

2002-2008 Activity Report

Center for Applied Optimization

Modeling and Computation for Engineering, Science and Industry

University of Florida, Gainesville FL 32611

<http://www.ise.ufl.edu/cao>

The **Center for Applied Optimization** at the University of Florida is an interdisciplinary center which encourages joint research and applied projects among faculty from engineering, mathematics and business. It also encourages increased awareness of the rapidly growing field of optimization through publications, conferences, joint research and student exchange. It was founded in September 1992. The co-directors are Dr. Panos Pardalos of the Department of Industrial and Systems Engineering and Dr. William Hager of the Department of Mathematics. Center affiliates include faculty from Industrial and Systems Engineering, Civil Engineering, Aerospace Engineering, Mechanics and Engineering Science, Electrical Engineering, Computer and Information Sciences, Chemical Engineering, Mathematics, and Decision and Information Sciences.

Optimization may be characterized as determining the maximum benefit of a decision process by the use of mathematical modeling. For example, the most well-known technique, linear programming, has long been used by large companies in resource allocation, capital budgeting, production planning, facility location, vehicle routing and scheduling and many other decision problems. Typically these problems are very large with many variables and restrictions on the decision process. With optimization modeling and the help of fast computers for numerical computation, organizations of all sizes can now make more accurate and beneficial decisions.

Optimization also embodies fundamental mathematical principles which arise in technical areas such as engineering design, control of dynamic processes, and systems analysis. Numerical optimization plays a key role in solving models of many such complex processes. Thus an important activity of the Center is the development of optimization software.

Current applied projects include applications in biomedicine, data analysis and data mining, randomization in algorithm design, multidimensional assignment problems, molecular conformation problems, modeling and solutions of water management problems, evacuation modeling, warehouse location problems, and weather analysis and forecasting. Sponsors include the National Science Foundation, National Institute of Health, Industries, AirForce, the Army Research Office and Florida Water Management Districts.

The Center is interested in promoting collaboration with researchers at other universities through visitors and student exchange. It administers a program for visiting students from the Royal Institute of Technology (KTH), Stockholm.

The CAO has been involved in organizing international conferences and workshops in many diverse areas

of applied optimization. The topics of these conferences range from algorithms for large-scale optimization and networks, cooperative control and optimization, to data mining in biomedicine and computational neuroscience. Most of these conferences have been supported by federal agencies, industries, and other organizations. The conferences have attracted the best people working in the field of optimization. Special efforts were made to include CAO graduate student participation in these conferences.

In addition, both directors of CAO are active in publishing.

P. Pardalos is the editor in Chief of:

Journal of Global Optimization (JOGO)

Journal of Optimization Letters (OPTL)

Journal of Computational Management Science(CMS)

as well as the managing editor of several book series. One major publication activity of CAO, is the publication of the multi-volume Encyclopedia of Optimization (a second enlarged edition is coming out in Summer 2008).

W. Hager is the editor in chief of Journal of Computational Optimization and Applications (COAP).

Affiliated Faculty

Industrial and Systems Engineering:

Elif Akali, Ph.D. (Purdue University) Production planning and control; discrete and heuristic optimization; semiconductor manufacturing; spare parts management.

Ravindra K. Ahuja, Ph.D. (Indian Institute of Technology) Combinatorial Optimization, Logistics and Supply-Chain management, Airline Scheduling, Heuristic Optimization, Routing and Scheduling

Sherman Bai, Ph.D. (MIT) Operations Research, Manufacturing Systems

Richard Francis, Ph.D. (Northwestern) Location Theory, Facilities Design

Joseph P. Geunes, Ph.D. (Pennsylvania State University) Manufacturing and Logistic Systems Analysis and Design, Supply-Chain Management, Operations Planning and Control Decisions

J. Cole Smith, Ph.D. (Virginia Polytechnic Institute and State University) Integer programming and combinatorial optimization, network flows and facility location, heuristic and computational optimization methods, large-scale optimization due to uncertainty or robustness considerations.

Donald Hearn, Ph.D. (Johns Hopkins) Operations Research, Optimization, Transportation Science

Panos Pardalos, Ph.D. (Minnesota) Combinatorial and Global Optimization, Parallel Computing

R. Tyrrell Rockafellar, Ph.D. (Harvard) Nonlinear Optimization, Stochastic Optimization, Applications in Finance

H. Edwin Romeijn, Ph.D. (Erasmus University Rotterdam, The Netherlands) Operations research, optimization theory and applications to supply chain management, planning problems over an infinite horizon, industrial design problems, and asset/liability management.

Suleyman Tufekci, Ph.D. (Georgia Tech) Network Modeling, Virtual Manufacturing, Integrated Product and Process Design, Logistics

Stanislav Uryasev, Ph.D. (Glushkov Institute of Cybernetics, Ukraine) Stochastic Optimization, Equilibrium Theory, Applications in Finance, Energy and Transportation.

Vladmir Boginski, Ph.D. (University of Florida, Gainesville) Operations Research, Optimization, Data Mining

Mathematics:

Jayadeep Gopalakrishnan, Ph.D. (Texas A&M) Numerical Analysis

William Hager, Ph.D. (MIT) Numerical Analysis, Optimal Control

Bernhard Mair, Ph.D. (McGill) Inverse Analysis

Andrew Vince, Ph.D. (Michigan) Combinatorics, Graph Theory, Polytopes, Combinatorial Algorithms, Discrete Geometry

David Wilson, Ph.D. (Rutgers) Image Processing

Civil Engineering:

Kirk Hatfield, Ph.D. (Massachusetts) Water Quality Modeling, Optimization in Environmental Modeling

Mechanical & Aerospace Engineering:

Raphael Haftka, Ph.D. (UC San Diego) Structural and Multidisciplinary Optimization, Genetic Algorithms

Decision & Information Sciences:

Harold Benson, Ph.D. (Northwestern) Multi-criteria Optimization, Global Optimization

Selcuk Erenguc, Ph.D. (Indiana) Optimal Production Planning

Computer & Information Science & Engineering:

Gerhard X. Ritter, Ph.D. (Wisconsin) Computer Vision, Image Processing, Pattern Recognition, Applied Mathematics

Chemical Engineering:

Oscar D. Crisalle, Ph.D. (UC Santa Barbara) Process Control Engineering, Modeling and Optimization

Medical School:

Paul Carney, M.D.(University of Valparaiso) Computational Neuroscience, Data Mining in Medicine

Food & Res. Econ.:

Charles Moss, Ph.D.(Purdue University)

Petraq Papajorgji, Ph.D.(University of Tirana, Albania)

Industry:

Alkis Vazacopoulos, Ph.D. (Carnegie Mellon University) Combinatorial Optimization, Linear and Integer Programming, Logistics and Supply-Chain management, Airline Scheduling, Heuristic Optimization, Routing and Scheduling, Jobshop Scheduling

Mauricio G. C. Resende, Ph.D. (University of California, Berkeley) Combinatorial Optimization, Design and Analysis of Algorithms, Graph Theory, Interior Point Methods, Massive Data Sets, Mathematical Programming, Metaheuristics, Network Flows, Network Design, Operations Research Modeling, Parallel Computing

Panos M. Pardalos, Distinguished Professor

Co-Director, Center for Applied Optimization

Affiliated Faculty of Computer & Information Science & Engineering Department
Biomedical Engineering Department, McKnight Brain Institute, and the Genetics Institute

ACADEMIC AWARDS (2002-present)

- 2008 UF Research Foundation Professorship Award (2008 - 2011).
- 2007 Senior Fulbright Specialist Award (July 2007).
- 2007 UF Doctoral Dissertation Advisor/Mentoring Award.
- 2006 Fellow of INFORMS (Institute of Operations Research and the Management Sciences).
- 2005 Degree of Honorary Doctor, N.I. Lobachevski State University of Nizhni Novgorod, Russia.
- 2005 Honorary Member of the Mongolian Academy of Sciences.
- 2004 Fellow of AAAS (American Association for the Advancement of Science).
- 2004 “The William Pierskalla Best Paper Award” for research excellence in health care management science, Institute for Operations Research and the Management Sciences (INFORMS).
- 2003 Foreign Member of the “National Academy of Sciences of Ukraine”
- 2003 Outstanding Professional and Academic Titles in 2002, Handbook of Applied Optimization, Honorable Mention, Association of American Publishers
- 2003 Outstanding Faculty Award, ISE Department.
- 2002 Outstanding Faculty Award, ISE Department.

