Curriculum Vitae

Robert L. Smith

Altarum/ERIM Russell D. O'Neal Professor Emeritus of Engineering and Professsor Emeritus of Industrial and Operations Engineering, The University of Michigan Ann Arbor, Michigan 48109

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July 25, 2018

Ph.D. in Engineering Science, Department of Industrial Engineering and Operations Research, University of California, Berkeley, June, 1971. PhD Thesis: "Resource–Return Functions in Linear and Convex Programming". Ph.D. Dissertation Advisor: Stuart Dreyfus, Professor Emeritus.

M.S. in Engineering Science, Department of Industrial Engineering and Operations Research, University of California, Berkeley, February, 1971.

M.B.A. in Management Science, Graduate School of Business Administration, University of California, Berkeley, June, 1968. Master's Thesis Advisor: Reinhard Selten, Nobel Laureate in Economics.

B.S. in Physics, Harvey Mudd College, Claremont, California, June, 1966.

ACADEMIC POSITIONS:

Altarum/ERIM Russell D. O'Neal Professor Emeritus of Engineering and Professor Emeritus of the Department of Industrial and Operations Engineering, The University of Michigan, Ann Arbor, Michigan, 2012–present.

Altarum/ERIM Russell D. O'Neal Professor of Engineering and Professor of the Department of Industrial and Operations Engineering, The University of Michigan, Ann

Arbor, Michigan, 2003–2012.

Professor, Department of Industrial and Operations Engineering, The University of Michigan, Ann Arbor, Michigan, 1986–2002.

Associate Professor, Department of Industrial and Operations Engineering, The University of Michigan, Ann Arbor, Michigan. 1980–1986.

Assistant Professor, Graduate School of Business and Department of Mathematics and Statistics, University of Pittsburgh, Pittsburgh, Pennsylvania, 1976–1980.

Visiting Assistant Professor, Department of Applied Mathematics, Twente Institute of Technology, Enschede, The Netherlands, (on leave of absence from Bell Laboratories), 1974–1975.

Lecturer, Graduate School of Business Administration, University of California, Berkeley, 1971–1972.

PROFESSIONAL POSITIONS:

Program Director, Operations Research and Cluster Leader, Systems Engineering and Design Cluster, Division of Civil, Mechanical and Manufacturing Innovation, National Science Foundation, Arlington, Virginia, October 2008 - September 2010.

Member of the Technical Staff, Bell Laboratories, Holmdel, New Jersey. Facilities Network Planning, 1972–1976.

Operations Research Analyst, Naval Weapons Center, China Lake, California. Effectiveness evaluation of NWC training program, Summer, 1967. Simulation of bridge damage mechanisms, Summer, 1968.

Systems Engineer, Ratheon, Oxnard, California. Feasibility and design studies of aerospace subsystems, Summer, 1966.

Research Assistant, Operations Research Center, University of California, Berkeley. Administrative Studies Project in Higher Education, 1968–1970.

COURSES TAUGHT AT THE UNIVERSITY OF MICHIGAN:

Dynamic Programming (graduate) IOE 512, Stochastic Processes (graduate) IOE 515, Traffic Modeling (graduate) IOE 517, Function Space Methods in System Theory (graduate) IOE 600/EECS 600, Queueing Theory (graduate) IOE 616, Infinite Horizon Optimization (graduate) IOE 712, Stochastic Industrial Processes (undergraduate) IOE 315, Introduction to Markov Processes (undergraduate) IOE 316, Queueing Systems (undergraduate) IOE 416, Production and Inventory Control (undergraduate) IOE 441

Average Student Evaluation of Instructor (ten year period average on a scale of 1 through 5 (best)): 4.5

SERVICE:

Professional:

Associate Editor, Optimization, **Operations Research**, 2005 - 2012.

Associate Editor, Mathematical Programming and Networks, **Management Science**, 1986– 2003.

Member, INFORMS Speakers Program, 1992–present.

Chair, George B. Dantzig Dissertation Award Committee, 2003 (Member, 2002).

Chairman, ORSA/TIMS Visiting Lecturer Program, 1983–1985, Member, 1985– current.

Member, Advisory Board, Clearsight Systems, Inc.

Speaker, Proposal Writing, Future Academic Colloquium (FAC), INFORMS Combined Colloquium, Denver, 2004.

Member, NSF CAREER Review Panels, November, 1999, November, 2002.

