005-2011 Co-Founder, Scientists and Engineers for America (SEA); Chairman of the Board, 2009-2011

2012- 2013 Co-Founder and Co-CEO, tranSMART Foundation (with Michael Braxenthaler, Pistoia Alliance)

2014 - Chief Scientific Officer, tranSMART Foundation

CURRENT RESEARCH INTERESTS

1. **'Integrative Biomedical Informatics' and 'Translational Bioinformatics'.** Starting with the NIH National Center for Integrative Biomedical Informatics in 2005-2012, the focus is to integrate multiscale omics data (genomics, epigenomics, transcriptomics, proteomics and metabolomics data) into interpretable systems models and networks for data discovery and experimental validation purposes. In 2011, I co-founded the tranSMART Foundation to further sustain this work, and link its omics integration capability with phenotypic data representations from clinical research and Electronic Health Record (EHR) Systems using the open source tranSMART Platform. This platform is now widely used worldwide by the pharmaceutical industry, academic health centers, and not-for-profit medical research organizations. I currently serve as the Chief Science Officer of the tranSMART Foundation (See tranSMARTFoundation.org).
2. **High Throughput Microscopic Analysis of Chromatin State within the Nucleus (4-D Nucleome).** This is a new research activity, initiated in 2012. Research focus is to merge bioinformatics information within the spatial-temporal context of the placement of sequence data within context of the chromatin within the 4D nucleus of cells and tissues. Current focus is determining the molecular and cellular determinants involved in the transformation of normal to metastatic prostate cancer from a 3D plus time perspective, replacing 2D pathology histological methods with super resolution 3D imaging and high resolution Chromatin Capture with temporal change measurement (4D). Extensive use of image processing allows for populations of cellular images to be analyzed to give population statistics. This is a joint research and development effort with Assurex Health (Mason, Ohio),, Johns Hopkins University (Ken Pienta and Don Coffey), and the Institute of Molecular Biology (IMB) Mainz (Christoph Cremer).

3. **Psychiatric Pharmacogenomics.** With my collaborator Gerald A. Higgins, MD, Ph.D, I am have been engaged in intensive studies to define a new class of genomic signatures to inform Psychiatric Pharmacogenomics by using a novel (Patent Applied for)

bioinformatics pipeline that has allowed for the discovery of a large class of new intragenic and intron Single Nucleotide Variants (SNVs) that govern genetic regulation and alternative splicing of pharmacokinetic (PK) and pharmacodynamic (PD) genes related to the metabolism of neuropsychiatric medications in clinically stratified patient populations. To validate predictions from our bioinformatics pipelines, we are using techniques developed by the 4D Nulceome project (#2, above) and a special instance of the tranSMART Platform (#1, above). Disclosure: I serve as the Chair of the Scientific Advisory Board of AssureRx Health (Mason, OH); the leading company offering psychiatric pharmacogenomics services to psychiatrists and related healthcare providers. A University of Michigan Regents-approved Master Research Agreement covers this research (14-PAF01383); and appropriate Conflict of Interest Management plans are on file with the UMMS Office of Regulatory Affairs.

GRANT/CONTRACT SUPPORT

Current

7/11-7/16 T32 GM0704490552 (**Athey, Brian D.**)
"Training Program in Bioinformatics"

This is a multidisciplinary graduate training program in bioinformatics and computational molecular biology drawing faculty participation on a campus-wide basis. Computational bioscience has emerged as a new multidisciplinary field contributing to all aspects of biology and medicine; there is an urgent need for scientists skilled in bioinformatics and computational biology, in order to be able to participate this emerging and vibrant field.
Role: PI $883,760 Total Costs

6/12-5/17 UL1 RR024986-01 (Shanley, Thomas)
NIH / NCATS
"Michigan Institute for Clinical and Health Research (MICHR)"

The University of Michigan Clinical and Translational Science Award (UM CTSA) focuses on supporting and facilitating clinical and translational "Team Science."
Role: Co-I, Director of the Biomedical Informatics Core (BIC)
$48,788,667 Total Costs

9/12-9/17 U24 DK097153 (Burant, Charles)
"Michigan Regional Comprehensive Metabolomics Research Core" NIH NIDDK
This is a project to expand the metabolomics capabilities at the University of Michigan to become a national metabolomics resource.
Role: Co-I and Director, Data Core $2,093,801 Total Costs Y1

6/15-5/16 (**Athey, Brian. D.**) Sponsor: tranSMART Foundation

"tranSMART Foundation Project Management, Code Governance, Community and Content Activities Contract". Provide Operating support for Code Governance, North American Community Leadership, and Content Committee. Provide support for tranSMART Foundation Annual Meeting. Role: PI
$250K Total Costs/year.

10/13-9/18 5 UO1 NS086090 02 (**Athey, Brian D.**)
Transforming Research and Clinical Knowledge in Traumatic Brain Injury (TRACK-TBI). NIH NINDS Geoff Manley, PI (UCSF)
Data Integration Support using tranSMART Platform
Role: Co-I $32,545 Total Costs

Pending

07/15-06/18 (**Athey, Brian D.**) Sponsor: AssureRx Health, Inc. (Mason, OH).
UM/DCMB--AssureRx Health Cooperative Research Agreement
Task #1 Validation Activity. Perform Research and Development activities relating to Psychiatric Pharmaco-epigenomics Intellectual Property Development. Task #2: Establish AssureRx Health tranSMART Instance for R&D. Task #3: Manage Ohio State University (OSU) Sub-contract, W. Sadee, PI.
Role: PI Total Costs ~$1.5 M/year Cooperative Research Agreement

3/14 ICF International/NIH. Creating an Infrastructure to Promote Data Sharing Among Biomedical Researchers
The Inter-university Consortium for Political and Social Research (ICPSR) at the University of Michigan, acting under provisions of a sub-contract, will team with ICF Incorporated, LLC in executing cooperative agreement (FOA) Number: RFA-HL-14-031 - Development of an NIH BD2K Data Discovery Index Coordination Consortium (DDICC). It is expected that through this consortium the biomedical research community will participate in various Task Forces that will study questions relevant to access, discoverability, citation, etc. for all biomedical data. The Cooperative Agreement will also organize and facilitate community engagement in the development, testing, and validation of an NIH Data Discovery Index (DDI). The primary output will be demonstrable projects, which will provide working insights into an operational DDI.
Role: Co-PI (Alter, PI) $99,330

Recent

10/13-9/15 N017635 (**Athey, Brian D.**)
"Promoting Scientific Progress through Biomedical Research, Biomedical Informatics and the Development of Ontological and Biomedical Informatics Tools that enable Collaborative Biomedical Research" Cooperative Research Agreement. Johns Hopkins University Medical School.

Project 1: Platform Development of 3D Microscopic Imaging Technologies, Analytical Pipelines, and Data and Information Reporting Services to Study Tumor Cell Heterogeneity at the Single Cell Level and Tissue levels in collaboration with the James Buchanan Brady Urological Institute at Johns Hopkins Medicine.
Project 2: Implementing tranSMART Platform to Integrate 3D Microscope Information, 'Omics Databases, and Biorepositories, and participant databases across the James Buchanan Brady Urological Institute at Johns Hopkins Medicine. This system will be configured to receive and transmit information into and out of the JHU Epic System
Role: PI $597,499 Total Costs/year

02/14- 5/15 "Supporting the Open Science tranSMART Community" (**Athey, Brian D.)**

The tranSMART Foundation is a global non-profit organization that enables technological and scientific collaboration to realize the promise of translational biomedical research. The Foundation organizes and empowers a community of physicians, scientists and:
- Establish and sustain tranSMART as the preferred data sharing and analytics platform for translational biomedical research;
- Link academic, non-profit and corporate research communities for collaborative research facilitated by tranSMART;
- Align and grow a vibrant developer network around the scientific goals of the tranSMART community; and
- Reduce barriers to entry through use of advanced technologies and an active marketplace.

Role: PI

2011-2012 "CTSA-SHRINE National Demonstration Project"
The Harvard Catalyst (CTSA) Informatics Program has developed and implemented a web-based query system that permits the return of data from participating hospitals for patients meeting selected inclusion and exclusion criteria for diagnoses, demographics, medications and laboratory values. This system has been designed to sit on top of the widely-adopted i2b2 platform that extracts and analyzes electronic health records data for research purposes and as such may provide an efficient means of conducting population based research where large numbers of characterized patients are desired. The University of Michigan currently has SHRINE version 1.0 is currently in production, is freely available, and will be used in this proposed demonstration project. UM i2b2.
Douglas McFadden, PI; **Athey BD,** Co-I.
Role: UM PI
Total Cost $15,384

2010-2012 3 U54 DA021519-05S2 (Athey, Brian D)
"National Center for Integrative Biomedical Informatics (NCIBI)"
Bridge funding for NCIBI to provide finalization of the Biomedical Computation Research and to enhance the Training, Outreach and Dissemination of NCIBI

Tools and Resources. **Athey BD**, PI. $2,776,008 Total Costs

2007-2011 1 R01 DK079084-01 (Burant, Charles)
National Institute of Health
"Using Systems Biology to Understand Islet Adaptation and Failure in Diabetes"
The goals of this project are to combine novel metabolomic analysis techniques with bioinformatics to identify the way in which pancreatic islets adapt to differences in nutrient mix and supply.
Athey, BD, Co-I; $2.64M Total Costs

2005-2011 T32 GM0704490552 (Athey, Brian D)
"Training Program in Bioinformatics"
This is a multidisciplinary graduate training program in bioinformatics and computational molecular biology drawing faculty participation on a campus-wide basis. Computational bioscience has emerged as a new multidisciplinary field contributing to all aspects of biology and medicine; there is an urgent need for scientists skilled in bioinformatics and computational biology, in order to be able to participate this emerging and vibrant field.
Athey, BD, PI; $1,225,579 Total Costs

2005-2010 1 U54 DA021519-03A1 (Athey, Brian D.)
National Institute of Health
"National Center for Integrative Biomedical Informatics (NCIBI)"
Focus is biomedical informatics data integration and modeling, including advanced biomedical Information Retrieval (IR) to accelerate NIH-funded research in complex and chronic biomedical diseases. This is one of the seven NIH National Centers for Biomedical Computing (NCBC).
Athey, BD, PI; $18.7M Total Costs with additional $1.5M cost-share.

2008-2009 3 U54 DA021519 04S1 (Athey, Brian D)
"Support and Development of Biositemaps for NCBCs"
Coordinate development efforts across all NCBCs for the development and deployment of Biositemaps. Focus on alignment of ontology to various tool types and application development space user-computer interface components including visualization and the development of FAQ and user help guides.
Athey, BD, PI;$50,000 Total Costs.

2008-2009 3 U54 DA021519 04S2 (Athey, Brian D)
"NCIBI Building Bridges: BioIMAGE – Intelligent seMantic Analysis of Biomedical Images"
Develop a representation to map experiments to knowledge, and to associate experiments and knowledge to images. Develop a computational framework or automatically mapping between experiments to knowledge, and for associating the mapping to images.
Athey, BD, PI; $99,997 Total Costs.

2008-2009 U54 DA021519-02S2 (NCIBI supplement)
"Building Bridges with the University of Wisconsin-Milwaukee"
To create a special "building bridges" postdoctoral fellowship training opportunity with the University of Wisconsin-Milwaukee to extend the capability of NCIBI to augment the molecular interactions database with information obtained from biomedical images, legends, figures and tables.
Athey, BD, PI; $86,372 Total Costs.