MEDIA CITATIONS (2002-present)Most cited authors in Computer Science (<http://citeseer.nj.nec.com/allcited.html>)

Interview about research in Epilepsy in the newspaper “Thessalia” (July 6 2003)

The Optimization Research Bridge (ORB) Newsletter (Issue 8, December 2002), “Interview with Panos Pardalos” (<http://www.ballarat.edu.au/itms/orb/issue8.html>)

The Florida Engineer, Summer 2002
(<http://www.eng.ufl.edu/home/pubs/mag/02sum/mag2/optimiation.htm>)

PROFESSIONAL ACTIVITIES

Journals:

Editor-in-Chief of the “Journal of Global Optimization”, Springer.

Editor-in-Chief of “Optimization Letters”, Springer.

Co-Editor-in-Chief of the “Computational Management Science”, Springer.

Associate Editor of the Journal “Optimization and Engineering”, Springer.

Associate Editor of the Journal “Optimization Methods and Software”, Gordon and Breach Science Publishers.

Associate Editor of the Journal “Computational Optimization and Applications”, Springer.

Associate Editor of the Journal “Combinatorial Optimization”, Springer.

Associate Editor of the Journal “Informatica”, Institute of Mathematics and Informatics.

Associate Editor of the Journal “Environmental Modelling & Assessment”, Springer.

Associate Editor of the “Journal of Optimization Theory and Applications”, Springer.

Member of the Advisory Board of the Journal “Decisions in Economics and Finance”, Springer.

Member of the Advisory Board of the Journal “Fuzzy Optimization and Decision Making”, Springer.

Member of the Advisory Board of the “OR Transactions”.

Member of the Advisory Board of “Operational Research” (The Scientific Journal of the Hellenic Operational Research Society).

Associate Editor of “Computational Statistics and Data Analysis”, Elsevier.

Associate Editor of the “Journal of Concrete and Applicable Mathematics (JCAAM)”, NOVA Publishing Corporation.

Member of the Editorial Council of the Journal “Computational and Applied Mathematics”.

Member of the Editorial Council of the Journal “Kibernetika i systemny analiz” (Cybernetics and System Analysis, Springer, <http://www.kluweronline.com/issn/1060-0396>).

Associate Editor of “Computer Science and Information Systems”, (published by ComSIS Consortium).

Member of the Editorial Board of the “Journal of Industrial and Management Optimization”, (published by the American Institute of Mathematical Sciences).

Member of the Editorial Board of the Electronic Journal “Discrete Mathematics and Theoretical Computer Science”, (<http://dmtcs.thomsonscience.com>).

Member of the Editorial Board of the “International Journal of Operational Research (IJOR)”, Inderscience Publishers, Geneve (Switzerland).

Member of the Editorial Board of the “International Journal of Computational Science and Engineering (IJCSE) ”, Inderscience Publishers, Geneve (Switzerland).

Member of the Editorial Board of the “Journal of Computational Optimization in Economics and Finance,” Nova Science Publishers.

Member of the Editorial Board of “The Journal of Financial Decision Making ,” Springer.

Book Series:

Book Series Editor, “Optimization and Its Applications”, Springer.

Book Series Editor, “Nonconvex Optimization and Applications”, Kluwer Academic Publishers.

Book Series Editor, “Applied Optimization”, Kluwer Academic Publishers.

Book Series Editor, “Combinatorial Optimization”, Kluwer Academic Publishers.

Book Series Editor, “Massive Computing”, Kluwer Academic Publishers.

Book Series Editor, “Computers and Operations Research”, World Scientific Publishing Co.

Book Series Editor, “Applied Discrete Mathematics and Theoretical Computer Science”, Science Press.

Book Series - Member of the Editorial Board, “New Dimensions in Networks”, Edward Elgar Publishing.

Award Committees and Societies:

Board Member of BIOMAT (BIOMAT Institute for Advanced Studies of Biosystems, Brazil).

Permanent Member of DIMACS (NSF Center for Discrete Mathematics and Theoretical Computer Science).

Member of the 1998 "INFORMS/CSTS Prize" Committee.

Member of ACM, SIAM, Mathematical Programming Society, AMS, INFORMS, New York Academy of Sciences.

Member of the Farkas Prize Committee (INFORMS).

ADMINISTRATIVE SERVICE

Departmental committees: Graduate committee, Committee for Sustained Performance Evaluation, Faculty and Chairman search committees

College committees: Graduate Council, University Senate, College Personnel Board (Tenure & Promotion Committee), College PEP Selection Committee, UFRFP award committee, Commencement Marshal, International Affairs Committee, BME Chairman Search Committee, Faculty Recognition and Awards Committee, Participating Faculty of the Center for Greek Studies.

Ph.D. STUDENTS SUPERVISED (2002-present)**Graduated:**

Sandra Duni Eksioglu, Optimizing Integrated Production, Inventory and Distribution Problems in Supply Chains (Summer 2002).

Burak Eksioglu, Network Algorithms for Supply Chain Optimization Problems (Summer 2002).

Sergiy Butenko, Maximum independent set and related problems with applications (Summer 2003).

Wanpracha Chaovalitwongse, Optimization and Dynamical Approaches in Nonlinear Time Series Analysis with Applications in Bioengineering (Summer 2003).

Eduardo Pasilliao, Algorithms for Multidimensional Assignment Problems (Summer 2003).

Carlos Oliveira, Optimization in Telecommunications (Summer 2004).

Don Grundel, Probabilistic Analysis of Nonlinear Assignment Problems (Summer 2004).

Robert Murphy, Integrated Assignment and Path Planning (Spring 2005).

Vladimir Boginski, Optimization and data mining Algorithms (Summer 2005).

- Claudio N. Menesses, Combinatorial approaches for problems in bioinformatics (Fall 2005).
- Antony Okafor, Entropy based techniques with applications in data mining (Fall 2005).
- Oleg Prokopyev, Nonlinear Integer Optimization with Applications in Biomedicine (Summer 2006).
- Sandeep P. Nair, Brain Dynamics and Control with Applications in Epilepsy (BME, Fall 2006).
- Michael J. Hirsch, GRASP-based Heuristics for Continuous Global Optimization Problems (Fall 2006).
- Onur Seref, New Optimization Methods and Applications in Kernel-based Machine Learning (Fall 2006).
- Michelle A. Ragle, Computational Methods for the Design and Selection of Hybridization Probes (Spring 2007).
- Altannar Chinchuluun, Topics in Multiobjective Optimization (Summer 2007).
- Stanislav Busygin, Combinatorial Optimization Techniques in Data Mining (Summer 2007).
- Clayton Commander, Optimization Problems in Telecommunications with Military Applications (Summer 2007).
- Alla Kammerdiner, Statistical Methods in Data Mining of Brain Dynamics, (Spring 2008).
- Michael Andrew Bewernitz, Data Mining and Time Series Analysis of Brain Dynamical Behavior with Applications in Epilepsy, (BME, Spring 2008).

Current Ph.D. Students:

- Ashwin Arulselvan, (expected graduation: 2008).
- Oleg Shylo, (expected graduation: 2008).
- Saed Alizamir, (expected graduation: 2009).
- Chang-Chia (Jeff) Liu, (expected graduation: 2008).
- Nikita Boyko, (expected graduation: 2008).
- O. Erhun Kundakcioglu, (expected graduation: 2009).
- Steffen Rebennack, (expected graduation: 2009).
- Petros Xanthopoulos, (expected graduation: 2009).
- Minyan Ni, (expected graduation: 2009).