Chairman, Optimization Cluster, INFORMS International, Maui, 2001 and INFORMS Conference, Seattle, 2007.

Invited Session Chairman, INFORMS Conference, Detroit, 1982; Chicago, 1983; Orlando, 1983; San Francisco, 1984; Boston, 1985; Los Angeles, 1986; St. Louis, 1987; Nashville, 1992. Invited Session Chairman, IFORS Triennial Conference, Hawaii, 2005. Invited Session Chairman, IEEE VNIS Conference, Dearborn, 1991. Invited Session Chairman, Infinite Programming, 15th International Symposium on Mathematical Programming, Ann Arbor, 1994 and 16th International Symposium on Mathematical Programming, Lausanne, 1997.

Chairman, Invited Speakers, 15th International Symposium on Mathematical Programming, Ann Arbor, MI, August, 1994.

National Contributed Papers Chairman, ORSA/TIMS Conference, Detroit, Michigan 1982. Referee for Operations Research, Mathematical Programming, Mathematics of Operations Research, Management Science, Journal of the American Statistical Association, National Science Foundation.

University:

Provost's Advisory Committee on Academic Affairs (AAAC), Member, 2001-2004.

University General Counsel's Advisory Committee, Member, 2002-2005.

Provost's Advisory Committee on University Budgets (ACUB), Member, 1997–2000.

University Library Council, Member, 1998–2001.

Faculty Perspectives Page, Editorial Board, 1994–1995, 1998–2001.

Senate Advisory Committee on University Affairs (SACUA), Member, 1995–1996.

Senate Assembly Research Policies Committee, Member, 1995–1996.

Senate Assembly Civil Liberties Board, Member and SACUA Liaison,1995–1996.

Provost's Advisory Committee on Academic Affairs (AAAC), Member, 1996.

SACUA Nominations Committee, Member,1994.

Senate Assembly, Member, 1992–1996.

Research Council, Office of the Vice President for Research, Member, 1995–1996.

Senate Assembly Standing Committee on Tenure, Member, 1993–1995.

Senate Assembly Retreat, Discussion Leader, 1994.

Transportation Studies ITS Program Committee, Rackham Graduate School, Member, 1990–2001.

SACUA Faculty Publications Committee, Member, 1992–1993.

Executive Committee, University of Michigan Transportation Research Institute, Member, 1986– 1989.

Administrative Council, Rackham Graduate School, Member, 1983–84.

College:

Director, Dynamic Systems Optimization Laboratory, 1992–2012.

UM Thrust Leader for Manufacturing Systems, General Motors Collaborative Research Laboratory in Advanced Vehicle Manufacturing, University of Michigan, 2002-2008.

Member, Dean's Endowed Chair Advisory Committee, College of Engineering, 2007-

2011.

Chairman, Nominations Committee, College of Engineering, 1986–1987. Member, 1990–1991, 1999–2000, 2005-2007.

Honors and Awards Committee, College of Engineering, Member, 2006-2007.

Faculty Admissions Advisory Committee, Member, 2004.

Strategic Planning Committee on International Programs, College of Engineering, Member, 1996–1997.

Delegation to the Technical University of Delft, College of Engineering, Member, 1996.

Ad Hoc Committee on Transportation Engineering, College of Engineering, Member, 1995.

Engineering Library Advisory Committee, College of Engineering, Member, 1992–1994.

Scholastic Standing Committee, College of Engineering, Member,

1988–1991.

Chairman, IOE Department Review Committee, 1989–90. Member, 1995–1996.

Engineering–Mathematics–Statistics–Physics Committee, Member, 1983–1985.

Lecturer, Engineering Summer Conference, 1983, 1990.

Department:

Member, Executive Committee, Department of Industrial and Operations Engineering, 1981–1982, 1984– 1985, 1987–1988, 1991–1992, 1993, 1994–1996, 1998–2000, 2005–2007.

Member, Department Chair Search Committee, 1993.

Chairman, Honors and Awards, 1987–88, 1990–1992, 1993, 1994–1997. Member, 2002-2007.

Chairman, Department Curriculum Committee, 1989–90. Member, 2003-2007.

Chairman, Department Admissions and Financial Aid Committee, 1982–86, 1997–1999.

Chairman and Member, Reappointment, Tenure, and Promotion Review Committees, Department of Industrial and Operations Engineering.