2008-2009 3UL1RR024153-03S1 (Becich, Michael)
Michigan Institute for Clinical & Health Research
Administrative Supplement for CTSA Consortium Project
"CTSA Inventory Resource Web Presence (CIRWP)"
The objective of this project is to create a web-accessible and queriable inventory of research resources of the CTSA informatics consortium. This inventory resource will serve as a demonstration prototype that enables tool and data sharing within the CTSA, and will promote synergies between various components of the CTSA consortium. **Athey, BD**, Co-I; $75,000 Total Costs.

2007-2012 UL1 RR024986-01 (Pienta, Kenneth J.)
NIH / NCRR
"Michigan Institute for Clinical and Health Research (MICHR)"

The University of Michigan Clinical and Translational Science Award (UM CTSA) focuses on supporting and facilitating clinical and translational "team science."
Role: Co-I, Director of the Biomedical Informatics Program (BIP)
$71.1M Total Costs

2004-2009 2 R01 AI 37141 (Baker, James R. Jr.)
National Institutes of Health-NIAID
"Apoptosis in Thyroiditis"
The major goal of this effort is to provide bioinformatics support for Dr. Baker's project. **Athey, BD,** Co-I; $1.7M Total Costs.

2006-2008 U54 DA021519-02S1 (NCIBI supplement)
"Improved Gene Pathway Assertions Using NLP (Natural Language Processing) of Biomedical Literature and SAGA (Sequence Alignment by Genetic Algorithm)". **Athey, BD**, PI; $99.4K Total Costs.

2001-2008 GR-238 (Athey, Brian D.)
Michigan Economic Development Corporation (MEDC)
"The Michigan Center for Biological Information (MCBI)"
The major goal of this project is to provide statewide bioinformatics and computational biology capabilities to the Michigan Core Technology Alliance infrastructure partners and institutions. **Athey, BD**, PI; $10.3M Total Costs. No-cost extension through Aug. 2008.

2004-2007 BAA-RM-04-23 (Clauw, Daniel)
National Institutes of Health - NHLBI
Michigan Clinical Research Collaboratory (MCRC): An Integrated Academic-Community Research Enterprise.
The major goal of this contract is to develop an "Honest Broker" system which will allow for the interaction of several distinct domains of the translational research medical record. **Athey, BD,** Co-I; $3.05M Total Costs. No-cost extension through Dec. 2007.

2004-2007 N01-LM-3-3512 (Dev, Parvati)
National Institutes of Health - NLM
Advanced Network Infrastructure for Distributed Learning and Collaborative Research (HAVnet).

The major goal is establishing an Internet-based collaboration medical education teaching capability as part of the NLM SII program: subcontractor to Stanford University. **Athey, BD,** PI; subcontract. $121K Total Costs.

2003-2006 BAA 02-03 Addendum 4. The Virtual Soldier. "Core Development Integration and Demonstration of the DARPA Virtual Soldier." Defense Advanced Research Projects Agency. Cooperative Agreement Contract W81XH-04-0012. **Athey BD,** Overall PI; 50% effort. Phase I. 20 months. $9.96M Direct Costs (~$15.5 M Total Direct Costs counting 11 Sub-contractors)

2002-2004 "MEDC 270—Development of a Comprehensive Simulation-based Computer Software System Environment for Designing DNA-based Microarrays." Michigan Economic Development Corporation; **Athey BD,** PI; 0% effort; $52K Direct Costs.

2002-2004 "Novel Technologies for Noninvasive Detection, Diagnosis of Cancer." National Cancer Institute–National Institutes of Health. Imaging subproject. **Athey BD,** Co-I; 20% effort. $339K Direct Costs.

Past

1999-2003 "University of Michigan Next Generation Internet (NGI) Implementation to Serve Visible Human Datasets: Phase II". NIH-National Library of Medicine (NLM) Contract #N01-LM-0-3511. **Athey BD,** PI; 50% effort. $4.95M Direct Costs.

1999-2002 "Nanomolecular Therapeutics for Cancer." National Cancer Institute Contract. J.R. Baker, Jr., PI; **Athey BD,** Co-I; 20% effort; Task 3 - Imaging Component, $720K Direct Costs.

1998-1999 "University of Michigan Next Generation Internet Implementation to Serve Visible Human Datasets: Phase I." NIH-National Library of Medicine Contract. **Athey BD,** PI; 15% effort; $66K Direct Costs.

1998 "Prospect: The Prostate Cancer Decision Support Architecture." Internal Graduate Student Award from the University of Michigan NIH Prostate SPORE Grant, K.J. Pienta, PI; **Athey BD,** Co-I; 0% effort; $5K Direct Costs.

1997 "Feasibility Assessment of Tissue Engineering, Regeneration and Fabrication Technology for Defense Purposes." The Potomac Institute for Policy Studies. **Athey BD,** PI; 40% effort; $50K Direct Costs.

1995-1998 "AASERT Graduate Fellowship in Advanced Biomedical Imaging." Advanced Research Projects Agency (ARPA). **Athey BD,** PI; 0% effort; $114K Direct Costs.

1994-1996 "Development and Demonstration of a Networked Telepathology 3-D Imaging, Databasing and Communication System: Phase I." Advanced Research Projects Agency (ARPA). **Athey BD,** PI; 25% effort; $420K Direct Costs.

1994-1996 "Center for Neural Communication Technology." NIH-P41. D.J. Anderson, PI; **Athey BD,** Co-I; 5% effort; Project 3. $95K Direct Costs.

1994-1995 "Scalable System for Nerve Biopsy Analysis." Hoffman-La Roche, LTD (Toronto, Canada). B.M. Carlson, PI; **Athey BD,** Co-I; 20% effort; $1.56M Direct Costs.

1994-1995 "The Integration of Kodak Photo CD Technology into a Modern Biomedical Digital Imaging Environment." **Athey BD,** M. Pao, and A. Warner, Co-Is; 0% effort; $25K Direct Costs.

1994 "Feasibility Study of Sorbinil-Treated Sural Nerve Biopsies." B.M. Carlson, PI; **Athey BD,** Co-I; 10% effort; $100K Direct Costs.

1994-1995 "Development of Data Processing Methodology for the Visible Human/Embryo Projects I: Fourier Encoding of Contours." Advanced Research Projects Agency (ARPA). **Athey BD,** PI; 20% effort; $25K Direct Costs.

1993-1994 "An Image-Based Repository of Bio-Medical Imagery." NIH/NLM HPCC Demonstration Project. NIH-RO1. W.B. Panko, PI; **Athey BD,** Co-I; 20% effort; $200K Direct Costs. (2 of 3 years: PI moved).

1993-1995 "Cellular Pathophysiology of Acute Renal Failure." NIH-RO1. J.M. Weinberg, PI; **Athey BD,** Co-I; 5% effort. $50K annual Direct Costs.

1992-1994 "Further Development of the Laser Scanning Confocal Microscopy/Digital Microscopy and Scientific Visualization Facility." University of Michigan Office of Vice President for Research. **Athey BD** and D.J. Anderson, Co-PIs; 0% effort; $90K Direct Costs.

HONORS AND AWARDS

1983-1985 National Institutes of Health Predoctoral Fellowship
Cellular and Molecular Biology (CMB) Training Program: Biophysics Concentration
Mentors: Professors John P. Langmore and Martha L. Ludwig
University of Michigan Medical School; Ann Arbor, MI

1990-1991 National Institutes of Health Postdoctoral Fellowship
Developmental Biology Training Program
Mentors: Professors Bruce M. Carlson and Michael J. Welsh
University of Michigan Medical School; Ann Arbor, MI

1991-1993 National Institutes of Health Postdoctoral Fellowship
Chemical and Hearing Senses Training Program
Kresge Hearing Research Institute
Mentors: Professors Richard A. Altshuler and David J. Anderson
University of Michigan; Ann Arbor, MI

2000-2004 Peace Fellowship Federation of American Scientists (FAS.org); Washington, D.C.

Mentor: Henry C. Kelly
Award for extensive work with DARPA in 1990's relating to Counter Biological Warfare and Terrorism.

2005 Conference Co-Chair (with David J. States); Intelligent Systems for Molecular Biology (ISMB) 13th Annual Meeting of the International Society for Computational Biology (ISCB) Detroit, MI.

2007 Outstanding Achievement Award for Excellence in Bioinformatics and BioEngineering Research. IEEE 7th International Conference on Bioinformatics and BioEngineering. Boston, MA. October 14, 2007. http://www.cs.gsu.edu/BIBE07/photoposter.php

2008 National Co-chair, CTSA Informatics Operations Committee (with Bill Hersh).

2009- National Co-chair, CTSA Informatics Key Function and Operations Sub Committee (with Dan Masys).

2008 Outstanding Achievement Award. Worldcomp'08. Las Vegas, Nevada. July 14, 2008. http://www.world-academy-of-science.org/worldcomp08/ws/keynotes/keynote_athey

2009 Keynote Speaker/Moderator of panel discussion. Biomedical Science and Engineering Center (BSEC). Oak Ridge, TN. March 18-19, 2009.

2009 Distinguished Service Award. Conference Keynote Speaker. Worldcomp '09. Las Vegas, Nevada. July 13, 2009.

2010 Certificate of Appreciation. Co-Chair of the Informatics. Clinical & Translational Science Award (CTSA) and National Center for Research Resources (NCRR). October 14, 2010.

2011 Plenary Keynote Lecture. "Issues Surrounding Enterprise Data Infrastructure and Governance Systems to Support Research at the University of Michigan—A View from the Health System". NSF-funded "Data Lifecycle Management" Workshop. Princeton, NJ. July 19, 2011.

2011 Plenary Keynote Lecture. Research IT Priorities in the Age of "Big Data". American Association of Medical Colleges (AAMC) – National Library of Medicine Research IT Summit.

2012 Conference Co-Chair (with James Cavalcoli); Great Lakes Bioinformatics Conference 2012. May 15-17, 2012.

2012 Keynote Address, EU IMI eTRIKS Kickoff Meeting: "tranSMART", London, England. November 2012.

2012 Platform Presentation, CTSA Informatics Key Function Committee. "tranSMART and the CTSA" (Northwestern University)

2012 - First Michael A. Savageau Collegiate Professor, University of Michigan Medical School (endowment stays with Department Chair)

2013 Keynote Presentation. Pharmacogenomics and Clinical Decision Support: How Genomic Medicine will Change the Game in Health IT. 2013 iHT2 Health IT Summit. Fort Lauderdale, FL. June 13, 2013.

2013 Keynote Presentation. "What is the status quo of the tranSMART landscape?" 1st International tranSMART developer and user Meeting. Amsterdam. June 17, 2013.

2013 Keynote Presentation. Grand Challenges in Cyberinfrastructure & Interdisciplinary Research. 2013 NSF CyberBridges Workshop. Arlington, VA. July 16, 2013.

2014 Lead Plenary Discussant: "Big Data Era: Views and Challenges of Translational Medicine." Sino-American Symposium on Clinical and Translational Medicine. Beijing, China. June 21, 2014.

2014 - FACMI Elected Fellow, American College of Medical Informatics, American Medical Informatics Association (AMIA)

2015 Keynote Presentation. Big Data and Data Science: What does this mean for Society, High Education and Libraries? Great Plains Network Annual Meeting. Kansas, Missouri. May 28, 2015.

2015 Keynote Presentation. Data Science and the Library – Opportunity Knocks. Great Lakes Science Boot Camp for Librarians. Wayne State University. Detroit, Michigan. June 4, 2015.