EXTERNAL Ph.D. EXAMINER / ADVISOR (International):

Served as an external examiner (March 2002) of the PhD dissertation by George Pappas from Brunel University, England

Served as an external examiner (August 2003) of the PhD dissertation by Galina A. Korotkikh from Central Queensland University (Australia).

Served as an external examiner (May 2005) of the PhD dissertation by Zari Dzalilov from The University of Ballarat (Victoria, Australia).

Served as an external examiner (May 2006) of the PhD dissertation by Panos Parpas from The Department of Computing, Imperial College of Science, Technology & Medicine (London, England).

Served as an external examiner (June 2006) of the PhD dissertation by Gary Saunders from The University of Ballarat (Victoria, Australia).

Served as an external examiner (March 2007) of the PhD dissertation by Laura Di Giacomo from The University of La Sapienza (Rome, Italy).

Served as PhD co-advisor with Dr. Geraldo Robson Mateus (May 2007) of the PhD dissertation by Martn Gmez Ravetti, Universidade Federal de Minas Gerais, Belo Horizonte, (Brazil) Thesis: "Algorithms for Scheduling Problems with Parallel Machines and Sequence Dependent Setups."

M.S. STUDENTS (with Thesis) SUPERVISED:

Zheng Xu, Datamining in Electronic Commerce (2002).

Bruno H. Chiarini, A new algorithm for the triangulation of input-ouput tables and the linear ordering problem (2004).

Daniel J. Hurley, A model of neocortical connectivity based on architecture of scale-free networks (BME, Fall 2005).

Ashwin Arulselvan, Complex Network Assortment and Modeling (Spring 2006).

VISITING SCHOLARS HOSTED:

Vladimir Shylo, Pavel Knopov, Vitaliy Yatsenko, and Alexander Golodnikov, Institute of Cybernetics, Kiev (Spring 2007).

C.-G. Han, Computer Engineering Dept., Kyung Hee Univ., Korea (2002).

UNIVERSITY SCHOLARS PROGRAM STUDENTS:

Robert Eaton, Optimization in Medicine (2002).

Michelle Guadagna, The Economics of Information (2007).

Andrew Simons, Computational Neuroscience (2007).

STUDENTS WITH HONORS THESIS:

Andreea Vaduva, Summa cum Laude, An analysis of the healthcare system: Causes of medical errors (2004).

Laura Silva, Summa cum Laude, Ecommerce: Legal and illegal drugs (2004).

Nicolas Hamann, Summa cum Laude, Graph theory application to modern-day market (2004).

David Sada, Magna cum Laude, Optimizing professional baseball strategies using operations research techniques (2004).

Publications by Panos M. Pardalos (2002-present)

BOOKS AUTHORED:

1. *Software Engineering Techniques Applied To Agricultural Systems*, co-authors: Petraq J. Papajorgji and Panos M. Pardalos, Springer, (2005).

Book review appeared in:

Journal of Optimization Methods and Software Volume 22, Number 2 (2007), pp. 361-363.

ACM Computing Reviews (2006), Review #: CR133260 (0708-0776).

2. *Optimization and Control of Bilinear Systems*, co-authors: Panos M. Pardalos and Vitaliy Yatsenko, Springer, (2008).

PAPERS IN REFEREED JOURNALS:

1. "A genetic algorithm for the weight setting problem in OSPF routing" (with M. Ericsson and M.G.C. Resende), *Journal of Combinatorial Optimization* Vol. 6, No. 3 (2002), pp. 299-333.
2. "GRASP with path relinking for the 3-index assignment problem" (with R. Aiex, M.G.C. Resende, and G. Toraldo), *INFORMS Journal on Computing* Volume 17, No. 2 (2005), pp. 224-247.
3. "A heuristic for the maximum independent set problem based on optimization of a quadratic over a sphere" (with S. Busygin and S. Butenko), *Journal of Combinatorial Optimization* Vol. 6, No. 3 (2002), 287-297.
4. "A multivariate partition approach to optimization problems" (with H.-X. Huang) *Cybernetics and Systems Analysis* Vol. 38, No. 2 (2002), pp. 265-275.
5. "Some properties for the Euclidean Distance Matrix and Positive Semidefinite Matrix Completion Problem" (with H.-X. Huang and Z.-A. Liang), *Journal of Global Optimization* Vol. 25, No. 1 (2003), pp. 3-21.
6. "Statistical information approaches to modeling and detection of the epileptic human brain" (with L. Iasemidis, D.-S. Shiau, and J.C. Sackellares, V. Yatsenko, M. Yang, W. Chaovalitwongse), *Computational Statistics and Data Analysis* Vol. 43, No. 1 (2003), pp. 79 - 108.
7. "Nonlinear Dynamical Systems and Adaptive Filters in Biomedicine" (with V. Yatsenko, S. Butenko, and J.C. Sackellares), *Annals of Operations Research* 119 (2003), pp. 119-142.
8. "GRASP with a new local search scheme for vehicle routing problems with time windows" (with W. Chaovalitwongse and D. Kim), *Journal of Combinatorial Optimization* 7 (2003), pp. 179-207.
9. "Flow search approach and new bounds for the m-step linear conjugate gradient algorithm" (with H.-X. Huang and Z.-A. Liang), *Journal of Optimization Theory and its Applications* Vol. 120, No. 1 (2004), pp. 53-71.

10. “*Randomized heuristics for the MAX-CUT problem*” (with P. Festa, M.G.C. Resende, and C.C. Ribeiro) **Optimization Methods and Software** Vol. 17, No. 6 (December, 2002) pp. 1033-1058.
11. “*Methods for survivable networks design*” (in Korean) (with S.-G. Lee, and C.-G. Han), **The Journal Industrial Liaison Research Institute** Vol. 8 (2002), pp. 50-57.
12. “*A parallel implementation of an asynchronous team to the point-to-point connection problem*” (with R.C. Correa, F.C. Gomez, and C. Oliveira), **Parallel Computing** 29 (April 2003), pp. 447-466.
13. “*Adaptive Epileptic Seizure Prediction System*” (with L. Iasemidis, D.-S. Shiau, and J.C. Sackellares, and W. Chaovalitwongse, J.C. Principe, and P.R. Carney), **IEEE Transactions on Biomedical Engineering** Vol. 50, No. 5 (2003), pp. 616-626.
14. “*Prediction of Human Epileptic Seizures based on Optimization and Phase Changes of Brain Electrical Activity*” (with L. Iasemidis, D.-S. Shiau, J.C. Sackellares, and W. Chaovalitwongse) **Optimization Methods and Software** Volume 18, Number 1 (2003), pp. 81-104.
15. “*Analysis of EGG data using optimization, statistics, and dynamical systems techniques*” (with L. Iasemidis, D.-S. Shiau, J.C. Sackellares, V. Yatsenko, and W. Chaovalitwongse) **Computational Statistics and Data Analysis** Vol. 44, Issues 1-2, 28 October 2003, Pages 391-408.
16. “*Network Optimization in Supply Chain Management and Financial Engineering: An Annotated Bibliography*” (with J. Geunes), **Networks** Vol. 42, Issue 2, (2003), pp. 66-84.
17. “*Efficiency conditions and duality for a class of multiobjective fractional programming problems*” (with L. Zhi-An and H.X. Huang), **Journal of Global Optimization** Vol. 27, No. 4 (2003), pp. 447-471.
18. “*Randomized Parallel Algorithms for the Multidimensional Assignment Problem*” (with C. Oliveira), **Applied Numerical Mathematics**, Volume 49, Issue 1 , April 2004, pp. 117-133.
19. “*A note on the complexity of longest path problems related to graph coloring*” (with A. Migdalas), **Applied Mathematics Letters** 17 (2004) pp. 13-15.
20. “*Dynamical Resetting of the Human Brain at Epileptic Seizures: Application of Nonlinear Dynamics and Global Optimization Techniques*” (with L. Iasemidis, D.-S. Shiau, and J.C. Sackellares, and A. Prasad), **IEEE Transactions on Biomedical Engineering** Vol. 51, No. 3 (2004), pp. 493-506.
21. “*Long-Term Prospective On-Line Real-Time Seizure Prediction*” (with L. Iasemidis, D.-S. Shiau, and J.C. Sackellares, W. Chaovalitwongse, and A. Prasad), **Journal of Clinical Neurophysiology**, Vol. 115, Issue 3 (2005), pp. 532-544.
22. “*Dynamical Approaches and Multi-Quadratic Integer Programming for Seizure Prediction*” (with L. Iasemidis, D.-S. Shiau, J.C. Sackellares, and W. Chaovalitwongse), **Optimization Methods and Software** Vol. 20, No. 3-4 (2005), pp. 383-394.
23. “*On approximability of Boolean formula minimization*” (with Oleg Prokopyev), **Journal of Combinatorial Optimization** Vol. 8 no. 2 (2004), pp. 129-135.
24. “*Statistical Analysis of Financial Networks*” (with V. Boginski and S. Butenko), **Journal of Computational Statistics and Data Analysis**, Vol. 48, Issue 1 (2005), pp. 431-443.