Coordinator, DeVlieg Fellowship Program, 1984–87.

HONORS AND AWARDS:

Altarum/ERIM Russell D. O'Neal Professorship of Engineering, 2003-2012, Emeritus, 2012 - present.

Fellow of the Institute for Operations Research and the Management Sciences, elected October 2003.

Distinguished Faculty Achievement Award, University of Michigan, 2002-2003.

College of Engineering Research Excellence Award for 1999–2000, College of Engineering, 1999–2000.

Department Outstanding Accomplishments Award, Department of Industrial and Operations Engineering, 2004–2005.

Department Research Excellence Award, Department of Industrial and Operations Engineering, 1992–1993, 1993–1994, 1994–1995, 1996–1997.

Outstanding Teacher, Michigan Student Assembly, 1989.

National Science Foundation Fellow, 1970–1971.

California State Fellow, University of California, Berkeley, 1968.

Beta Gamma Sigma Honorary Society, University of California, Berkeley, 1968.

Lockheed Scholar, Harvey Mudd College, 1964–1966

SCIENTIFIC AND PROFESSIONAL SOCIETIES:

Institute for Operations Research and Management Sciences

The Mathematical Programming Society

CONSULTING:

Altarum (Agent Based Optimization), Theo Capital (Optimal Portfolio Allocation), TeleQuest Ltd. (Dynamic Route Guidance), General Motors (Strategic Planning and Shape Optimization), Volvo of America, Michigan (Automated Guided Vehicle

Routing), Michigan Consolidated Gas Company (Equipment Replacement), Crowell & Moring (Statistics in Law), Environmental Protection Agency, Washington (River Pollution Modeling)

VISITING POSITIONS:

Visiting Professor, Faculty of Information Technology and Systems, Delft University of Technology, Delft, The Netherlands, January–April, 1999 and September–October, 2000.

Visiting Scholar, Department of Decision Sciences, School of Business Administration, Erasmus University, Rotterdam, The Netherlands, April–May, 1994.

Visiting Scholar, Department of Industrial Engineering and Operations Research, Columbia University, New York, January–February, 1994.

Invitee, Workshop on Operations Research and Complex Adaptive Systems, Santa Fe Institute, Santa Fe, New Mexico, May, 1992.

Visiting Scholar, Statistical Laboratory, University of Cambridge, Cambridge, England, May, 1987.

Visiting Professor, Econometric Institute, Erasmus University, Rotterdam, The Netherlands, March–April, 1987.

Visiting Scholar, Laboratoire d'Automatique et d'Analyse du Systems du CNRS, Toulouse, France, January– February, 1987.

Visiting Scholar, Faculty of Industrial Engineering and Management, Technion, Haifa, Israel, May, 1984.

Research Associate, Mathematical Sciences Research Institute, Berkeley, California, May 1983.

Visiting Scholar, Operations Research Group, Institute of Pure and Applied Mathematics, Rio de Janeiro, Brazil, June–July, 1982; July–August, 1983; July–August, 1985.

Visiting Scholar, Department of Industrial Engineering and Operations Research, University of California, Berkeley, July–August, 1981.

RESEARCH FUNDS (Project Director or Co-Principal Investigator):

National Science Foundation, "Single Observation Simulation Optimization" CMMI-1632793, Program in Operations Research, $294,508, 9/1/2016-8/31/2019, Principal Investigaor Zelda Zabinsky, Co-Principal Investigator Robert L Smith

National Science Foundation, "Analysis and Algorithms for Countably Infinite Linear Programming Models of Markov Decision Processes" CMMI-13332602, Program in Operations Research, $350,000,7/1/2013-6/302017, Principal Investigator Marina Epelman Co-Principal Investigators Robert L Smith and Archis Ghate

National Science Foundation, "Approximate Fictitious Play for the Optimization of Complex Systems," CCF-0830092, $116,566, 8/4/2008-8/3/2010, Former Co-Principal Investigator (Project Director, Marina Epelman) Program in Numeric, Symbolic & Geometric Computation,

Office of Naval Research MURI Grant, "Optimum Vessel Performance in Evolving Nonlinear Wave Fields," $450,000, May 1, 2005–October 31, 2012, Co-Principal Investigator (Project Director, Robert Beck).

National Science Foundation, "Fictitious Play for Complex Systems Optimization" DMI-0422752, Program in Operations Research, $215,907, 8/15/2004-7/31/2008, Co-Principal Investigator (Project Director, Marina Epelman).