MEMBERSHIPS IN PROFESSIONAL SOCIETIES

1982-1990 Microscopy Society of America
1994- Optical Society of America (Ann Arbor, MI branch)
1996- Friends of the National Library of Medicine (NLM)
1997-2003 American Association of Anatomists (AAA)
2000-2004 The Society for Computer Simulation International (SCS)
2004- American Medical Informatics Association (AMIA)
2005- International Society for Computational Biology (ISCB)
2009- American Medical Informatics Association (AMIA)
2010- Society for Clinical and Translational Science (SCTS)

EDITORIAL ADVISORY BOARD

2005-2012 Biomedical Computation Review. Quarterly journal supported by the National Institutes of Health through the NIH Roadmap for Medical Research, Grant U54 GM072970.
2008-2010 Consulting Editor, International Journal of Functional Informatics and Personalized Medicine
2008-2010 Consulting Editor, International Journal of Computational Biology and Drug Design
2013- Editorial Board, Nature Scientific Data (Nature Publishing Group)
2014 - Associate Editor, Applied Translational Genomics, ATG (Elsevier)

PEER-REVIEW SERVICES

1995-1999 Ad-hoc Reviewer: Office of Naval Research, Defense Advanced Research Projects Agency (DARPA)
2000 Reviewer, Army Research Office (ARO)
2000 Reviewer/Panel Member, Bioengineering Research Partnership Grants, Special Study Section, National Eye Institute/National Institutes of Health
2001 Reviewer/Panel Member, Bioinformatics Study Section, ITR Small Grant Awards, National Science Foundation

2002	Reviewer/Panel Member, Washington Advisory Group (WAG) LLC, Missouri Life Science Research Capacity Contracts Program
2002-2004	Reviewer/Panel Member, NIH Computational Biology Study Section ZRG1 SSS-H (01), Center for Scientific Review, National Institutes of Health
2003-2005	Reviewer/Panel Member, NIH Neuroinformatics Study Section ZRG1 SSS-E (55), Center for Scientific Review, National Institutes of Health
2003-2005	Reviewer/Panel Member, NIH Human Brain Project Study Section Center for Scientific Review, National Institutes of Health
2003-2005	Reviewer/Panel Member, Integration of Middleware, NSF-NMIA Panel Review, National Science Foundation
2003-2006	Reviewer/Panel Member, NIH Biomedical Computing (BISTI) Review Panel, Center for Scientific Review, National Institutes of Health
2005-2006	Ad hoc Reviewer, Army Research Office (ARO)
2007	Reviewer/Panel Member, special emphasis panel to review RFA DE-07-009. National Institute of Dental & Craniofacial Research
2007	Reviewer, Pilot Award, Michigan Institute for Clinical and Health Research (MICHR)
2007	Reviewer, Bioinformatics/Computational Workshop on Petascale Applications in Biology, IEEE 7th International Symposium on Bioinformatics & Bioengineering (BIBE 2007)
2008	Reviewer, Clinical and Translational Science Awards (CTSA) Panel/Scientific Review Group 2008/05 ZRR1 CR-3
2008	Reviewer, Experimental Program to Stimulate Competitive Research (EPSCoR) and Institutional Development Awards (IDeA) Programs in South Carolina
2009	Reviewer, National Institute of General Medical Sciences (NIGMS), National Institutes of Health Large Scale Collaborative Project. Special emphasis panel 01 ZGM1 PPBC-9 (GL)
2009	External Reviewer, The Bioinformatics Component of the institutional CTSA, Rockefeller University
2009	Judge, Homer Warner Paper, AMIA 2009
2010-	External Reviewer, The Bioinformatics Component of the Institutional CTSA, Rockefeller University
2010	External Reviewer, National Institute of Health (NIH) Director's New Innovator Awards
2010	Reviewer, Computation Institute (CI), Argonne National Laboratory (ANL) and the University of Chicago (UC). University of Chicago
2013	Reviewer, NIH Office of Director, FDA Tobacco Center of Excellence, TCORS P50 Study Section
2014	Reviewer, National Institutes on Drug Abuse (NIDA), National Institutes of Health
2015	Informatics Review Chair IUPUI CTSI Scientific Advisory Board (4/15) via phone
2015	Chair, NIH U01 SCRZRG1 IMST-K(51) 4D Nucleome Review (4/15) via phone

TEACHING ACTIVITIES

Course Master

2005-2006 Bioinformatics 526: "Introduction to Bioinformatics and Computational Biology." Rigorous introductory graduate course on fundamental concepts; 4 credit hours (including laboratory). University of Michigan Bioinformatics Graduate Program.

2007- Bioinformatics 527: "Introduction to Bioinformatics and Computational Biology." Reworked curriculum of BI 526 for BI concentrators and quantitatively-focused graduate students; 4 credit hours (including laboratory). University of Michigan Bioinformatics Graduate Program. Currently 42 Students (Fall Term).

Course Instructor

1990-1993 Biology 516 and 416: "Biophysical Chemistry." University of Michigan Department of Biology. Course directed toward first year graduate students and undergraduate seniors.

1998 Medical Informatics 608: "Medical Informatics: Theory and Practice." University of Michigan School of Information (designed and taught jointly with A.J. Warner).

1997-1998 Biomedical Illustration 622: "Biomedical Graphical Computing for Artists." University of Michigan School of Art and Design (assisted by A. Ade, GSI)

2007- 2010 Mathematics 547: "Sequence Analysis"; D.M. Burns, Course master; Athey BD, instructor giving 6-8 lectures on chromatin structure and mechanics.

2007- 2015 Bioinformatics 525: "Introduction to Bioinformatics."
Section 006; "Bioinformatics on the Web."
Section 008; "Bioinformatics and Systems Biology"

2008- 2013 Bioinformatics 555: "Introduction to Clinical Informatics."

Graduate Short-Course

1991 Anatomy and Cell Biology 850: "A Short-Course in Confocal Microscopy." A week-long graduate-level introduction to confocal microscopy and related computer image analysis and display techniques.

Graduate Lectures

1991-1993 Anatomy and Cell Biology 530: "Cell Biology." Invited lectures on "The Structure of Chromatin" and "The Cell Nucleus."

1992-1994 Engineering 503: "Scientific Visualization." Invited lecturer on "Visualizing Data Obtained from Microscopes." College of Engineering graduate-level course.

1993-1995 Anatomy and Cell Biology 580: "Morphological Methods of Microscopy." Invited lecturer on "Basic Confocal Imaging: Theory and Practice." Directed towards second-year health sciences graduate students.

2007- Translational Research 508: "Introduction to Biomedical Informatics;" "Introduction to Systems Biology".

2012-2012 Internal Medicine 606: "Clinical and Translational Research: Preparing for the Future."

2011 BIOINF 555

2012- Intro to Health Informatics: "Research domain of Informatics"

2013 Introduction to Health Informatics: "How Bioinformatics is Transforming Biomedical Research and Practice."
2014 - Translational Pharmacology 621: "Pharmacogenomics: Principles and Practice"
2014 - Translational Pharmacology 621: "Bioinformatics Translation into Clinical Practice"
2014 - BIOINF 525: "Introduction to Systems Biology"

Grand Rounds

1996 "Biomedical Diagnostic Imaging." University of Michigan Comprehensive Cancer Center Grand Rounds, University of Michigan Hospital.
2006 "Biomedical Informatics in the 21st Century and its Potential to Transform Medical Research and Practice." University of Michigan Medical School, Department of Psychiatry Grand Rounds. (Oct. 18, 2006).

Departmental Seminars

1991 "Three-dimensional Visualization of Cells and Tissues Using the Confocal Microscope." Department of Anatomy and Cell Biology.
1992 "Confocal Microscopy." Department of Surgery.
1992 "The Light Microscopic Study of Tissues." Nephrology Division, Department of Internal Medicine.
1995 "Medical Informatics, Telemedicine, and the Need for Medical Information Specialists—Opportunities and Challenges." University of Michigan School of Information.
1996 "The Evolution of Microscopy as an Information Science." University of Michigan School of Information.
1998 "Microscopic Holography, Holospaces, and Range Imaging: Recent Results and Future Biological Applications." University of Michigan Department of Anatomy and Cell Biology.
2005 "The DARPA Virtual Soldier Project: Concept and Demonstration." Bioinformatics Graduate Seminar (April, 2005)
2006 "The National Center for Integrative Biomedical Informatics (NCIBI)." Bioinformatics Graduate Program Seminar (Sept. 13, 2006).
2007 "Computational and Informatics Approaches to Understanding Physiological and Anatomical Changes During Acute Ballistic Trauma." Research Discussion. Department of Anesthesiology, University of Michigan (May 16, 2007).
2009 "The Relationship Between Informatics and Biomedical Research and Education: Current and Future Perspectives." Center for Computational Medicine and Bioinformatics Seminar Series, University of Michigan (September 30, 2009).
2012 "Introduction to Bioinformatics and Computational Biology and its Applications". Health Informatics Leadership Seminar Series, University of Michigan (October 3, 2012).
2012 "Informatics Leadership" Health Informatics Leadership Seminar Series, University of Michigan (October 10, 2012).
2012 "UMHS IT Plan and Timing." IT A3 Strategy Series, University of Michigan (November 26, 2012).

2013 "Pharmacogenomics in the Age of Quantitative and Systems Pharmacology and the Electronic Health Record." Pharmacology Seminar Series, University of Michigan (April 17, 2013).

2013 "The tranSMART Platform and the tranSMART Foundation: Global Cyberinfrastructure for Integrative Informatics Analysis." DCM&B Seminar Series, University of Michigan (September 11, 2013).

Medical School/Hospital Administration

2001 "Innovative Technologies for Academic Health Centers." Given twice to: The Health System Executive Committee and the UMHS Information Technology Strategic Advisory Committee (IT-SAC).

2001 "Life Sciences and Bioinformatics Activities in Michigan: Overview and Strategic Considerations." Invited Presentation to the University of Michigan Health System CIO Executive Committee.

2003 Michigan Center for Biological Information (MCBI) self-study report given to: 1) The University of Michigan Medical School Administration (Dean and Associate Dean for Research) and the UM VP of Research; and 2) an invited external review committee of bioinformatics experts.

2014 "Introduction to tranSMART for Arbor Research." Given to Arbor Research Collaborative for Health.

2014 -2015 "The Michigan Data Science Initiative." Given to several venues at UMMS.

High School Student Mentoring

1998-1999 K.K. Pandya (Greenhills School; Ann Arbor, MI)
2001-2003 B. Root (Pioneer High School; Ann Arbor, MI)
2001-2002 D. Welsh (Huron High School; Ann Arbor, MI)

Undergraduate Student Mentoring

1991-1993 A. Chien (Department of Physics; with J.M. Weinberg)
1998-1999 J. Dixon (Gallaudet University Fellow)
2014-2015 J. Mathew (UROP student; LS&A)
2014-2015 H. Beattie (UROP student; Engineering)

Undergraduate & Graduate Student Group Mentoring

2001-2003 Faculty Leader: University of Michigan Student Chapter, Pugwash International (with support from the University of Michigan Life Sciences Society and Values Program).