25. “*Test problem generator for the multidimensional assignment problem*” (with Don A. Grundel), **Computational Optimization and Applications**, Vol. 30 (2005), pp 133–146.
26. “*Asymptotic properties of random multidimensional assignment problems*” (with Don A. Grundel and C. A.S. Oliveira), **Journal of Optimization Theory and Its Applications** Vol. 122, No 3, pp. 33-46 (Sept.2004).
27. “*Asymptotic results for random multidimensional assignment problems*” (with Don A. Grundel, C. A.S. Oliveira, and E. Pasiliao), **Computational Optimization and Applications** Volume 31, Number 3 (2005), pp. 275 - 293.
28. “*A survey of combinatorial optimization problems in multicast routing*” (with C. A.S. Oliveira) **Computers and Operations Research**, Volume 32, Issue 8 , August 2005, Pages 1953-1981.
29. “*Minimum ϵ - equivalent circuit size problem*” (with Oleg Prokopyev), **Journal of Combinatorial Optimization**, Vol. 8/4 (2004), pp. 495–502.
30. “*Network Models of Massive Datasets*” (with V. Boginski, S. Butenko), **Computer Science and Information Systems**, Vol. 1 (2004), pp. 79-93.
31. “*Seizure warning algorithm based on optimization and nonlinear dynamics*” (with L. D. Iasemidis, J. C. Sackellares, W. Chaovalitwongse, P. Carney, O. Prokopyev, V. Yatsenko, and D-S Shiau), **Mathematical Programming**, Vol. 101/2 (2004), pp. 365-385.
32. “*On the complexity of unconstrained hyperbolic 0-1 programming problem,*” (with H. Huang and O. Prokopyev), **Operations Research Letters**, Vol. 33/3 (2005), pp. 312-318.
33. “*A new linearization technique for multi-quadratic 0–1 programming problems*” (with O. Prokopyev and W. Chaovalitwongse), **Operations Research Letters**, Vol 32/6 (2004) pp. 517-522.
34. “*Optimal solutions for the closest string problem via integer programming,* (with C. A.S. Oliveira, Z. Lu, and C.N. Meneses) **INFORMS Journal on Computing**, 16(4):419-429, 2004.
35. “*Branch and bound algorithms for the multidimensional assignment problem*” (with E. Pasiliao and L. Pitsoulis), **Journal of Optimization Methods and Software** Vol. 20, No. 1 (2005), pp. 127-143.
36. “*Second order cone programming approaches to static shakedown analysis in steel plasticity*” (with C.D. Bisbos and A. Makrodimopoulos), **Journal of Optimization Methods and Software** Vol. 20, No. 1 (2005), pp. 25-52.
37. “*On Multiple-Ratio Hyperbolic 0–1 Programming Problems*” (with O.A. Prokopyev, C. Meneses, C.A.S. Oliveira), **Pacific Journal of Optimization**, Vol. 1/2 (2005), pp. 327-345.
38. “*Comment on ”Inability of Lyapunov Exponents to Predict Epileptic Seizures,”* (with L.D. Iasemidis, K. Tsakalis, J. Chris Sackellares), **Phys. Rev. Lett.** 94, page 019801 (14 January 2005).
39. “*Expanding Neighborhood GRASP for the Traveling Salesman Problem*” (with Y. Marinakis and A. Migdalas), **Computational Optimization and Applications** Volume 10, Number 4 (Dec. 2005), pp. 231 - 257.
40. “*Construction Algorithms and Approximation Bounds for the Streaming Cache Placement Problem in Multicast Networks*” (with C. Oliveira) **Cybernetics and Systems Analysis** (2005), Vol. 41, no 6 (Nov. 2005), pp. 898-908.

41. “*Optimization Techniques for String Selection and Comparison Problems in Genomics*” (with C.N. Meneses, C.A.S. Oliveira), *IEEE Engineering in Medicine and Biology Magazine* Vol. 24, No. 3, pp. 81-87, 2005.
42. “*A combinatorial algorithm for message scheduling on Controller Area Network*” (with C. Oliveira, T. Querido), *International Journal of Operational Research (IJOR)*, Vol. 1 No. 1/2 2005, pp. 160-171.
43. “*A Note on the Maximization of Strongly Convex Functions,*” (with A. Chinchuluun, E. Rentsen), *International Journal of Pure and Applied Mathematics*, Vol. 20, No. 4 (2005), pp. 529-538.
44. “*Some Recent Developments in Deterministic Global Optimization*” (with A. Chinchuluun), *Operations Research: An International Journal*, Vol 4, pp. 3–28 (2005).
45. “*Global Minimization Algorithms for Concave Quadratic Programming Problems* (with A. Chinchuluun, E. Rentsen) *Optimization*, Vol 24, No. 6 (Dec. 2005), pp. 627-639.
46. “*Classification with Feature Selection via Mathematical Programming* (with with S. Busygin) *WSEAS Transactions on Computers*, Issue 7, Volume 4, July, 2005, pages 655-660.
47. “*Feature Selection for Consistent Biclustering via Fractional 0-1 Programming*” (with Stanislav Busygin and Oleg A. Prokopyev), *Journal of Combinatorial Optimization*, Volume 10, Number 1 (2005), pp. 7-21.
48. “*Computational Comparison Studies of Quadratic Assignment Like Formulations for the In Silico Sequence Selection Problem in De Novo Protein Design*” (with H. K. Fung, S. Rao, C. A. Floudas, O. Prokopyev, and F. Rendl), *Journal of Combinatorial Optimization*, Volume 10, Number 1 (2005), pp. 41-60.
49. “*On the average case behaviour of multidimensional assignment problems*”, (with D. Grundel, P. Krokhmal, and C. Oliveira) *Pacific Journal of Optimization* Volume 1, Number 1, January 2005, pp. 39-57.
50. “*A hybrid-genetic - GRASP algorithm using Lagrangean relaxation for the traveling salesman problem*”, (with Y. Marinakis and A. Migdalas) *Journal of Combinatorial Optimization*, Volume 10, Number 4, December 2005, pp. 311 - 326.
51. “*Performance of a seizure warning algorithm based on the dynamics of intracranial EEG*”, (with W. Chaovalitwongse, L.D. Iasemidis, P.R. Carney, D.-S. Shiau and J.C. Sackellares), *Epilepsy Research*, Volume 64, Issue 3, May 2005, pp. 93-113.
52. “*Analysis of Stock Market Structure by Identifying Connected Components in the Market Graph*”, (with A. Arulsevan, V. Boginski, and A. Kammerdiner), *Journal of Financial Decision Making* 1(1), pp. 27-37, 2005.
53. “*Nondifferentiable Minimax Fractional Programming Problems with $(C; \alpha; \rho; d)$ -Convexity*” (with D. Yuan, X. Liu, A. Chinchuluun) *Journal of Optimization Theory and Applications*, Vol. 129, No. 1 (2006), 185-199.