National Science Foundation, "GOALI: Planning Horizons for Optimal Decision Making Over Time with Applications to Production Systems Optimization," DMI-0322114, Program in Manufacturing Enterprise Systems, $256,931, 2003-2008, Project Director, Robert L. Smith, Co-Principal Investigator, Dr. Danial Reaume, General Motors R & D Center. Additional support: $75,000 (direct cost) Matching Funds General Motors R & D.

National Science Foundation, "Collaborative Research: Adaptive Search for Global Optimization," (collaborative research with Professor Zelda Zabinsky, University of Washington), DMI-0244291, Program in Operations Research,$186,596, June 1, 2003-2008, Project Director, Robert L. Smith. Additional support: $20,000 (direct cost) Matching Funds University of Michigan.

General Motors Collaborative Research Laboratory, "Joint Optimization of Investment, Production, and Maintenance in Production Systems," (joint with Dr. Daniel Reaume, General Motors R & D Center), $614,000 (equivalent with indirect costs), 12/2002-12/2008, Project Director.

National Science Foundation, "Complex Networks Optimization" DMI-0217283, Program in Operations Research, $106,841, 2002-8/31/2004, Project Director, Robert L. Smith, Co-Principal Investigator, Marina Epelman.

National Science Foundation GOALI, "Large Scale Dynamic Programming for Optimizing the Design and Operation of Complex Systems with Applications to Production Line Design," (joint with Dr. Jeffrey Alden, General Motors R & D Center), DMI–9900267, Program in Operations Research and Production Systems, $205,000,

1999–2003, Project Director.

National Science Foundation, ”Adaptive Search for Global Optimization,” (joint with Professor Zelda Zabinsky, University of Washington), DMI–9820744, Program in Operations Research and Production Systems, $204,000, 1999–2003, Project Director.

National Science Foundation, “Infinite Horizon Optimization,” DMI–9713723, Program in Operations Research, $181,000, 1997–2002, Project Director.

Army Research Office ASSERT Grant, “Optimization Algorithms for Low Energy Mobile Digital Communications Systems,” $120,000, 1998–2002, Co–Principal Investigator, (Project Director, Wayne Stark).

Army Research Office MURI Grant, “Low Energy Electronics Design for Mobile Platforms,” $250,000, 1998–2001, Co–Principal Investigator, (Project Director, Wayne Stark).

Mitretek Corp, ”Large–scale ITS Modeling Development Task,” $25,000, 1997–98, Project Director.

Great Lakes Truck Transportation Research Center, ”TrafMod: A Mesoscopic Traffic Simulator,” $75,000, 1997–2000, Project Director.

National Science Foundation, “Infinite Horizon Optimization,” DDM–9214894, Program in Operations Research and Production Systems, $162,614, 1992–1997, Project Director. REU (Research Experience for Undergraduates) Supplement, $11,170, 1994–1997, Project Director.

University of Michigan Intelligent Transportation Systems Research Center of Excellence, “Traffic Modeling in Dynamic Route Guidance and Coordinated Signal Control,” $450,000, 1993–2000, Project Director (with Stephane Lafortune).

AT&T Foundation, Bell Laboratories Technical Special Purpose Grants Program, “Equipment for Research in Global Optimization,” $14,936, 1992, Project Director.

National Science Foundation, “Infinite Horizon Optimization,” ECS–8409682 and ECS–8700836, Program in Systems Theory and Operations Research, $167,000, 1984–1990, Project Director and Principal Investigator, (with James C. Bean).

IVHS Industrial Advisory Board, “Traffic Modeling, Analysis, and Simulation,” $325,000 (equivalent with indirect costs), 1989–92, Project Director.

General Motors Systems Engineering Center, “Statistical Applications to Vehicle Design,” $206,000, 1989– 1992, Project Director.

NATO, Collaborative Research Grant, "Random Search in Mathematical Programming," $19,329 (equivalent with indirect costs), 1989–1993

US Department of Transportation, "University Transportation Center: Great Lakes Center for Transportation Research," $75,000, 1988–1991, Co-Principal Investigator, (with James C. Bean and Jack R. Lohmann).

US Department of Transportation, "IVHS Education," $24,000, 1991, Principal Investigator.