Masters Student Mentoring

1993-1994 A.B. Mackersie (M.S., EECS; with D.J. Anderson)
1994-1995 P. Ray (MLS, School of Information and Library Studies; with M. Pao and A.J. Warner)
1994-1995 P.V. Ketty (M.S., EECS; with D.J. Anderson)
1995-1996 J.S. Glick (M.F.A., Medical Illustration; with J.L. Lillie)
1995-1996 J. Song (MSI, School of Information; Miranda L. Pao Medical Informatics Student Fellowship; with A.J. Warner)

1995-1996 J. Williams (MSI, School of Information; Digital Information Associate Fellow; with A.J. Warner)
1995-1996 G. Hsu (M.S., Physiology)
1995-1997 H. Fogel (M.S., Biological Sciences)
1996 M.A. Nolte (MSI, School of Information; with A.J. Warner)
1996 P. McClay (MSI, School of Information; with A.J. Warner)
1996-1999 A.S. Ade (M.S., Biological Sciences)
2001-2003 G. Durka-Pelok (M.S., Information Sciences; with T. Weymouth)
2007-2008 S. R. Palagiri (Bioinformatics; with D.M. Burns)
2013- A. Kalinin (Bioinformatics; with Ivo Dinov)

Doctoral Student Mentoring

1991–1993 D.-Y. Shieu (Ph.D., EECS; D. J. Anderson, Chair; Athey B.D., cognate member)
1998-2000 B.S. Hoover (Ph.D., EECS; E.N. Leith, Chair; Athey B.D., cognate member)
1998-2003 K.D. Mills (Ph.D., EECS; E.N. Leith, Chair; Athey B.D., Co-Chair and cognate member)
1999-2004 D. Wagner (Ph.D., EECS; F. Jahanian, Chair; Athey B.D., cognate member)
2000-2003 N. Sowapotowak (Ph.D., EECS; J. Fessler, Chair; Athey B.D., cognate member)
2001-2003 A. Zimmerman (Ph.D., School of Information; M. Hedstrom, Chair; Athey B.D., cognate member)
2001-2004 T.J. Hacker (Ph.D., EECS; B. Noble, Co-chair; Athey B.D., Co-Chair)
2001-2006 W. Chein (Ph.D., EECS; T. Norris, Chair; Athey B.D., cognate member; E.N. Leith, Chair, deceased)
2003–2005 J. Han (Ph.D. Pre-Candidate, EECS; F. Jahanian, Chair; Athey B.D., cognate member)
2003-2009 S. Subramanian (Ph.D., Bioinformatics; Athey B.D., Chair)
2003-2008 Y.J. Kim (Ph.D., EECS; J. Patel, Chair, Athey B.D., Co-Chair)
2005-2008 C. Santos (Ph.D., Bioinformatics; Athey B.D., Chair, D.J. States, Co-Chair)
2005-2008 Y. Tian (Ph.D., Computer Science and Engineering; Athey B.D., Co-Chair with J. Patel)
2007-2012 S. Sarntivijai (Ph.D., Bioinformatics; Athey B.D., Chair)
2008-2014 G. Su (Ph.D., Bioinformatics; Athey B.D., Co-Chair with Fan Meng)
2009-2011 A. Shah (Ph.D., Bioinformatics; Athey B.D., Co-Chair with Peter Wolfe)
2011- A. Allyn-Feuer 2011 - (Ph.D. Candidate; B.D. Athey, Chair)
2011 - Edward Barbour (Ph.D. Candidate; B.D. Athey, Chair)

Postdoctoral Scholar Mentoring

1991 Dr. G. Avinash (Ph.D., Bioengineering, University of Michigan; with A.L. Nuttal)
1993-1994 Dr. C. Viguie (Ph.D. Nutrition, University of California, Berkeley; with B.M. Carlson)
1994-1995 Dr. G.D. Guttmann (Ph.D., Biophysics; University of California–Berkeley)
1999-2002 Dr. I. Lee (Ph.D., Biophysics, Korean National University; with J.R. Baker, Jr.)
2002-2005 Dr. A.D. Boyd (M.D., University of Texas Southwestern)
2003-2004 Dr. A.A. Dombkowski (Ph.D., University of Michigan)

Fellow and House Officer Mentoring

2005-2007 Dr. J. Norman (M.D., Ph.D., Stanford University); Biomedical Informatics

2005 Dr. D. Hanauer (M.D., Harvard Medical School); Biomedical Informatics

***Visiting Faculty Collaborators* (*On Sabbatical or Visiting Professors*)**

1993 G.J. Brakenhoff, Ph.D. (Professor, University of Amsterdam)
1996 C.E. Schutt, Ph.D. (Professor, Department of Chemistry, Princeton University)
1997 A.J. Warner, Ph.D. (Associate Professor; University of Michigan, School of Information)
2002 B. Orr, Ph.D. (Professor, Department of Physics, University of Michigan)
2002 D.R. Hilbelink, Ph.D. (Professor, Department of Anatomy, University of South Florida)
2004 K.V. Mardia, Ph.D. (Senior Research Professor, University of Leeds)
2012 John Wiley, M.D. (Professor of Internal Medicine, Gastrointestinal Division); 6 month sabbatical. Dr. Wiley subsequently joined the Athey Lab Group.
2012 - Christoph Cremer, Ph.D. (Professor and Director, IMB Mainz, Germany). Super Resolution microscopy pioneer. Visits each summer for 2 weeks.

COMMITTEE AND ADMINISTRATIVE SERVICES

International

2000-2002 Biological Weapons Working Group, Federation of American Scientists (FAS). Active participant on the FAS Biological Weapons and Toxin Convention (BWTC) Treaty Negotiation Team - an NGO representative to the Geneva Convention.
2005 Conference Co-Chair (with David J. States); Intelligent Systems for Molecular Biology (ISMB) 13th Annual Meeting of the International Society for Computational Biology (ISCB); Detroit, MI.
2007 Member, Steering Committee – IEEE 7th International Symposium on Bioinformatics and Bioengineering (BIBE 2007).
2010 Co-Chair, ARGOS Virtual Physiologic Human (VPH). Brussels, Belgium.
2011- Biomedical Informatics Director, U-M/Peking Union Health Sciences Center (PUHSC) Joint Institute.
2012- Member, eTRICKS Advisory Committee, London, UK.
2014 Institutional Host. Second International tranSMART Foundation Members Meeting. Ann Arbor, MI.

National

1988 Special advisory panel to the National Institute for Dental Research to formulate a plan for an Internet-based head and neck anatomy atlas. Invited member. Organized by the American Association of Anatomists (AAA).
2000 Discipline Co-leader - Health Sciences Editorial Board for Multimedia Educational Resources for Learning and Online Teaching (MERLOT.org)
2002 University of Michigan Representative, Coalition for Academic Scientific Computing (CASC); Washington, D.C.
2006 Integrated Research Team (IRT), U.S. Army Medical Research and Materiel Command (USAMRMC) and Telemedicine and Advanced Technology Research Command (TATRC). Invited participant and speaker.

2006 Panel member, Computing Research Association (CRA)-NIH Computing Research Challenges in Biomedicine Workshop, National Institute for General Medical Science (NIGMS), June 15-16, 2006. The object of this workshop was to develop a list of action items that will have impact within the NIH and computing communities.

2007 PubMed Plus: New Directions in Publishing and Data Mining. Society for Neuroscience Leadership Conference. Working Group 1 – "Capturing Experimental Design Metadata in ways that Facilitate Data Mining." June 18-19, 2007.

2008-2009 Co-Chair and member, NIH Clinical and Translational Science Awards (CTSA) Informatics Operations Committee. Informatics Key Function Committee (IKFC). (elected 2-year term)

2008-2011 Member, External Advisory Board, Irving Institute for Clinical and Translational Research, Columbia University.

2008- National Co-Chair, CTSA Informatics Key Function and Operations Sub Committee (with Dan Masys).

2009- Member, External Advisory Board, Center for Clinical and Translational Science Rockefeller University.

2009- Advisor, HoIP translation track, The 2009 World Congress in Computer Science Computer Engineering and Applied Computing.

2009- Member, Institute of Medicine (IOM), Panel on Grid Computing and Health Information Sharing.

2010- Member, Institute of Medicine (IOM) Electronic Health Record Collaborative Panel.

2010- Member, External Advisory Board, Albert Einstein School of Medicine CTSA, Yeshiva University, Bronx, NY.

2010- Member, External Advisory Board, Addiction Genetics Integration Support Center, Washington University School of Medicine department of Psychiatry.

2010- Member, External Advisory Board, Marshfield Clinic, Marshfield, Wisconsin.

2011- Member, Board of Scientific Advisors, National Cancer Informatics Program (NCIP), the National Cancer Institute, Bethesda, Maryland. Permanent subcommittee of the National Cancer Advisory Board (NCAB).

2011- Member, 2020 AMIA Symposium Scientific Program Committee Foundations Track.

2011- Chair, Technical Advisory Board of One Mind for Research, Washington, DC.

2012- Member, Advisory Board of the Open Source electronic Health Record Agent (OSEHRA) Genomics Group.

2012-2012 Board Member, Doctoral Dissertation Defense, Van Andel Institute Graduate School (VAIGS).

2012 - Chair, External Advisory Committee (EAC), Translational Research Institute. Hunter College, New York.

2013 Member, External Reviewer for Masters and PhD Program, Biomedical Informatics Program. Emory University, Atlanta, GA.

2013 Member, Ad Hoc Evaluation Committee, Department of Pediatrics and Seniors Appointment Committee. Harvard Medical School, Boston, MA.

2014 - Advisory Board Member, Lawrence Tech Life Sciences, Lawrence Tech University. Southfield, Michigan

University of Michigan

1997-1999 Media Union Virtual Reality Committee.

2000-2001 Member, the University of Michigan Presidential Information Revolution Commission (PIRC). Infrastructure Subcommittee Co-Chair, Research Subcommittee.

2000 University of Michigan/IBM Life Sciences Liaison.

2001-2005 Michigan GRID for Research Infrastructure and Development (M-GRID) Co-founder with H.A. Neal and W.R. Martin, and Executive Committee member.

2005 UM Presidential Advisory Group (PAG). Invited speaker and participant. October, 2005.

2005- Member, Center for Computational Medicine and Bioinformatics (CCMB) Executive Committee.

2005- Chair, NIH National Center for Integrative Biomedical Informatics (NCIBI) Executive Committee.

2006-2008 Member, MSCRIBE Advisory Council.

2006-2007 Chair (with Sharon Glozter as Co-Chair), University of Michigan Committee on Research Cyberinfrastructure, sponsored jointly by the Office of the VP Research (OVPR) and Office of the Vice Provost for Academic Information.

2007- Member, UM Steering Committee, Institute for Complex Adaptive Matter (ICAM).

2009- Member, Michigan Nanotechnology Institute for Medicine and Biological Sciences (MNIMBS), University of Michigan.

2009- Member, ORCI Executive Advisory Committee, Office of Research Cyber-infrastructure, Office of Vice President of Research (OVPR).

2010- Member, University of Michigan Information & Infrastructure Assurance (IIA) Council, University of Michigan.

2010- Member, IT Unit Steering Committee, Information Technology Services (ITS).

2011- Member, Registries and Cohorts Program (RCP) Steering Committee, University of Michigan.

2014- Member, Advanced Research Computing Advisory Team (ARCAT).

University of Michigan Medical School/Health System

1992 Fellowship Selection Committee, Chemical and Hearing Senses Training Grant, Kresge Hearing Research Institute.

1997-1999 Medical School Faculty Information Technology Committee.

1998-1999 Diagnostic Imaging Advisory Committee.

2000-2002 Information Technology Faculty Advisory Committee (IT-FAC).

2004 Biomedical Informatics Design Team Member. Lead Designer reporting to Senior Associate Dean for Research and Graduate Studies and UM Associate VP Research. Led to creation of Center for Computational Medicine and Biology (CCMB) with Co-founder Gil Omenn.

2004- Member, UM Depression Center Steering Committee.