54. "Reply to the comments on "Performance of a seizure warning algorithm based on the dynamics of intracranial EEG" by Winterhalder, M., Schelter, B., Achulze-Bonhage, A., Timmer J ", (with W. Chaovaitwongse, L.D. Iasemidis, P.R. Carney, D.-S. Shiau and J.C. Sackellares), *Epilepsy Research*, Volume 72, Issue 1, November 2006, pp. 82-84.
55. "Reply to the comments on "Performance of a seizure warning algorithm based on the dynamics of intracranial EEG" by Mormann, F., Elger, C.E., and Lehnertz, K. ", (with W. Chaovaitwongse, L.D. Iasemidis, P.R. Carney, D.-S. Shiau and J.C. Sackellares), *Epilepsy Research*, Volume 72, Issue 1, November 2006, pp. 85-87.
56. "Generalized convexities and generalized gradients based on algebraic operations", (with D. Yuan, A. Chinchuluun, and X. Liu) *Mathematical Analysis and Applications* Volume 321, Issue 2 (2006), pp. 675-690.
57. "Optimization Approach to the Estimation and Control of Lyapunov Exponents" (with V. Yatsenko), *Journal of Optimization Theory and its Applications*, Volume 128, Number 1 (2006), pp. 29-48.
58. "Lower bound improvement and forcing rule for quadratic binary programming," (with H. Huang and O. Prokopyev), *Computational Optimization and Applications*, Vol 33, Numbers 2-3 (2006), pp. 187 - 208.
59. "Enhanced Dynamic Slope Scaling Procedure with Tabu Scheme for Fixed Charge Network Flow Problems" (with D. Kim and X. Pan) *Computational Economics* 27 (2006), pp. 273-293.
60. "An algorithm for the job scheduling problem based on global equilibrium techniques" (with O. Shylo) *Computational Management Science* Vol. 3, No 4. (2006), pp. 331-348.
61. "Mining market data: A network approach" (with V. Boginski, S. Butenko), *Computers & Operations Research* Volume 33, Issue 11, pp. 3171-3184 (November 2006).
62. "Optimal Solutions to Minimum Total Energy Broadcasting Problem in Wireless Ad Hoc Networks" (with Manki Min and Oleg Prokopyev) *Journal of Combinatorial Optimization* Volume 11, Number 1 (2006) pp. 59-69.
63. "Cross-Facility Management of production and Transportation Planning Problem, (with S. Duni-Eksioglu and H. E. Romeijn) *Computers and Operations Research* Volume 33, Issue 11, pp. 3231-3251 (November 2006).
64. "Experimental Analysis of Approximation Algorithms for the Vertex Cover and Set Covering Problems" (with F.C. Gomes, C.N. Meneses, G.V.R. Viana), *Computers and Operations Research* Volume 33, Issue 12 (2006), pp. 3520-3534.
65. "A Feedback Control Systems View of Epileptic Seizures" (with K. Tsakalis, Niranjana Chakravarthy, Shivkumar Sabesan, Leon D. Iasemidis) *Cybernetics and Systems Analysis*, Volume 42, Number 4 (2006), pp. 483-495.
66. "A Predictability Analysis for an Automated Seizure Prediction Algorithm" (with Chris Sackellares, Deng-Shan Shiau, Jose C. Principe, Mark C.K. Yang, Linda K. Dance, Wichai Suharitdamrong, Wanpracha Chaovaitwongse, and Leonidas D. Iasemidis) *Journal of Clinical Neurophysiology* vol. 23, Issue 6, (2006), pp. 509-520.

67. "Algorithms with high order convergence speed for blind source extraction," (with P. Georgiev and A. Cichocki), *Computational Optimization and Applications*, vol 38, no 1 (2007), pp. 123-131.
68. "Electroencephalogram (EEG) Time Series Classification: Application in Epilepsy" (with W. Chaovaitwobgse and O. Prokopyev), *Annals of Operations Research, Special issue on 'Operations Research in Medicine-Computing and Optimization in Medicine and Life Sciences'* Volume 148, Number 1 (November, 2006), pp. 227-250.
69. "Streaming cache placement problems: complexity and algorithms, (with C. A.S. Oliveira, O. Prokopyev, and M.G.C. Resende) *International Journal of Computational Science and Engineering* (2006), to appear.
70. "Cryogenic-Optical Sensor for High-Sensitive Gravitational Measurements, (with V.A. Yatsenko, V.V. Kozorez, R.A. Malitsky, A.M. Negrijko, V.M. Hodakovsky, O.K. Chermnykh, and L.P. Yatsenko), *Journal of Automation and Information Sciences* Volume 38 Issue 4 (2006), pp. 54-68.
71. "GRASP with path relinking for the weighted MAXSAT problem", Paola Festa and Panos M. Pardalos and Leonidas S. Pitsoulis and Mauricio G. C. Resende, *J. Exp. Algorithmics*, volume 11, (2006), Article No. 2.4, ACM Press (Year of Publication 2007).
72. "On the number of local minima for the multidimensional assignment problem, (with Don A. Grundel, Pavlo Krokhmal, and Carlos A.S. Oliveira) *Journal of Combinatorial Optimization* Vol. 13, No. 1 (2007), pp. 1-18.
73. "An optimization based approach for data classification" (with S. Busygin and O. Prokopyev), *Journal of Optimization Methods and Software*, Special Issue on Systems Analysis, Optimization and Data Mining in Biomedicine, Volume 22, Number 1 (February, 2007), pp. 3-9.
74. "A classification method based on generalized eigenvalue problems" (with M.R. Guarracino, C.Cifarelli, and O. Seref), *Journal of Optimization Methods and Software*, Special Issue on Systems Analysis, Optimization and Data Mining in Biomedicine, Volume 22, Number 1 (February, 2007), pp. 73-81.
75. "Quality assessment of gene selection in microarray data" (with C.H. Park, M. Jeon, and H. Park), *Journal of Optimization Methods and Software*, Special Issue on Systems Analysis, Optimization and Data Mining in Biomedicine, Volume 22, Number 1 (February, 2007), pp. 145-154.
76. "Application of the data mining techniques to the systems biology of neuritogenesis" (with Z.Q. Zhang, A.R. Kammerdinen, S. Busygin, A.K. Ottens, S.F. Larner, F.H. Kobeissy, R.L. Hayes, and K.K. Wang), *Journal of Optimization Methods and Software*, Special Issue on Systems Analysis, Optimization and Data Mining in Biomedicine, Volume 22, Number 1 (February, 2007), pp. 215-224.
77. "A bilinear relaxation based algorithm for concave piecewise linear network flow problems" (with A. Nahapetyan), *Journal of Industrial and Management Optimization*, Vol. 3, No. 1 (2007) pp. 71-85.
78. "Global optimization by continuous grasp" (with M. J. Hirsch, C. N. Meneses, and M. G. C. Resende), *Optimization Letters*, Vol. 1, No. 2 (2007) pp. 201-212.
79. "Asymptotic Behavior of the Expected Optimal Value of the Multidimensional Assignment Problem", (with D. Grundel and P. Krokhmal) *Mathematical Programming* Vol. 109, No. 2-3 (March 2007), pp. 525-551.