General Motors, "Manufacturing Replacement Economy Studies", $112,500, 1986–1989, Co-Principal Investigator, (with James C. Bean and Jack R. Lohmann).

AT&T Foundation, Bell Laboratories Technical Special Purpose Grants Program, "Equipment for High Technology Replacement Economy," $40,500, 1985–1986, Co-Principal Investigator, (with James C. Bean and Jack R. Lohmann).

IBM, Kingston, New York, "A Dynamic Replacement Economy Methodology," $58,000, 1984–1985, Co- Principal Investigator, (with James C. Bean and Jack R. Lohmann).

Urban Mass Transit Administration, Washington, "Optimal Equipment Replacement Strategies," $51,000, 1983-1985, Principal Investigator, (with James C. Bean and Jack R. Lohmann).

Rackham Faculty Grant, "Conditions for the Existence of Planning Horizons," $10,000, 1981–82, Project Director, (with James C. Bean).

Bethlehem Steel Corporation, Michigan, "Capacity Expansion for Coke Production," $10,000, 1981–1982, Project Director, (with James C. Bean).

Ph.D. STUDENTS (Chairman or Co-Chairman):

1. Dolinskaya, Irina, "Optimal Path Finding in Direction, Location and Time Dependent Environments," 2009, Chair. Associate Program Director, Operations Engineering and Dynamics, Control and Systems Diagnostics, National Science Foundation, Alexandria, VA

2. Sisikoglu, Esra,"Distributed Algorithms Based on Fictitious Play for Near Optimal Sequential Decision Making," Co-Chair (with Marina Epelman). Formerly Assistant Professor, University of Missouri.

3. Nicholson, Blake, "Scheduling Shutdowns for Manufacturing Systems with Application to Automotive Production Lines: Optimization Models and Computation," 2008, Co-chair (with Marina Epelman). Formerly Northwest Airlines, Minneapolis.

4. Lortz, Timothy "Solvability in Discrete, Nonstationary, Infinite Horizon Optimization," 2008, Co-Chairman (with Archis Ghate). Booz Allen, Maryland.

5. Ghate, Archis, "Markov Chains, Game Theory, and Infinite Programming: Three Paradigms for Optimization of Complex Systems," 2006, Chairman. Associate Professor, University of Washington, Seattle.

6. Cheng, Shih-Fen, "Game-Theoretic Approachs for Complex Systems Optimization," 2006, Co-Chairman (with Mike Wellman). Assistant Professor, Singapore Management University, Singapore.

7. Baumert, Stephen, "Stochastic Search Methods for Large-Scale Optimization," 2004, Chairman. Formerly Assistant Professor, Air Force Institute of Technology, Dayton, Ohio

8. Lambert, Theodore, "Fictitious Play for Optimizing Large Scale Complex Systems," 2002, Co-Chairman (with Marina Epelman). Professor, Truckee Meadows Community College, Reno, Nevada

9. Bailey, Matthew, "State Aggregation for Large Scale Acyclic Deterministic Dynamic Programming Problems," 2001, Co-Chairman (with Jeffrey Alden). Associate Professor and Scott Research Professor of Management, Bucknell University.

10. Torpong Cheevaprawatdomrong, "Monotonicity in Infinite Horizon Optimization," 2001. Formerly Deputy Managing Director, Jong Stit Co., Ltd, Bangkok, Thailand.

11. Seksan Kiatsupaibul, "Markov Chain Monte Carlo Methods for Global Optimization," 2000, Chairman. Associate Professor, Department of Statistics, Faculty of Commerce and Accountancy, Chulalongkorn University, Thailand.

12. Allise Wachs, "Average Cost Optimality in Stochastic Infinite Horizon Optimization," 1998, Co- Chairman (with Irwin Schochetman). President, Integral Concepts, West Bloomfield, MI.

13. Daniel Reaume, "Efficient Random Search for Constrained Global and Convex Optimization," 1997, Co- Chairman (with Edwin Romeijn). Vice President of Operations Research, Revenue Analytics, Inc., Atlanta.

14. Alfredo Garcia, "Approximating Equilibria in Infinite Horizon Games,"

1997. Professor, Texas A&M and Program Manager for Control of Networked Multi-agent Systems, Army Research Office.

15. Julie Chou, "Accelerating the Solution of Dynamic Programs through State Aggregation," 1995, Co- Chairman (with Edwin Romeijn). Formerly member of the technical staff, IBM Thomas J. Watson Research Center.