2005- Member, UM Depression Center Clinical Informatics Research Group.
2005- Non-voting alternate member, Operating Committee for the Endowment for the Basic Sciences (EBS).
2005- Member, Curriculum Committee Group, Bioinformatics Graduate Program, Center for Computational Medicine and Bioinformatics (CCMB).
2006- Member, UMHS Information Technology Strategic Advisory Committee (IT-SAC).
2006- Founder and Leader (with Gil Omenn), Health Informatics Research Organization (HIRO) coordinating group for clinical informatics research activities at UM.
2007-2008 Co-Chair (with Glenn Hiller), UMMS Coordinating Research Information Technology (CRIT) Committee.
2007- Member, Michigan Institute for Clinical and Health Research (MICHR) Cabinet.
2009- Member, Information Technology Executive Committee (ITEC), University of Michigan Hospital and Health System.
2010- Co-Chair, Epic Clinical Research Interface Team (ECRIT with Deborah Gipson).
2011- Member, Clinical Analytics Database (CAD).
2011- 2012 Member, Registries and Cohorts Program (RCP) Steering Committee, University of Michigan.
2011 Chair, UMHS IT Strategy and Tactics (ITS&T) Working Group. IT and Data Governance.
2012- Member, Research Board of Directors (RBOD), U-M Medical School.
2012- 2013 Co-Leader, FastForward Personalized Medicine Initiative.
2012- Member, Research IT Governance Committee.
2013- Member, Internal Advisory Panel, Michigan Integrative Musculoskeletal Health Center
2015- Member, UM PCORI Executive Steering Committee (Charles Friedman)

Department—University of Michigan

1995-2001 Cell Biology Lab (CBL) and Microscopy and Image Analysis Laboratory (MIAL) Oversight Committee.
1999 Anatomy Teaching Laboratory Committee.
2005- Psychiatry Department Senior Leadership Council (PSLC).
2005- Co-Chair, CCMB Executive Committee.
2006- Chair, Department of Psychiatry IT Committee.
2007-2011 Chair, CCMB Curriculum Committee.
2010- Chair, CCMB Executive Committee.
2012- Chair, DCM&B Faculty Committee.
2012- Chair, DCM&B Executive Committee.
2012- Chair, DCM&B Operations and Oversight Committee.

CONSULTING POSITIONS

1988 Virogen Laboratories, Inc.; Ann Arbor, MI
Automated, Molecular Biology-based Viral Detection Systems
1993-1995 Convex Computer Corporation; Richardson, TX
Medical Image Processing, Storage and Retrieval

1995	I-MED Link, Inc.; Bethesda, MD Internationally Distributed Telemedical School Networking
1995-1996	Hoffmann-La Roche, LTD; Toronto, Canada Medical Image Processing
1996	Meridian Instruments, Inc.; Okemos, MI Laser Scanning Confocal Microscopy
1997	LaBat-Anderson Consulting, Inc.; McLean, VA Secondary Reviewer for Medical Free-Electron Laser Grants Program Office of Naval Research
1997-1999	Potomac Institute for Policy Studies; Arlington, VA Technology Consultant for DARPA Unconventional Pathogen Counter-measures Program
1999-2000	Innervision Imaging, Inc.; Farmington Hills, MI Microscopic Laparoscopy
2000	Telemed, Inc.; Annapolis, MD High Performance Medical Modeling and Simulation for Surgical Trauma Applications
2000	Ethereal Technologies, Inc.; Ann Arbor, MI 3-D Display Technology
2001-2003	Altarum Institute; Ann Arbor, MI Novel Medical and Life Sciences Applications
2002	U.S. Army Medical Research and Material Command; Ft. Detrick, MD CBNR Responsiveness Training Network Architecture
2004	University of Hawaii; Honolulu, HI Bioterrorism and Computer Modeling
2004-2006	University Clinical, Education and Research Associates (UCERA) Biophotonics and Biosensors University of Hawaii; Honolulu, HI
2008	NIH Office of Portfolio Analysis and Strategic Initiatives (OPASI) Office of the Director of the National Institutes of Health (NIH); Bethesda, MD. Special Advisor to the Director. Contract: LTS Corporation, A Sentrillian Company.
2008-2009	NIH Division of Program Coordination, Planning, and Strategic Initiatives (DPCPSI). Special Advisor to the Director. Contract: LTS Corporation, A Sentrillian Company.
2009 - 2011	NIH Center for Information Techology (CIT) and Office of the CIO (OCIO). Special Advisor to NIH CIO. Contract: LTS Corporation, A Sentrillian Company.
2010 -	Member, Scientific Advisory Board (SAB), Biovest International (Tampa, FL)
2011 - 2013	Chair, Scientific and Technical Advisory Board (S&TAB), Appistry Incorporated, St. Louis, MO. (Cloud Computing)
2011 -	Chair, Technical Advisory Board, 1Mind4Research, Seattle, WA; Member Scientific Advisory Board (SAB)
2012 -	Chair, Scientific Advisory Board, AssureRx Health, Inc. (Mason, OH)
2013 -	Chair, External Advisory Committee, Hunter College Gene Center (New York City, NY)

2014 - 2015 Scientific Advisor, Biovest International, Inc. Minneapolis, MN (Cancer Immunotherapy platform company)

2014 - Scientific Advisor, NanoEngineering, Corporation (Whitefish, MT); top-down proteomics device used to classify viral mass, shape, and charge (Nano-Technology Application).

2015 - Advisor to CEO and Chair, BoD, Homeward Health, Ann Arbor, Mi.

VISITING PROFESSORSHIPS, SEMINARS AND EXTRAMURAL INVITED PRESENTATIONS

1. "Envisioning Information," Institute Faculty, visiting professorship and invited participant in the Prairie Festival, The Land Institute. Salina, KS. May 1992.
2. "A Systems Approach to Visualizing Confocal Microscopy Data in Three Dimensions," extramural departmental seminar. Department of Biomedical Engineering, University of California–San Diego. March 1993.
3. "An Efficient Surface Rendering Technique Using Fourier Descriptors to Visualize Three-Dimensional Biomedical Image Data Sets," Invited extramural presentation, IEEE 36th Midwest Symposium. August 1993.
4. "Visualizing 3-D Biological Structure Using the Confocal Microscope," invited extramural presentation, Optical Society of America, Michigan Chapter. Ann Arbor, MI. 1994.
5. "Confocal Microscopy of Tissues and Cells of Clinical Interest," extramural departmental seminar, Department of Biology, Oakland University, Rochester, MI. 1994.
6. "A Networked Computer System to Visualize Reconstructed Embryos in Three Dimensions," invited extramural presentation, NICHD Workshop on Computer-Assisted Embryo Imaging. National Institutes of Health. May 1994.
7. "A Modern Imaging Collaboratory for Anatomy," invited extramural presentation and plenary speaker, FASEB meeting, Atlanta, GA. May 1995.
8. "Medicine and Terabits," invited extramural presentation and guest faculty, University of Michigan College of Engineering/State of Michigan Joint Conference (with Wistra Institute/Republic of Germany) on Ultra Highspeed Optical Networks. October 1996.
9. "Using the Visible Human as an Image Database Locator," invited extramural presentation, National Library of Medicine First Annual Conference on the Visible Human, October, 1996.
10. "Tissue Imaging," invited extramural presentation, Defense Science Research Council, November, 1996.
11. "Semi-Automated Electron Microscopy Service for Pathology," guest faculty and member/plenary lecturer, First Annual Conference on Anatomic Pathology Informatics, Imaging, and the Internet. Visiting Professorship and conference co-founder (now in 10th year). University of Pittsburgh Medical Center. November 1996.
12. "GIS and Medicine: New Frontiers." A half-day workshop organized by *Athey BD* and given to the University of Michigan research community. Funded by the University of Michigan Office of the Vice-President for Research and the Rackham School of Graduate Studies. March 1997. Organizer and visiting Professorship.
13. "Multi- and Hyper-spectral Geo-sensing Capabilities Transferred to the Microscope and Mesoscope," invited extramural presentation and guest faculty, First International Conference of Multispectral Microscopy, Warner-Lambert, Parke-Davis Research Division. June 1997.

14. "Visualizing the Patten Embryological Collection," invited extramural presentation, National Institute of Child Health and Development. October 1997.
15. "Modeling of Biological Systems (MOBS)," visiting professorship and invited participant, course planning session. Woods Hole Marine Biological Laboratory. R. Silver, Course Director, supported by the Burroughs Welcome Foundation. January and March 1998.
16. "The Visible Human Female WWW Browser and the Next Generation Internet (NGI)," invited extramural presentation, 2nd Visible Human Conference, Bethesda, MD. October 1998.
17. "A Virtual Reality System for Human Gross Anatomy Instruction," invited extramural presentation, Medicine Meets Virtual Reality 7; San Francisco, CA. January 1999.
18. "NGI Delivery of Visible Human Data in Support of Anatomy Training," invited extramural presentation, Pittsburgh Supercomputing Center Speaker Series, Carnegie Mellon University, Pittsburgh, PA. April 1999.
19. "Nanoscale Platforms for Therapeutic Delivery," invited extramural presentation. Defense Sciences Research Council. September 1999.
20. "High Performance Landmark Driven Navigation of the Visible Human," invited extramural presentation, AIPR, Cosmos Club, Washington, D.C. October 1999.
21. "Visualization and Manipulation of Visible Human Datasets Using the Next Generation Internet (Internet2)," invited extramural presentation, Metropolitan Washington Computer Assisted Surgery Society. March 2000.
22. "Postmodern Anatomy and its Enabling Technologies," member of the conference organizing committee and invited extramural presenter, First Annual Digital Human Workshop, National Library of Medicine. 2000.
23. "Visible Human Project Distributed Visualization," only NIH selectee, invited extramural presentation (with T.J. Hacker), NGI/NREN Workshop V, Gigabit Networking: The End-to-End View. NASA Ames Research Center, Moffett Field, CA. This conference was organized by the White House Presidential Information Technology Advisory Committee (PITAC), and the NASA National Research and Education Network (NREN). August 14-16, 2000.
24. "Towards a Visible Human National Educational Collaboratory," invited extramural presentation, The Third Visible Human Project Conference, NLM, Bethesda, MD. Oct 6th, 2000.
25. "Directed Nano-Dendrimeric Modeling and Simulation." invited extramural presentations, given 3 times: 1) National Cancer Institute Unconventional Innovations Program (UIP) PI Meeting; 2) The Midwest Clinical Society (Chicago, IL), and 3) the BioMEMS and Biomedical Nanotechnology 2000 Conference, Columbus, OH; October 2000.
26. "21st Century Pathology Informatics and Integration into the Emerging Hospital Information System," keynote address, invited extramural presentation, American College of Pathology, San Diego, CA. October 2000.
27. "Account Allocations on the Grid," invited extramural presentation, First Global Grid Forum & European Data-grid Conference, Account Models Research Group. Amsterdam, Netherlands. March 4-9, 2001.
28. "Michigan's Emerging Position in the Global Information Infrastructure for the Life Sciences," Invited extramural presentation. Van Andel Research Institute. March 2001.
29. "How to Move from Static to Something Moving End-to-End or The How? And Why? Of Infrastructure," Invited extramural presentation, Internet2 National Meeting, Washington, D.C. April 2001.