80. “*K-T.R.A.C.E: A kernel k-means procedure for classification*” (with C. Cifarelli, L. Nieddu and O. Seref), *Computers and Operations Research* Volume 34, Issue 10 (2007), pp. 3154-3161.
81. “*Optimality Conditions and Duality for Nondifferentiable Multiobjective Fractional Programming with Generalized Convexity*” (with A. Chinchuluun, D. Yuan), *Annals of Operations Research*, Vol. 154 (2007), pp. 133-147.
82. “*A Survey of Multiobjective Optimization*” (with A. Chinchuluun), *Annals of Operations Research*, Vol. 154 (2007), pp. 29-50.
83. “*Second-Order Cone & Semidefinite Representations of Material Failure Criteria*” (with C. D. Bisbos), *Journal of Optimization Theory and its Applications*, Vol. 134, No. 2 (August, 2007), pp. 275-301.
84. “*Optimization in Control and Learning in Coupled Map Lattice Systems*” (with V. Yatsenko and S. Nair), *Journal of Optimization Theory and its Applications*, Vol 134, No. 3 (September, 2007), pp. 533-547.
85. “*Scheduling problem with non-related parallel machines, sequence dependent setups, due dates and eligibility constraints*”, (with M. Ravetti, G. Robson Mateus, P. Leite Rocha), *International Journal of Operational Research (IJOR)*, Vol. 2, No. 4 (2007), pp. 380 - 399.
86. “*Solving Parallel Machines Scheduling Problems with Sequence-Dependent Setup Times Using Variable Neighborhood Search*”, (with M. Ravetti, G. Robson Mateus, P. Leite Rocha), *IMA Journal of Management Mathematics*, Vol. 18, no. 2 (2007), pp. 101-115.
87. “*Local saddle point and a class of convexification methods for nonconvex optimization problems*” (with T. Li, Y. Wang, and Z. Liang), *Journal of Global Optimization*, Vol. 38, Number 3 (July, 2007), pp. 405-419.
88. “*A New Approach to the Non-unique Probe Selection Problem*” (with Claudio N. Meneses and Michelle A. Ragle), *Annals of Biomedical Engineering*, Volume 35, Number 4 (April, 2007) pp. 651-658.
89. “*An Optimal Cutting-Plane Algorithm for Solving the Non-Unique Probe Selection Problem*” (with Michelle A. Ragle and J. Cole Smith), *Annals of Biomedical Engineering*, Volume 35, Number 11 (November, 2007). pp. 2023-2030.
90. “*Total Energy Optimal Multicasting in Wireless Ad Hoc Networks*” (with Manki Min) *Journal of Combinatorial Optimization*, Volume 13, Number 4 (2007), pp. 365-378.
91. “*A Bilinear Algorithm for Sparse Representations*,” (with Pando Georgiev and Fabian Theis), *Computational Optimization and Applications*, Volume 38, Number 2 (November 2007), pp. 249-259.
92. “*A new bilevel formulation for the vehicle routing problem and a solution method using a genetic algorithm*” (with Y. Marinakis and A. Migdalas), *Journal of Global Optimization*, Volume 38, Number 4 (2007), pp. 555-580.
93. “*The Wireless Network Jamming Problem*” (with C.W. Commander, V. Ryabchenko, S. Uryasev, and G. Zrazhevsky), *Journal of Combinatorial Optimization*, Vol. 14, No. 4 (2007) pp. 481-498.
94. “*Incremental classification with generalized eigenvalues*” (with C. Cifarelli, M. R. Guarracino and O. Seref) *Journal of Classification*, Volume 24, Number 2 (September, 2007), pp. 205-219.

95. “*Adaptive dynamic cost updating procedure for solving fixed charge network flow problems*” (with A. Nahapetyan), *Computational Optimization and Applications*, Volume 39, Number 1 (January, 2008), pp. 37-50.
96. “*Jamming communication networks under complete uncertainty*” (with C.W. Commander, V. Ryabchenko, O. Shylo, S. Uryasev, and G. Zrazhevsky), *Optimization Letters*, Vol. 2 No. 1 (2008), pp. 53-70.
97. “*Exact algorithms for a scheduling problem with unrelated parallel machines and sequence and machine-dependent setup times*” (with P. L. Rocha, M. Ravetti, G. Robson Mateus), *Computers & Operations Research*, Volume 35, Issue 4, April 2008, pp. 1250-1264.
98. “*A bilinear reduction based algorithm for solving capacitated multi-item dynamic pricing problems*” (with A. Nahapetyan), *Computers & Operations Research*, Volume 35, Issue 5, May 2008, pp. 1601-1612.
99. “*Global equilibrium search applied to the unconstrained binary quadratic optimization problem*” (with O.A. Prokopyev, O.V Shylo, and V.P. Shylo) *Optimization Methods and Software*, Volume 23, Number 1 (February, 2008), pp. 129-140.
100. “*On the time series support vector machine using dynamic time warping kernel for brain activity classification*” (with W. Chaovalitwongse) *Cybernetics and Systems Analysis*, Vol. 44, No. 1 (2008), pp. 125-138.
101. “*Localization of Minimax Problems*” (with P.G. Georgiev and A. Chinchuluun), *Journal of Global optimization*, Volume 40, Numbers 1-3 (March, 2008), pp. 489-494.
102. “*Biclustering in Data Mining*” (with S. Busygin, and O. Prokopyev), *Computers & Operations Research*, Volume 35, Issue 9 (2008), pp. 2964-2987.
103. “*A parallel multistart algorithm for the closest string problem*, (with Fernando C. Gomes, C.N. Meneses, and Gerardo Valdisio R. Viana) *Computers & Operations Research*, Vol. 35 (2008), pp. 3636-3643.
104. “*Asynchronous teams for prob selection problems*” (with Claudio N. Meneses and Michelle A. Ragle), *Discrete Optimization*, 5 (2008), pp. 74-87.
105. “*Morphological variations on surface topography of $YBa_2Cu_3O_{7-\delta}$ thin films on $SrTiO_3$, with respect to the substrate misorientation direction*,” (with Dimitrios Vassiloyannis), *Physica C: Superconductivity* Volume 468, Issue 3, 1 February 2008, Pages 147-152.
106. “*Quantitative complexity analysis in multi-channel intracranial EEG recordings from epilepsy brains*,” (with Chang-Chia Liu, W. Art Chaovalitwongse, Deng-Shan Shiau, Georges Ghacibeh, Wichai Suharitdamrong and J. Chris Sackellares), *Journal of Combinatoria optimization*, Vol. 15, No. 3 (April 2008), pp. 276-286.
107. “*Random Assignment Problems*” (with Pavlo Krokhmal), *European Journal of Operational Research*, forthcoming (2008).
108. “*Data Mining in Electroencephalogram: Dynamical Feature extraction*” (with Chang-Chia Liu, W. Art Chaovalitwongse, B. Uthman), In “*Encyclopedia of Data Warehousing and Mining*” (2nd Edition, John Wang, Editor) IDEA Group Inc., 2008.

109. “*A multicriteria approach for rating the credit risk of financial institutions*” (with G. Baourakis, M. Conisescu, G. Van Dijk, and C. Zopounidis), *Computational Management Science* forthcoming (2008).
110. “*A combinatorial algorithm for the TDMA message scheduling problem*” (with Clayton Commander) *Computational Optimization and Applications*, forthcoming (2008).
111. “*Analysis of Food Industry Market Using Network Approaches*” (with A. Arulsevan, G. Baourakis, V. Boginski, and E. Korchina) *British Food Journal*, forthcoming (2008).
112. “*Sequential constraint augmentation with variable neighbourhood search for the multidimensional assignment problem,*” (with E. Pasilio) *Int. J. Computational Science and Engineering*, forthcoming (2008).
113. “*Multiple phase neighborhood Search GRASP based on Lagrangean relaxation, random backtracking Lin-Kernighan and path relinking for the TSP,*” (with Yannis Marinakis and Athanasios Migdalas), *Journal of Combinatoria optimization*, forthcoming (2008).
114. “*OMEGa: an optimistic most energy gain method for minimum energy multicasting in wireless ad hoc networks,*” (with Manki Min), *Journal of Combinatoria optimization*, forthcoming (2008).
115. “*Optimizing the Dynamical Systems Approaches in Seizure Study*” (with C.C. Liu, W. Chaovalitwongse and W. Suharitdamrong) *Journal of Combinatorial Optimization*, forthcoming (2008).
116. “*Identifying Bi-Temporal from Unilateral Onset in Epilepsy Patients by the Analysis of Brain Dynamics*” (with C.C. Liu, W. Chaovalitwongse, D.S. Shiau, W. Suharitdamrong, and J.C. Sackellares) *Annals of Biomedical Engineering*, submitted (2008).
117. “*Solving Systems of Nonlinear Equations with Continuous GRASP*” (with M. J. Hirsch, and M. G. C. Resende), *Nonlinear Analysis Series B: Real World Applications*, forthcoming (2008).