16. William Cross, "Approximating Solutions in Infinite Horizon Optimization," 1995, Formerly Senior Actuarial Assistant, The St. Paul Companies, St. Paul, Minnesota.

17. Karl Wunderlich, "Dynamic Link Time Prediction in Vehicular Traffic Networks," 1994, Chairman. Corporate Fellow, Noblis, Inc.

18. David Kaufman,"Optimal Direction Choice for Hit-and-Run Acceleration," 1992, Chairman. Formerly Consultant, AT&T Laboratories, Holmdel, NJ.

19. Edwin Romeijn, "Global Optimization by Random Walk Sampling Methods," 1992, Co-Chairman (with Alexander Rinnooy Kan). H. Milton and Carolyn J. Stewart School Chair and Professor, ISYE, Georgia Tech. INFORMS Fellow.

20. Yunsun Park, "Average Optimality in Infinite Horizon Optimization," 1990, Co-Chairman (with James C. Bean). Professor, Myong-Ji University, Korea.

21. Peter Benson, "A Calculus for Infinite Horizon Optimization," 1990, Co-Chairman (with James C. Bean). Quant Placement Director, LSA Mathematics, University of Michigan, Ann Arbor.

22. David Kim, "Aggregation in Large Scale Markov Chains," 1990, Chairman. Professor, Department of Industrial and Manufacturing Engineering, Oregon State University, Corvallis, Oregon.

23. Sarah McAllister Ryan, "Degeneracy in Discrete Infinite Horizon Optimization," 1988, Co-Chairman (with James C. Bean). Professor, Iowa State University, Ames, Iowa. Recipient of NSF CAREER Award.

24. Jeffrey M. Alden, "Error Bounds for Rolling Horizon Procedures," 1987, Co-Chairman (with Stephen M. Pollock). INFORMS Fellow. GM Fellow, General Motors Research Laboratories, Warren, Michigan. Honorable Mention in the 1988 ORSA Nicholson Prize Competition. Recipient of the 2005 Franz Edelman Award for Achievement in Operations Research and the

Management Sciences, GMR McCuen Award.

25. Zelda Zabinsky, "Computational Complexity of Adaptive Algorithms in Monte Carlo Optimization," 1985, Chairman. Professor, University of Washington, Seattle.

26. Julia L. Higle, "Deterministic Equivalence in Stochastic Infinite Horizon Problems," 1985, Co-Chairman (with James C. Bean). Professor and Chair, Industrial and Systems Engineering Department, University of Southern California. Second Place in the 1986 ORSA Nicholson Prize Competition.

27. Donald E. Brown, "A Bayesian Justification for Cross-Entropy Minimization in Decision Analysis," 1985, Chairman. W.S. Calcott Professor, Department of Systems and Information Engineering, University of Virginia, Charlottesville.

28. Wallace J. Hopp, "Non-homogeneous Markov Decision Processes with Applications to R and D Planning," 1984. Member of NAE and INFORMS Fellow. Associate Dean and Alessi Professor of Business Administration, University of Michigan, Ann Arbor. Recipient of the 1985 ORSA Nicholson Prize.

PUBLICATIONS:

1. "A simplex method for uncapacitated pure-supply infinite network flow problems," with Chris Thomas Ryan and Marina Epelman, **SIAM Journal on Optimization**, forthcoming, 2018.
2. "Single Observation Adaptive Search for Continuous Simulation Optimization," with Seksan Kiatsupaibul and Zelda Zabinsky, **Operations Research**, forthcoming, 2018
3. Simplex Algorithm for Countable-state Discounted Markov Decision Processes," with Ilbin Lee. Marina A. Epelman, and H. Edwin Romeijn, **Operations Research**, forthcoming, 2017.
4. "Solving Infinite Horizon Optimization Problems Through Analysis of a One-dimensional Global Optimization Problem," with Seksan Kiatsupaibul and Zelda Zabinsky, **Journal of Global Optimization**, December 2016, Volume 66, Issue 4, pp 711–727.
5. "Parameter-free Sampled Fictitious Play for Solving Deterministic Dynamic Programming Problems," with Dolinskaya, I.S., Epelman, M.A., and Sisikoglu, E., **Journal of Optimization Theory and Applications**, May 2016, Volume 169, Issue 2, pp 631–655.
6. "Solvability in Infinite Horizon Optimization," with Lortz, T.D., Dolinskaya, I.D., and Ghate, A.V, Operations Research Letters, Vol. 43, Issue, pp. 498-503, September 2015.