30. "Michigan-Based Imaging Capabilities to Respond to Terrorist Threats," invited extramural presentation – Government. Private briefing given to Senator Carl Levin, Ranking Member: Senate Armed Services Committee. November 2001.
31. "Grid Computing Solutions for the Physical and Life Sciences," Invited extramural presentation, SC2001 Sun HPC Consortium, Denver, CO. November 11, 2001.
32. "A Methodology for Account Management in Grid Computing Environments," Invited extramural presentation, SC2001 Grid 2001 Workshop, Denver, CO. November 12, 2001.
33. "Application Responsibilities in End-to-End Network Performance," invited extramural presentation, SC2001 Internet2 End-to-End Performance Workshop, Denver, CO. November 15, 2001.
34. "Maximizing End-to-End Network Performance," invited extramural presentation, High Energy/Nuclear Physics Internet2 Working Group, Ann Arbor, MI. October 5, 2001.
35. "Deploying Scalable Information Infrastructure (SII) End-to-End: The Role of Middleware and Standards," Invited extramural presentation, International Conference on Virtual Worlds and Simulation, San Antonio, TX. January 27-31, 2002.
36. "Deploying Scalable Information Infrastructure (SII) End-to-End: The Role of Middleware and Standards," invited extramural presentation made to the Surgeon Generals of all the U.S Military Services – Government, U.S. Department of Defense ASBREM off-year TARA review. Baltimore, MD. February 13-14, 2002.
37. "The End-to-End Performance Effects of Parallel TCP Sockets on a Lossy Wide-Area Network," invited extramural presentation, IEEE-CS/ACM International Parallel and Distributed Processing Symposium (IPDPS), April 2002.
38. "Simplification and Diversity: An Ecosystem Mimic to the Rapid, Robust Scalable Information Infrastructure (SII) Deployment of CBNR Trauma Environments," invited briefing for White House input – Government, special seminar to Dr. Robert Foster, Director of Biosystems, DDR&E, Undersecretary of Defense for S&T. April 2002.
39. "How to Avoid Spaghetti While Scaling Just-in-Time Training Capabilities," visiting professorship, NASA/MITAC Conference on Just-in-Time Training in Medicine. Virginia Commonwealth University. May 13, 2002.
40. "The Michigan Center for Biological Information (MCBI)." Invited extramural presentation, Michigan Life Sciences Corridor Biotechnology Symposium, Lansing, MI. May 14, 2002.
41. "Bioinformatics and IT Infrastructure for the Life Sciences," visiting professorship and speaker, CIMIT and the Harvard/MIT HST Program, Boston, MA. July 16, 2002.
42. "Experiences Using Web100 for Visible Human Testbeds," invited extramural presentation, Web100 Evaluator's Workshop, Boulder, CO. Aug. 1, 2002
43. "UM BioGrid Update," invited extramural presentation and onference organizer, given at Michigan Center for Biological Information (MCBI), to state-wide audience. Sept. 17, 2002.
44. "The Visible Human Today," plenary speaker, invited extramural presentation, iGrid 2002 Conference. Amsterdam, Netherlands. September 26, 2002.
45. "Bioinformatics and Bioimaging IT Infrastructure: What is the MCBI and the CTA?" seminar, the1st Annual Conference of Pathology Bioinformatics, University of Michigan. November 13, 2002.
46. "Future Needs for Bioinformatics, Computational Biology, Bioengineering, and Biomedical Imaging Requiring Next Generation Supercomputing," invited extramural presentation – Government, DARPA High Productivity Computing Systems (HPCS) Workshop, Arlington, VA. January 17, 2003.

47. "Future Needs for Bioinformatics, Computational Biology, Bioengineering, and Biomedical Imaging Requiring Next Generation BioGrids," visiting professorship, SURA Biogrid Workshop Research Triangle Park, NC. January 29, 2003.
48. "Future Needs for Bioinformatics, Computational Biology, and Health Sciences Informatics Requiring Next Generation BioGrids," invited extramural presentation – Government, Tripler Army Medical Center (TAMC), Honolulu, HI. February 27, 2003.
49. "Optimizing H.P. Computing Grid Resources for the Bioterrorism Application," invited extramural presentation – Government, U.S. Army DoD Pacific Command. Bioterrorism Retreat, Maui High Performance Computing Center (MHPCC). Maui, HI. March 1, 2003.
50. "Lessons Learned: 12 Years of the Visible Human at the University of Michigan," invited extramural presentation, Plenary panel talk, FASEB. April 18, 2003.
51. "MCBI's Plans: Biological Data Integration," conference organizer, invited extramural presentation, Michigan Center for Biological Information (MCBI) Retreat, Lansing, MI. August 20, 2003.
52. "Next Generation Internet (NGI) Implementation to Serve Visible Human Datasets Phase II: Development of Test Beds," invited extramural presentation, NLM/NGI Visible Human Reverse Site Visit, Bethesda, MD. August 26, 2003.
53. "Life Sciences Informatics Grids: Myth, Reality and Promise," visiting professorship, Scientific Computing Workshop - WSU: Plenary Lecture, Detroit, MI. September 19, 2003.
54. "Modeling and Simulation to Enhance Bioterrorism Preparedness," invited extramural presentation – Government, BioTerrorism Summit, Honolulu, HI. October 20, 2003.
55. "Funding opportunities for Bioinformatics US Army OntoExpress," invited extramural presentation – Government, USAMRMC Bioinformatics Workshop, Fort Detrick, MD. November 4, 2003.
56. "SEWG: Human Aided Information Processing Systems for Data Exploration, Analysis and Decision Making," invited extramural presentation - Government, DARPA Systems Engineering Working Group, Palo Alto, CA. March 3, 2004.
57. "Information Technology Security as Intertwined with Privacy and Confidentiality in Biomedical Research," Invited extramural presentation, 12th annual University of Miami Conference, Clinical Ethics: Debates, Decisions, Solutions. Miami, FL. April 16, 2004.
58. "The DARPA Virtual Soldier Program: Presentation to members of the Michigan Congressional Delegation," invited extramural presentation - Government, July 14, 2004
59. "Challenges of HIPAA Regulations in Academic Biomedical Research," invited extramural presentation. MedInfo 2004. Sept. 7-11, 2004.
60. "Clinical Research Information Fabric: A Federated Clinical Research Infrastructure Approach," invited extramural presentation. A.D. Boyd, D.A. Junscher, K.A. Smith, A.C. Bliton, J.C. Ogden, D.A. Williams, *Athey BD,* J.F. Greden, and D.C. Clauw. Inventory and Evaluation of Clinical Research Networks (IECRN) Conference. Rockville, MD. May 31, 2004.
61. "Walden: A Scalable Solution for Grid Account Management," Kirschner BA, Hacker TJ, Adamson WA, and *Athey BD*, invited extramural presentation at the 5th International Workshop on Grid Computing (GRID 2004). Pittsburgh, PA. November 8, 2004.
62. "The Virtual Soldier Project," invited extramural presentation, keynote address plenary lecture, Medicine Meets Virtual Realty (MMVR). January 27, 2005.

63. “The Challenges of Big 'Science' and the Limits of the Individual,” visiting professorship, IUPS Physiome Project, http://nbcr.net/physiome/schedule.htm San Diego, CA. March 30, 2005.
64. “The DARPA Virtual Soldier Project and Human Systems Biology.” visiting professorship, Computational Physiology: From Genome to Physiome. San Diego, CA. March 30, 2005.
65. “Biophotonics and Biosensors: Applications to Medicine - Lessons from Michigan,” visiting professorship and keynote address, Emerging Technology Seminar. University of Hawaii-Manoa, Honolulu, HI. April 14, 2005.
66. Opening and Closing Addresses. 13th International Society of Molecular Biology Annual Meeting. Conference Co-organizer, invited extramural presentation. June 25-29, 2005.
67. “The DARPA Virtual Soldier Program. A Multiscale Experiment, Modeling, Simulation R&D Program,” invited extramural presentation - Government. US Army Research Office (ARO) Workshop - 'Multiscale Phenomenon: Experiment, Theory, and Modeling.' Closed strategy meeting. Army Research Office Headquarters. Research Triangle Park, Durham, NC. July 17, 2005.
68. “The Challenges of Big Science and the Limits of the Individual: Case Studies of the NLM Visible Human and the DARPA Virtual Soldier Projects,” invited extramural presentation, American Medical Informatics Association (AMIA). Washington, D.C. October 23, 2005.
69. “The Virtual Patient, the Digital Human, and Integrative Biomedical Informatics,” invited extramural presentation, Medicine Meets Virtual Reality (MMVR-14). Long Beach, CA. January 26, 2006.
70. "An 'Honest Broker' Mechanism to maintain Privacy for Patient Care and Academic Medical Research," Boyd AD, Hosner C, Hunscher DA, *Athey BD*, Clauw DJ, Green LA. Presentation to Health Care Information Security Working Group, International Medical Informatics Association, Dijon, France. April 28, 2006.
71. “A Multiscale Experimental, Modeling and Simulation R&D Program,” invited extramural presentation, Society for Medical Innovation and Technology (SMIT), Asilomar, CA. May 11, 2006.
72. “Multiscale Modeling, Systems Biology, and the Digital Human Project - Statistical Perspectives,” visiting professorship, Plenary Keynote Lecture. Leeds 25th Annual Statistical Research Workshop (LASR), University of Leeds, Leeds United Kingdom. July 4, 2006.
73. “Two Biomedical Research Paradigms and Emerging Issues,” invited extramural presentation, Science Commons Symposium at the National Academy of Sciences (NAS). Oct. 3, 2006.
74. “The Emergence of Human Systems Biology and its Origins in the Visible Human Project,” visiting professorship. Plenary Keynote Lecture, Keck Center 16th Annual Research Conference, Texas Medical Center, Houston, TX. October 13, 2006.
75. “From the 20th Century to 'Flatland': Computational Medicine and Biology in the 21st Century,” invited extramural presentation to IBM Research and Life Sciences Executive Leadership, Wadsworth Labs, White Plains, NY. October 24, 2006
76. “Diabetes Research Opportunities in Collaboration with the NIH National Center for Biomedical Informatics (NCIBI),” invited extramural presentation, NIDDK Diabetes Research and Training Center Directors Annual Meeting. November 1, 2006.
77. “The Clinical Translational Sciences Award (CTSA) and Informatics,” invited extramural presentation, American Medical Informatics Association (AMIA) 2006. Brian Athey and Joel Saltz, Panel Co-Chairs. November 13, 2006.

78. "The Future of the NLM Visible Human," invited participant, Planning Meeting: Visible Human Project: Scope and Scale for the Future. Bethesda, MD. Jan. 16, 2007.
79. "From the 20th Century to 'Flatland' - Fissures in the Biomedical Knowledge Landscape: Challenges, Opportunities, and Responsibilities," invited extramural presentation, Designing Cyberinfrastructure for Collaboration and Innovation. Emerging Frameworks and Strategies for Enabling and Controlling Knowledge. National Academy of Engineering, Washington, D.C. Jan 29-30, 2007.
80. "Towards Personalized Medicine in Surgery: Anatomical Variation, Multiscale Data, and Bringing Together Practice, Education, and Training," invited extramural presentation, and Panel: Interactive Real-Time Surgical Education on the Web: Exploring the New Paradigm in the Age of Google. Medicine Meets Virtual Reality. Long Beach, CA. Feb. 15, 2007
81. "Biomedical Informatics in the 21st Century and its Potential to Transform Biomedical Research and Practice," invited extramural presentation, Scientific Computing Institute (SCI), University of Utah. May, 2007.
82. "The NIH National Center for Biomedical Informatics - Overview and Collaborative Opportunities," Invited extramural Platform presentation, INDY 2007 Midwest Regional Bioinformatics Conference. Indianapolis, IN. May 31, 2007.
83. "Integrating Biomedical Informatics: Overview and Collaborative Opportunities with the NIH National Center for Integrative Biomedical Informatics (NCIBI)," NBCR Summer Institute, Cyberinfrastructure & Multiscale Modeling, visiting professorship, UCSD. LaJolla, CA. July 30, 2007.
84. "The NIH National Center for Biomedical Informatics (NCIBI)--Integrating Biomedical Informatics: Overview and Collaborative Opportunities." IMSCCS 2007: Cyberinfrastructure-enabled Computational Science. Keynote Address. University of Iowa, Iowa City, IA. August 8, 2007.
85. "Federating and Growing High Performance Computing and Data Environments to Support Research at the University of Michigan Medical School." Harvard Biomedical HPC Leadership Summit 2007. Invited plenary presentation. October 1, 2007.
86. "The NIH National Center for Biomedical Informatics (NCIBI)--Integrating Biomedical Informatics: Overview and Collaborative Opportunities." IEEE 7th International Symposium on BioInformatics and BioEngineering (BIBE). Keynote Address. October 14, 2007.
87. "Interoperable Informatics Systems in Cancer Center Collaborative Networks." American Association of Cancer Institutes Annual Meeting. Invited plenary presentation. October 29, 2007.
88. "Introduction to a Systems View of Biology, Toolbox for Systems Biology American Society of Nephology." Invited plenary presentation. San Francisco, CA. November 3, 2007.
89. "Digital Biomedical Research Driving IT Transformation at the University of Michigan Medical School and Health System – Preventative Medicine for Security Leaks." Clinical Research Forum IT Roundtable. Invited plenary presentation. Washington, DC. November 5, 2007.
90. "Collaborate to Compete —An Introduction to the NIH National Center for Integrative Biomedical Informatics (NCIBI)." NIDA Genetics Consortium Meeting. Invited presentation. Rockville, MD. November 27, 2007.