PAPERS IN REFEREED BOOKS AND MAGAZINES:

1. “*Parallel Metaheuristics for Combinatorial Optimization*” (with S. Duni-Eksioglu and M.G.C. Resende), In *Models for Parallel and Distributed Computation* (Edited by Correa R. et al), Kluwer Academic Publishers (2002), pp. 179-206.
2. “*Phase Entrainment and Predictability of Epileptic Seizures*” (with L. Iasemidis, D.-S. Shiau, and J.C. Sackellares), In *Biocomputing* (Edited by P.M. Pardalos and J. Principe), Kluwer Academic Publishers (2002), pp. 59-84.
3. “*Combined Application of Global Optimization and Nonlinear Dynamics to Detect State Resetting in Human Epilepsy*” (with L. Iasemidis, D.-S. Shiau, and J.C. Sackellares), In *Biocomputing* (Edited by P.M. Pardalos and J. Principe), Kluwer Academic Publishers (2002), pp. 140-158.
4. “*Classical and Quantum Controlled Lattices: Self-Organization, Optimization and Biomedical Applications*” (with V. Yatsenko and J.C. Sackellares), In *Biocomputing* (Edited by P.M. Pardalos and J. Principe), Kluwer Academic Publishers (2002), pp. 199-224.

5. “*A dynamic slope scaling procedure for the mixed-charge cost multi-commodity network flow problem*” (with S. Duni and H.E. Romeijn), In **Financial Engineering, Supply Chain and E-commerce** (Edited by P.M. Pardalos and V. Tsitsiringos), Kluwer Academic Publishers (2002), pp. 247-270.
6. “*Global Optimization Approaches to Reconstruction of Dynamical Systems Related to Epileptic Seizures*” (with L. Iasemidis, V. Yatsenko and J.C. Sackellares), In **Scattering and Biomedical Engineering: Modeling and Applications** (Edited by D. Fotiadis and C.V. Massalas), World Scientific (2002), pp. 308-318.
7. “*Finding maximum independent sets in graphs arising from coding theory*” (with S. Butenko, I. Sergienko, V. Shylo, and P. Stetsyuk), **Symposium on Applied Computing**, Madrid, Spain (2002), ACM Press, pp. 542-546.
8. “*Solving Large scale Fixed Charge Network Flow Problems*” (with S. Duni-Eksioglu and B. Eksioglu), In **Equilibrium Problems and Variational Models** (Edited by A. Maugeri and F. Giannesi), Kluwer Academic Publishers (2002).
9. “*A scenario-based heuristic for a capacitated transportation-inventory problem with stochastic demands*” (with P. Chaovalitwongse and H.E. Romeijn), In **Computational Methods in Decision-Making, Economics and Finance** (Edited by E. Kontoghiorghes et al.), Kluwer Academic Publishers (2002), pp. 231-248.
10. “*Modeling and Optimization in Massive Graphs*” (with V. Boginski and S. Butenko), In **Novel Approaches to Hard Discrete Optimization**, Fields Institute Communications Series Vol. 37, American Mathematical Society (2003), pp. 17-39.
11. “*On Structural Properties of the Market Graph*” (with V. Boginski and S. Butenko), In **Innovations in Financial and Economic Networks** (Edited by A. Nagurney), Edward Elgar Publishers (2003), pp. 29-45.
12. “*Estimating the size of Correcting Codes using Extremal Graph Problems*” (with S. Butenko, I. Sergienko, V. Shylo, and P. Stetsyuk), In **Optimization: Structure and Applications** (Edited by C. Pearce et al.), Kluwer Academic Publishers (2003).
13. “*Cryogenic-optical sensor for the highly sensitive gravity meters* (with V. Yatsenko and J. Principe), In **Sensors, Systems, and Next-Generation Satellites VI** (Edited by H. Fyjisada, J.B. Lurie, and K. Weber), Proceedings of SPIE Vol. 4881 (2003), pp. 549-557.
14. “*Development of the Method and the Device for Remote Sensing of Vegetation* (with V. Yatsenko and S.M. Kochubey), In **Remote Sensing for Agriculture, Ecosystems, and Hydrology IV** (Edited by Manfred Owe, Guido D’Urso, and Leonidas Toullos) Proceedings of SPIE, Vol. 4879 (2003).
15. “*Nonlinear optimization and parallel computing*, (with A.Migdalas, G. Toraldo, and V. Kumar) *Parallel Computing* Volume 29 , Issue 4 (April 2003), pp. 375 - 391.
16. “*Extended frontiers in optimization techniques*” (with S. Butenko), In **New Optimization Techniques in Engineering** (Edited by G.C. Onwubolu, and B.V. Babu), Springer-Verlag (2004), pp. 703-712.
17. “*On the Performance of Heuristics for Broadcast Scheduling* (with C.W. Commander, S.I. Butenko), In **Theory and Algorithms for Cooperative Systems** (Edited by D. Grundel, R. Murphey, and P. Pardalos), pp. 63–80, World Scientific, 2004.

18. “*K-Means Clustering Using Entropy Minimization* (with A. Okafor), In *Theory and Algorithms for Cooperative Systems* (Edited by D. Grundel, R. Murphey, and P. Pardalos), pp. 339–352, World Scientific, 2004.
19. “*Integer Formulations for the Message Scheduling Problem on Controller Area Networks* (with C. Oliveira, T. Querido), In *Theory and Algorithms for Cooperative Systems* (Edited by D. Grundel, R. Murphey, and P. Pardalos), pp. 353–366, World Scientific, 2004.
20. “*A Numerical Method for Concave Programming Problems*” (with A. Chinchuluun, E. Rentsen), In *Continuous Optimization: Current Trends and Modern Applications* (Edited by A. Rubinov and V. Jeyakumar), Springer (2005), pp. 251–273.
21. “*Optimization Techniques in Medicine*” (with V.L. Boginski, O. Prokopyev, W. Subaritdamrong, P. Carney, W. Chaovalitwongse, and A. Vazakopoulos), In *Essays and Surveys in Global Optimization* (Edited by C. Audet, P. Hansen, and G. Savard), Springer (2005), pp. 211–232.
22. “*Continuous Approaches for Solving Discrete Optimization Problems*” (with O. Prokopyev and S. Busygin), In *Handbook on Modelling for Discrete Optimization* (Edited by G. Appa, L. Pitsoulis, and H.P. Williams), Springer (2006), pp. 39–60.
23. “*Parallel computing in global optimization*” (with M. D’Apuzzo, M. Marino, A. Migdalas, G. Toraldo), In *Handbook of Parallel Computing and Statistics* (Edited by E.J. Kontoghiorghes), Chapman & Hall / CRC (2006), pp. 225-258.
24. “*Nonlinear optimization: A parallel linear algebra standpoint*” (with M. D’Apuzzo, M. Marino, A. Migdalas, G. Toraldo), In *Handbook of Parallel Computing and Statistics* (Edited by E.J. Kontoghiorghes), Chapman & Hall / CRC (2006), pp. 229-281.
25. “*Optimization Problems in Multicast Tree Construction*” (with C. Oliveira and M.G.C. Resende), In *Handbook of Optimization in Telecommunications* (Edited by M.G.C. Resende and P.M.Pardalos), Springer (2006), pp. 701-731.
26. “*Optimization in E-commerce*” (with M. Kourgiantakis, I. Mandalianos, and A. Migdalas), In *Handbook of Optimization in Telecommunications* (Edited by M.G.C. Resende and P.M.Pardalos), Springer (2006), pp. 1017-1050.
27. “*Ad Hoc Networks: Optimization Problems and Solution Methods*”, (with C. Oliveira), In *Combinatorial Optimization in Communication Networks* (Edited by M.X. Cheng, Y. Li, and D.-Z. Du), Springer (2006), pp. 147-170.
28. “*A Parallel Classification Method for Genomic and Proteomic Problems*”, (with M. R. Guarracino, C. Cifarelli, and O. Seref), In *20th International Conference on Advanced Information Networking and Applications - Volume 2 (AINA’06)* IEEE Press, pp. 588-592.
29. “*Mutiobjective programming problems under generalized convexity*” (with A. Chinchuluun), In *Models and Algorithms for Global Optimization* (Edited by A. Torn and J. Zilinskas), Springer (2007), pp. 3-20.
30. “*Optimality conditions and duality for multiobjective programming involving $(C; \alpha; \rho; d)$ -type I functions*” (with D. Yuan, X. Liu, A. Chinchuluun). In *Generalized Convexity and Related Topics*, (I. V. Konnov, D. T. Luc, A. M. Rubinov, Eds), Springer 2007, pp. 73-87.