7. "Sampled Fictitious Play for Multi-action Stochastic Dynamic Programs" with Archis Ghate, Shih-Fen Cheng, Stephen Baumert, Daniel Reaume, and Dushyant Sharma, **IIE Transactions**, Vol. 46, pp. 742-756, 2014.
8. "Extreme point characterization of constrained nonstationary infinite-horizon Markov decision processes with finite state space," with I Lee, MA Epelman, and HE Romeijn, **Operations Research Letters,** Vol 42 (Issue 3), pp 238-245, 2014.
9. "Hit-and-Run Methods," with Zelda Zabinsky, **Encyclopedia of Operations Research and Management Sciences**, Editors: S. I. Gass and M.C. Fu, Springer, pp. 721-729, 2013.
10. "A Dynamic Programming Approach to Achieving an Optimal End-State Along a Serial Production Line," with Shih-Fen Cheng, Blake E. Nicholson, Marina A. Epelman, and Daniel J. Reaume**, IIE Transactions**,Vol. 45, pp. 1278-1292, 2013.
11. "Fastest-Path Planning for Direction-Dependent Speed Functions," with Irina S. Dolinskaya, **Journal of Optimization Theory and Applications,**Vol. 158, pp. 480-497, 2013.
12. "A linear programming approach to nonstationary infinite horizon Markov decision processes," with Archis Ghate, **Operations Research**, Vol. 61, No. 2, pp. 413–425, March–April, 2013.
13. ``Average Optimality in Nonhomogeneous Infinite Horizon Markov Decision Processes," with Allise Wachs and I.E. Schochetman, **Mathematics of Operations Research**, Vol. 36, No. 1, 147-164, February 2011.
14. "Sampled Fictitious Play for Approximate Dynamic Programming," with Archis Ghate and Marina Epelman, **Computers and Operations Research**, Vol. 36, Issue 12, pp. 1705-1718, 2011.
15. "An Analysis of a Variation of Hit-and-Run for Uniform Sampling from General Regions," with Seksan Kiatsupaibul and Zelda Zabinsky, **ACM Transactions on Modeling and Computer Simulation,** Vol. 21, No. 3, pp. 16:1-16:11, 2011
16. "Pattern discrete and mixed Hit-and-Run for global optimization," with Huseyin Onur Mete, YanfangShen, Zelda Zabinsky, and Seksan Kiatsupaibul, **Journal of Global Optimization,** Vol. 50, No. 4, pp. 597-627, 2011.
17. "A Shadow Simplex Method for Infinite Linear Programs," with Archis Ghate and Dushyant Sharma, **Operations Research,** Vol. 58, No. 4, July–August 2010, pp. 865–877, 2010.
18. "Characterizing Extreme Points as Basic Feasible Solutions in Infinite Linear Programs," with Archis Ghate, **Operations Research Letters**, Vol 37, Issue 1, pp 7-10, January 2009.
19. "Optimal Short-Range Routing of Vessels in a Seaway", with Dolinskaya, I. S., Kotinis, M., and Parsons, M. G., **Journal of Ship Research**, Volume 53, Number 3, pp. 121-129, September 2009.
20. "Discrete Hit-and-Run for Sampling Points from Arbitrary Distributions over Subsets of Integer Hyper-rectangles," with Stephen Baumert, Archis Ghate, Seksan Kiatsupaibul, Yanfang Shen, and Zelda B. Zabinsky, **Operations Research**, Vol. 57, No. 3, pp. 727-739, May-June 2009.
21. "Optimal Backlogging Over an Infinite Horizon Under Time Varying Convex Production and Inventory Costs," with Archis Ghate, **Manufacturing and Service Operations Management (MSOM),** Vol. 11, No. 2, pp 362-368, 2009.