91. "Application and Architectural Challenges in Basic, Clinical, and Translational Research (Panel)." caGrid Roadmap Workshop. Invited presentation. Columbus, OH. February 20, 2008.
92. "Integrative Biomedical Informatics'—What Has Been Done and What is Left to Do?" Electrical Engineering and Computer Science Department Colloquium Seminar at Case Western Reserve University. Invited presentation. March 4, 2008.
93. "The NIH National Center for Integrative Biomedical Informatics (NCIBI)." Co-chair of the National Biomedical Computing Centers (NCBC's) plenary panel. San Francisco, CA. March 10, 2008.
94. *Athey, BD*, Becich M, Ellisman M, Saltz J (2008) S03-Panel: Towards a Set of Unified NIH Computational, Data, and Community Infrastructures to Support Translational Bioinformatics. *AMIA 2008 Summit on Translational Bioinformatics Conference*. San Francisco, CA. March 10-12, 2008.
95. "The Emerging Field of Translational Bioinformatics – A National Perspective." Worldcomp '08. Keynote Address. Las Vegas, Nevada. July 14, 2008.
96. "Working Group Report #3 Data Mining and Analytics." AMIA Invitational Conference reporter. Reston, VA. September 15, 2008.
97. "The Emerging Field of Translational Bioinformatics – A National Perspective." Second Annual Midwest Symposium on Computational Biology & Bioinformatics. Member of the advisory committee. Urbana-Champaign, IL. October 4, 2008.
98. "The Emerging Field of Translational Bioinformatics-A National Perspective." Indiana University School of Informatics Colloquia. Invited presentation. Indianapolis, Indiana. October 10, 2008.
99. "Integrative Biomedical Informatics as a Means to Accelerate Clinical and Translational Research." US Critical Illness and Injury Trials Group. Invited presentation. Bethesda, MD. November 19, 2008.
100. "The Emergence of Translational Bioinformatics – A National Perspective". Bioinformatics and Systems Biology. Invited presentation. Boston, MA. December 11, 2008.
101. "Translational Bioinformatics in Support of Real and Virtual Patients." The 17th Annual MMVR Conference NextMed: Design for/the Well Being. Invited presentation. Long Beach, California. January 20, 2009.
102. "The Emerging Field of Translational Bioinformatics-Lessons from the CTSA." Georgetown University Biomedical Informatics Group. Invited presentation. Washington, DC. January 28, 2009.
103. "Key Function Committee Overview." NCRR Advisory Council. Invited presentation. Bethesda, Maryland. February 12, 2009.
104. "Keeping up with Bioinformatics and Computational Biology-Where have we been? Where are we going?" First Annual ORNL Biomedical Science and Engineering Conference. Keynote Address. Oak Ridge, Tennessee. March 14, 2009.
105. "Keeping up with Bioinformatics and Computational Biology as applied to Biomedicine—Where has it been? Where is it going?" Bioinformatics Symposium. Keynote Address. Columbia, South Carolina. April 14, 2009.
106. "Data Explosion and Complexity in Bioinformatics (aka Cellular Systems Biology)." SBE&S Conference. US National Academy of Sciences (NAS). Keynote Address. Washington, DC. April 22, 2009.
107. "Data Explosion and Complexity in Bioinformatics (aka Cellular Systems Biology)."

Worldcomp '09. Keynote Address. Las Vegas, Nevada. July 13, 2009.

108. "Data Explosion and Complexity in Bioinformatics and Computational Biology (aka Systems Biology)." 6th International Symposium on Recent Advances in Environmental Health Research. Keynote Address. Jackson, MS. September 15, 2009.
109. "The Relationship Between Informatics and Biomedical Research & Education: Current and Future Perspectives." Center for Computational Medicine and Bioinformatics Seminar Series. Invited presentation. Ann Arbor, MI. September 30, 2009.
110. "NCIBI—An NIH NCBC Resource to Enhance Basic and Translational Research." The Annual P41 Directors Meeting. Invited presentation. Bethesda, MD. October 13, 2009.
111. "Bioinformatics in the Age of Translational Medicine." Graduate Seminar for the Utah Department of Biomedical Informatics. Invited presentation. Salt Lake City, UT. December 10, 2009.
112. "Interdisciplinary Research" UROP Seminar Series. Invited presentation. Ann Arbor, MI. February 17, 2010.
113. "Integrative Biomedical Informatics at the Beginning of the 21st Century." University of North Carolina CTSA. Invited presentation. Durham, North Carolina. February 22, 2010.
114. "Integrative Biomedical Informatics at the Beginning of the 21st Century." Duke University. Invited presentation. North Carolina. February 23, 2010.
115. "Networks of Researchers" AMIA 2010. Session chair. San Francisco, CA. March 10, 2010.
116. "Late Breaking Presentations." AMIA 2010. Sesson chair/moderator. San Francisco, CA. March 12, 2010.
117. "Bioinformatics in the Age of Translational Medicine." ACRT-SCTS Meeting. Invited Presentation. Washington, DC. April 7, 2010.
118. "New Approaches in Information Technology to Support Translational Research." ACRT-SCTS Meeting. Session chair. Washington, DC. April 7, 2010.
119. "CTSA Biomedical Informatics as a means to leverage local and national resources and capabilities to improve clinical research and translational effectiveness." Annual UC Davis CTSC Retreat. Keynote speaker. Sacramento, CA. June 29, 2010.
120. "CTSA Biomedical Informatics as a Means to Leverage Local and National Resources to Improve Clinical Research and Translational Effectiveness." Cytoscape Meeting. Invited presentation. Ann Arbor, MI. July 19, 2010.
121. "Collexis and VIVO Paving the Collexis Pathway to the National Research Network." The First Annual VIVO National Conference. Invited presentation. Queens, NY. August 13, 2010.
122. "UM Clinical Research Epic Interface Discussion." Epic Research Meeting. Invited presentation. Ann Arbor, MI. October 12, 2010.
123. "Informatics." Michigan Institute for Clinical and Health Research and University of Michigan Comprehensive Cancer Center Collaborations Meeting. Invited presentation. Ann Arbor, MI. October 14, 2010.
124. "Translational Biomedical Informatics 2010: Infrastructure and Scaling." Third Annual Personalized Health Care National Conference. Invited presentation. Columbus, OH. October 14, 2010.
125. "Informatics, Information Technology, and Collaboration: Impact and Future Vision?" MICHR External Advisory Board Meeting. Invited presentation. Ann Arbor, MI. October 15, 2010.

126. "Virtual Physiological Human (VPH)." ARGOS Meeting. Invited presentation. Washington, DC. November 12, 2010.
127. "Establishing Data Infrastructures for 'Omics and other Systems Biology Technologies." Panel Chair. The Promise, Pitfalls, and Policy Implications of Whole Genome Sequencing. Society for Clinical and Translational Research. Washington, DC. April 29, 2011.
128. " 'Big Data' Integration and Collaborative Analysis, 2011." 6th Annual NCIBI Annual Research Meeting, 3rd Annual RCMI/NCIBI Ann Arbor Meeting. Keynote address. Ann Arbor, MI. June 28-29, 2011.
129. "Issues Surrounding Enterprise Data Infrastructure and Governance Systems to Support Research at the University of Michigan—A View from the Health System." Data Lifecycle Management Workshop. Keynote address. Princeton, NJ. July 19, 2011.
130. "One Mind for Research Presentation." Unleashing the Power of Health Information Technology for Wounded Warriors: Liberating Data for Research Symposium. Washington, DC. November 14, 2011.
131. "Informatics and IT to Enable Personalized Medicine and Healthcare: What is Really Needed?" Cyberinfrastructure Days. Ann Arbor, MI. December 1, 2011.
132. "1Mind4Research PTSD – TBI Research Platform: Moving the Needle" or "Building a Platform to 'Stay off the Grid'." Keynote address. LaJolla, CA. January 10, 2012.
133. "Bioinformatics, Clinical, and Health Informatics and the CTSA: Creating new science and sustainable partnerships with Academic and IT Units." ICTS Special Symposium. Iowa City, Iowa. January 25, 2012.
134. "Big Data, Big Opportunities: It's time to Roll up our sleeves and get to work!" Big Data Management Conference. Keynote address. Milwaukee, Wisconsin. March 1, 2012.
135. "SaaS-Based Translational Research: The Path to Reality for "Research in the Cloud." AMIA 2012 Joint Summits on Translational Science. Panelist. San Francisco, CA. March 19, 2012.
136. "tranSMART: an Open Source Analytical and Data Sharing Informatics Platform Enabling Translational Research." AMIA 2012 Joint Summits on Translational Science. Panelist. San Francisco, CA. March 20, 2012.
137. "Translational Bioinformatics 2012: Priorities and Challenges ahead." Federal Drug Administration. Invited presentation. Bethesda, MD. March 26, 2012.
138. "Informatics for Integrating Biology and Bedside." Informatics: Driving Discovery, Improving Health (IDD 2012). Invited presentation. Cleveland, OH. April 6, 2012.
139. "Integrating Genomics and 'Omics Data Representation into the EHR "Driving Principles into Practice." IT Roundtable. Invited presentation. Washington, DC. April 17, 2012.
140. "Why can't we build disease models together?" 2012 Sage Bionetworks Commons Congress. Panelist. San Francisco, CA. April 20, 2012.
141. "Introducing tranSMART: An Open Source and Community-Driven Data Sharing and Analytics Platform for Translational Research." International Conference on Intelligent Biology and Medicine. Keynote address. Nashville, TN. April 23, 2012.
142. "The UMHS as a Learning System" UM Learning Health System Workshop. Panelist. Ann Arbor, MI. May 22, 2012.
143. "TBI-PTS Knowledge Integration Program." One Mind for Research Conference. Panelist. Los Angeles, CA. May 24, 2012.
144. "Collaboration and Crowdsourcing to Accelerate Translational Medicine." BioArbor.

Presentor. Ann Arbor, MI. June 7, 2012.

145. "Innovation and the HER at Michigan-A case study". Visiting Professor. Boston, MA. September 10, 2012.
146. "The National Library of Medicine's Visible Human Project" 48th HPC User Forum Meeting. Invited presentation. Dearborn, MI. September 19, 2012.
147. "tranSMART Update October 18, 2012" OSEHRA Open Source EHR Summit & Workshop. Invited presentation.
Prince Georges County, MD. October 18, 2012.
148. "Interoperable Apps in the Biomedical Space". Joint Pistoia Alliance
TM Forum "Life Science R&D-App Strategy" Workshop. Invited presentation.
Morristown, NJ. October 26, 2012.
149. "tranSMART Update November 2, 2012". eTRICKS Track #4 Kickoff Meeting, IMI European Union. London, UK.
150. "Building the SMART Platforms Ecosystems: Toward an Apps-based Health Information Economy." Invited presentation. Chicago, IL. November 5, 2012.
151. "Rethinking the "Honest Broker" in the Changing Face of Security and Privacy." AMIA 2012 Annual Symposium. Panelist. Chicago, IL. November 6, 2012.
152. "tranSMART: An Open Source Data Sharing and Analytics Platform for Clinical and Translational Research." 2012 CTSA Annual Informatics Meeting. Panelist. Chicago, IL. November 7, 2012.
153. "tranSMART: An Emerging Global Open Source Community for Data Sharing and Informatics Analysis." Systems Biology Seminar. Invited presentation. Boston, MA. November 15, 2012.
154. "Rapid Launch of the tranSMART Foundation." Partnering for Cures. Invited presentation. New York City. November 29, 2012.
155. "Big Data Lifecycle Management in Biomedical Research in Academic and Pharmaceutical Settings: Current State and Future Trends". NIST Joint Cloud-Bigdata Workshop. Panelist. Gaithersburg, MD. January 16, 2013.
156. "The tranSMART Foundation Community Kickoff." tranSMART Meeting. Invited presentation. Ann Arbor, MI. February 12, 2013.
157. "tranSMART Update: Challenges, Opportunities, and the Collaborative Roadmap to Enhance Stakeholder Data Sharing and Analytics." Systems Pharmacology for the Prediction of Tyrosine Kinase Inhibitor non-QT Cardiotoxicity Workshop. Invited presentation. Bethesda, MD. February 28, 2013.
158. "tranSMART Workshop Building a Global Translational Research Analytics and Data Sharing Platform." Bio-IT World. Invited presentation. Boston, Mass. April 9, 2013.
159. "Data-sharing and bioinformatics platforms to encourage efficiency and progress in the PGx field". 3rd Annual World PGx Summit. Invited presentation. San Francisco, CA. May 2, 2013.
160. "What is the status quo of the tranSMART landscape?" Mental Health Services, Genomic Medicine and Patient Care, Thomson Reuters. Invited presentation. OSEHRA WebEx. June 18, 2013.
161. "Grand Challenges in Cyberinfrastructure & Interdisciplinary Research." 2013 NSF CyberBridges Workshop. Invited presentation. Arlington, VA. July 16, 2013.
162. "The tranSMART Translation Bioinformatics Platform." Consortium for Oral Health Research and Informatics. Invited presentation. July 26, 2013.

163. "The tranSMART Platform and the tranSMART Foundation: Global Cyberinfrastructure for Integrative Informatics Analysis." Brown University. Invited presentation. Providence, RI. September 25, 2013.
164. "Technological Applications in Research: Big Data: How Might the NNDC Put it Together?" The National Network of Depression Centers 2013 Annual Conference. University of Michigan. Invited presentation. Ann Arbor, MI. October 8, 2013.
165. "Genomics and Personalized Medicine: What CIOs and IT Professionals Must Know." UMHS Infrastructure and System Operation Meeting. University of Michigan. Invited presentation. Ann Arbor, MI. October 11, 2013.
166. "tranSMART Community Meeting." tranSMART Community Meeting. Invited presentation. Chilly-Mazarin, France. November 5, 2013.
167. "tranSMART Foundation Membership Program: Building the tranSMART Community." tranSMART Community Meeting. Invited presentation. Paris, France. November 6, 2013.
168. "tranSMART Overview University of Michigan-Johns Hopkins University-Collaboration." Sanofi tranSMART Meeting. Invited presentation. Paris, France. November 6, 2013.
169. "Personalized Medicine Advances in Neuropsychiatric Disorders." PMWC 2014 Silicon Valley. Invited presentation. Mountain View, CA. January 27, 2014.
170. "Moving Bioinformatics into Medicine: The Emergence of 'Psychiatric Pharmacogenomics'. Symposium at Hunter College. Invited presentation. New York, N.Y. June , 2014.
171. "Moving Bioinformatics and 'Big Data' into Medicine: The Emergence of 'Psychiatric Pharmacogenomics'. Bioinformatic & Pharmacogenomics: Managing and Analyzing Big Data Conference. Invited presentation. San Diego, CA. June 19, 2014.
172. "Big Data Era: Views and Challenges of Translational Medicine." Sino-American Symposium on Clinical and Translational Medicine. Panelist. Beijing, China. June 21, 2014.
173. "Policies Regarding Knowledge Representation." AMIA's Policy Invitational on Personalizing Medicine. Panelist. Washington, DC. September 4, 2014.
174. "tranSMART Platform Version 1.2 Launch Events." tranSMART Foundation. Invited presentation. Ann Arbor, MI. September 9, 2014.
175. "tranSMART." CASC Fall Meeting. Invited presentation. Arlington, VA. September 17, 2014.
176. "2014 Annual Meeting Objectives" 2014 tranSMART Foundational Annual Meeting. Invited presentation. Ann Arbor, MI. October 14, 2014.
177. "The Next Generation of Psychiatric Pharmacogenomics Research and tranSMART: Status Report and Future Plans" 2014 tranSMART Foundational Annual Meeting. Invited presentation. Ann Arbor, MI. October 14, 2014.
178. "The tranSMART Roadmap" 2014 tranSMART Foundational Annual Meeting. Panelist. Ann Arbor, MI. October 15, 2014.
179. "Science Gateways – Novel Technologies Enhance Usability for Research Communities." 2014 Technology Exchange. Panelist. Indianapolis, IN. October 28, 2014.
180. "Building Robust PredicTox Ontology Services into the Open-Source tranSMART Platform." FDA. Invited presentation. Silver Spring, MD. November 3, 3014.
181. "The University of Michigan Data Science Initiative" UM-SJTU. Invited presentation. Shanghai, China. January 20, 2015.
182. "Big Data' and 'Data Science': What does this mean for Society, High Education and

Libraries?" Annual Meeting of the Great Plains Network Sharing Data, Growing Networks, Growing Discovery. Invited presentation. Kansas City, Missouri. May 28, 2015.

183. "Data Science and the Library – Opportunity Knocks" Great Lakes Science Boot Camp. Invited presentation. Wayne State University. Detroit, MI. June 4, 2015.

PATENTS

1998 Patent Disclosure, USPTO: "Dynamic Brace to Relieve Carpal Tunnel Syndrome."

2008 Disclosure to UM tech transfer for patent application, "Genes and their interactions related to bipolar disorder diagnosis and treatment." (Contributors: I. Lee, H Chen, M McInnis)

2008 Patent Disclosure, USPTO: "BioSearch 2D, a novel analysis tool for Biomedical Literature and portfolios" (contributors: D. States, C. Santos and A. Ade).

2014 "System for Selection of Pharmacoepigenomic Variants to Optimize Psychotropic Drug Choice". UM and AssureRx Health, Inc. (Assigned to AssureRx Health, Inc.). Oct. 13, 2015 for final submission.

2015 "A glutamatergic network mediates lithium response in bipolar disorder as defined by epigenome pathway analysis." UM and Assurex Health, Inc. (Assigned to Assurex Health, Inc.). August 15, 2016 for final submission.

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Peer-reviewed Journals and Publications

1. Milewich L, Gant NF, Schwarz BE, Prough RA, Chen GT, **Athey B**, Macdonald PC (1977) Initiation of human parturition. VI. Identification and quantification of progesterone metabolites produced by the components of human fetal membranes. The Journal of Clinical Endocrinology and Metabolism **45(3):**400-411. PMID:20450.
2. Williams SP, **Athey BD**, Muglia LJ, Schappe RS, Gough AH, Langmore JP (1986) Chromatin fibers are left-handed double helices with diameter and mass per unit length that depend on linker length. *Biophysical Journal* **49(1)**:233-248. PMID: 3955173. PMCID: PMC1329627
3. Smith MF, **Athey BD**, Williams SP, Langmore JP (1990) Radial density distribution of chromatin: evidence that chromatin fibers have solid cores. *Journal of Cell Biology* **110**:245-254. PMID: 2298806. PMCID: PMC2116005
4. **Athey BD**, Smith MF, Rankert DA, Williams SP, Langmore JP (1990) The diameters of frozen-hydrated chromatin fibers increase with DNA linker length: evidence in support of variable diameter models for chromatin. *Journal of Cell Biology* **111(3)**:795-806. PMID: 2391364. PMCID: PMC2116296
5. Raphael Y, **Athey BD,** Wang Y, Hawkins JE Jr (1993) Structure of the reticular lamina and repair after noise injury. *Rev Laryngol Otol Rhinol* 1993;**114(3)**:171-175. PMID: 8191059.
6. Grober JS, Bowen BL, Ebling H, **Athey B**, Thompson CB, Fox DA, Stoolman LM (1993) Monocyte-endothelial adhesion in chronic rheumatoid arthritis. In situ detection of selectin and integrin-dependent interactions. *Journal of Clinical Investigations* **91**:2609-2619. PMID: 7685772. PMCID: PMC443325

7. Raphael Y, **Athey BD**, Wang Y, Lee MK, Altschuler RA (1994) F-actin, tubulin and spectrin in the organ of Corti: comparative distribution in different cell types and mammalian species. *Hearing Research* **76(1-2)**:173-187. PMID: 7928710.
8. Nurko S, Sogabe K, Davis JA, Roeser NF, Defrain M, Chien A, Hinshaw D, **Athey B**, Meixner W, Venkatachalam MA, Weinberg JM (1996) Contribution of actin cytoskeleton alterations to ATP depletion and calcium-induced proximal tubule cell injury. *American Journal of Physiology:Renal Physiology* **270**:F39-F52. PMID: 8769821.
9. Brakenhoff GJ, Squier J, Norris T, Bliton AC, Wade MH, **Athey B** (1996). Real-time two-photon confocal microscopy using a femtosecond, amplified Ti:sapphire system. *Journal of Microscopy* **181**:253-259. PMID: 8642584.
10. Clark HA, Barker SLR, Brasuel M, Miller MT, Monson E, Parus S, Shi Z.-Y, Song A, Thorsrud B, Kopelman R, Ade AS, Meixner WM, **Athey BD**, Hoyer M, Hill D, Lightle R, Philbert MA (1998) Subcellular Optochemical Nanobiosensors: Probes encapsulated by biologically localized embedding (PEBBLES). *Sensors and Actuators B - Chemical*, 1998, **51(1)**:12-16.
11. Higgins G, **Athey B**, Bassingthwaighte J, Burgess J, Champion H, Cleary K, Dev P, Duncan J, Hopmeier M, Jenkins D, Johnson C, Kelly H, Leitch R, Lorensen W, Metaxas D, Spitzer V, Vaidehi N, Vosburgh K, Winslow R (2001) Final report of the meeting "modeling & simulation in medicine: towards an integrated framework." *Computer Aided Surgery* **6(1)**:32-39. PMID: 11335957.
12. Mills KD, Deslaurier L, Dilworth DS, Grannell SM, Hoover BG, **Athey BD**, Leith EN (2001) Investigation of ultrafast time gating by spatial filtering. *Applied Optics* **40**:2282-2289. PMID: 18357236
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