22. "A Hit-and-Run Approach for Generating Scale Invariant Small World Networks," with Archis Ghate, **Networks**, Vol 53, Issue 1, pp 67-78, January 2009.
23. "A Dynamic Programming Approach to Efficient Sampling from Boltzmann Distributions," with Archis Ghate, **Operations Research Letters**, Vol. 36, Issue 6, pp 665-668, November 2008.
24. "Adaptive Search with Stochastic Acceptance Probabilities for Global Optimization," with Archis Ghate, **Operations Research Letters**, Volume 36, Issue 3, pp 285-290 May 2008.
25. "A Reach and Bound Algorithm for Acyclic Dynamic Programming Networks," with Matthew D. Bailey and Jeffrey M. Alden, **Networks**, Volume 52, Issue 1, pp 1-7, August 2008.
26. "Infinite Horizon Optimality Criteria for Equipment Replacement under Technological Change," with I. E. Schochetman, **Operations Research Letters**, Volume 35, Issue 4, pp 485-492, July 2007.
27. "An Analytically Derived Cooling Schedule for Simulated Annealing" with Yanfang Shen, Seksan Kiatsupaibul, and Zelda Zabinsky, **Journal of Global Optimization**, Volume 38, Issue 3, pp 333 - 365, July, 2007.
28. "Convergence of Minimum Norm Elements of Projections and Intersections of Nested Affine Spaces in Hilbert Space," with Ernie Schochetman and J. Tsui, **Journal of Mathematical Analysis and Applications**, Volume 330, Issue 1, pp 467-482, June 2007.
29. "Solution and Forecast Horizons for Infinite Horizon Nonhomogeneous Markov Decision Processes," with T. Cheevaprawatdomrong, I.E. Schochetman, and Alfredo Garcia, **Mathematics of Operations Research**, Volume 32, Issue 1, pp 51-72, February, 2007.
30. "Extreme Point Characterizations for Infinite Network Flow Problems," with Dushyant Sharma and Edwin Romeijn, **Networks**, Volume 48, Issue 4, pp 209–222, 2006.
31. "CoSIGN: A Parallel Algorithm for Coordinated Traffic Signal Control," with Shih-Fen Cheng and Marina A. Epelman, **IEEE Transaction on Intelligent Transportation Systems**, Vol 7, Issue 4, pages 551-564, Dec. 2006.
32. "Optimality Criteria for Deterministic Discrete Time Infinite Horizon Optimization," with I.E. Schochetman, **International Journal of Mathematics and Mathematical Sciences,** 2005:1, pp 57-80, 2005.
33. "A Fictitious Play Approach to Large-Scale Optimization" with Theodore J. Lambert III and Marina A. Epelman, **Operations Research**, Vol. 53, No. 3, pp. 477-489, May-June 2005.
34. "Existence of Efficient Solutions in Infinite Horizon Optimization under Continuous and Discrete Controls," with I.E. Schochetman, **Operations Research Letters** 33, 97-104, 2005.
35. "Infinite Horizon Production Scheduling in Time-varying Systems under Stochastic Demand," with T. Cheevaprawatdomrong, **Operations Research**, Volume 52, Number 1, January-February 2004.
36. "Optimal Estimation of Univariate Black Box Lipschitz Functions with Upper and Lower Error Bounds" with Zelda Zabinsky and Birna P. Kristinsdottir, **Computers & Operations Research**, Volume 30, Issue 10, Pages 1539-1553, September 2003.
37. "A Paradox in Equipment Replacement under Technological Improvement" with Torpong Cheevaprawatdomrong, **Operations Research Letters**, 31, pages 77 - 82, 2003.

38. "Implementing Pure Adaptive Search for Global Optimization," with Daniel Reaume and Edwin R. Romeijn, **Journal of Global Optimization,** Vol. 20, No. 1, pages 33-47, 2001.
39. "On the Closure of the Sum of Closed Subspaces," with I.E. Schochetman and S-K. Tsui, **International Journal of Mathematics and Mathematical Sciences,** v. 26, no. 5, 1-11, 2001.
40. "Solving Nonstationary Infinite Horizon Stochastic Production Planning Problems," with Alfredo Garcia, **Operations Research Letters**, Vol. 27, No. 3, pp. 135-141, 2000.
41. "Link Travel Time Prediction for Decentralized Route Guidance Architectures," with Karl Wunderlich and David Kaufman, **IEEE Transactions on Intelligent Transportation Systems**, Vol. 1, No. 1, pp. 4-14, March 2000.
42. "Markov Perfect Equilibrium Existence for a Class of Undiscounted Infinite Horizon Dynamic Games," with Alfredo Garcia, **Journal of Optimization Theory and Applications**, Vol. 106, No. 2, pp. 433-441, August 2000,
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