31. “*An approximate Winner Determination Algorithm for Hybrid Procurement Mechanisms in Logistics*” (with C. Yadati and C.A.S. Oliveira), In **Optimisation, Econometric and Financial Analysis** (Edited by E.J. Kontoghiorghes, and Gatu C.), volume 9 of *Advances on Computational Management Science*, pp. 51-66 (Springer, 2006).
32. “*A one-pass heuristic for cooperative communication in mobile ad hoc networks,*” (with C.W. Commander, C.A.S. Oliveira, and M.G.C. Resende), In **Cooperative Systems: Control and Optimization** (D.A. Grundel, R.A. Murphey, P.M. Pardalos, and O.A. Prokopye, Eds), pp. 285-296, Springer, 2007.
33. “*Cooperative communication problems in ad-hoc networks,*” (with C.W. Commander, P. Festa, C.A.S. Oliveira, M.G.C. Resende, and M. Tsitselis), In **Cooperative Networks: Control and Optimization**, (D.A. Grundel, R.A. Murphey, P.M. Pardalos, and O.A. Prokopye, Eds), Edward Elgar Publishing, 2007.
34. “*Eavesdropping and jamming communication networks,*” (with C.W. Commander, V. Ryabchenko, S. Uryasev, and G. Zrazhevsky), In **Cooperative Networks: Control and Optimization**, (D.A. Grundel, R.A. Murphey, P.M. Pardalos, and O.A. Prokopye, Eds), Edward Elgar Publishing, 2007.
35. “*Time-Frequency Analysis of Brain Neuro-Dynamics,*” (with W. Chaovalitwongse), In **Advances in Mechanics and mathematics Vol III** (D. Gao and H. Sherali, Eds), Springer (2007), pp. 103-132.
36. “*Multilevel (Hierarchical) Optimization: Complexity Issues, Optimality Conditions, Algorithms,*” (with A. Chinchuluun and H-X. Huang), In **Advances in Mechanics and mathematics Vol III** (D. Gao and H. Sherali, Eds), Springer (2008), pp. 191-214.
37. “*Optimal Execution of Time-constrained Portfolio Transactions*” (with F. AitSahlia and F. Y-C Sheu), In **Computational Methods in Financial Engineering**, (E. J. Kontoghiorghes, B. Rustem, and P. Winker (eds.)) Springer (2008), pp. 95-102.
38. “*Semidefinite Programming Approaches for Bounding Asian Option Prices*” (with G. Dalakouras and R. Kwon), In **Computational Methods in Financial Engineering**, (E. J. Kontoghiorghes, B. Rustem, and P. Winker (eds.)) Springer (2008), pp. 103-116.
39. “*Optimization Approaches to Vision-Based Trajectory Planning for Autonomous Micro-Air Vehicles*” (with Zabaranin, M., Kurdila A., Prokopyev O., Goel A., and Causey R.) In **Cooperative Networks: Control and Optimization** (D. Grundel et al. Eds.), Edward Elgar Publishing (2008), pp. 325-356.
40. “*Computational methods for Probe Design and Selection*” (with Claudio N. Meneses and Michelle A. Ragle), In **Optimization in Medicine and Biology** (G.L. Lim & E.K. Lee, Eds) Auerbach Publications, Taylor & Francis Group (2008), pp. 395-414.
41. “*Selective linear and nonlinear classification,*” (with E. Kundakcioglu), In “*Data Mining and Mathematical Programming*”, CRM Vol.45 (2008), American Mathematical Society (P. M. Pardalos and P. Hansen, Eds), pp. 211-234.
42. “*Current classification algorithms for biomedical applications,*” (with M.G. Guarracino, S. Cuciniello, D. Feminiano and G. Toraldo), In “*Data Mining and Mathematical Programming*”, CRM Vol.45 (2008), American Mathematical Society (P. M. Pardalos and P. Hansen, Eds), pp. 109-128.

BOOKS EDITED:

1. **Handbook of Massive Data Sets**, co-editors: J. Abello, P.M. Pardalos, and M. Resende, Kluwer Academic Publishers, (2002).

Book review appeared in:

Journal of Optimization Methods and Software Volume 18, Number 1 (2003), pp. 125-126.

2. **Handbook of Applied Optimization**, co-editors: P.M. Pardalos, and M. Resende, Oxford University Press, (2002).

Book review appeared in:

Journal of Optimization Methods and Software Volume 21, Number 4 (2006), pp. 667-676.

Honorable Mention, Outstanding Professional and Scholarly Titles of 2002 in Computer Science, Association of American Publishers.

3. **Handbook of Global Optimization - Volume 2: Heuristic Approaches**, co-editors: P.M. Pardalos and E. Romeijn, Kluwer Academic Publishers, (2002).

4. **Supply Chain Mangement: Models, Applications, and Research Directions**, co-editors: Joseph Geunes, Panos Pardalos, Edwin Romeijn, Kluwer Academic Publishers, (2002).

Book review appeared in:

Interfaces Vol. 33, No. 4 (2003), pp. 82 - 83.

5. **Combinatorial and Global Optimization**, co-editors: P.M. Pardalos, A. Migdalas, and R. Burkard, World Scientific, (2002).

Book review appeared in:

Mathematical reviews 2002m:90004.

6. **Cooperative Control and Optimization**, co-editors: R. Murphey and P.M. Pardalos, Kluwer Academic Publishers, (2002).

7. **Biocomputing**, co-editors: P.M. Pardalos and J. Principe, Kluwer Academic Publishers, (2002).

8. **Financial Engineering, Supply Chain and E-commerce**, co-editors: P.M. Pardalos and V. Tsitsiringos, Kluwer Academic Publishers, (2002).

Book review appeared in:

Optimization Methods & Software Vol 18, No. 3 (2003), pp. 357-358.

9. **Novel Approaches to Hard Discrete Optimization**, co-editors: P.M. Pardalos and H. Wolkowicz, Fields Institute Communications Series Vol. 37, American Mathematical Society (2003).

10. **Optimization and Industry: New Frontiers**, co-editors: P.M. Pardalos and V. Korotkikh, Kluwer Academic Publishers, (2003).

Book review appeared in:

Journal of the Operational Research Society 55 (2004), p. 787.

11. *Cooperative Control: Models, Applications and Algorithms*, co-editors: S. Butenko, R. Murphey and P.M. Pardalos, Kluwer Academic Publishers, (2003).
12. *Optimization and Optimal Control*, co-editors: P.M. Pardalos, I. Tseveendorj, and R. Enkhbat, World Scientific, 2003
13. *Recent Developments in Cooperative Control and Optimization*, co-editors: S. Butenko, R. Murphey and P.M. Pardalos, Kluwer Academic Publishers, (2003).
14. *Frontiers in Global Optimization*, co-editors: C.A. Floudas, and P.M. Pardalos, Kluwer Academic Publishers, (2003).
15. *Supply Chain Optimization*, co-editors: J. Geunes and P.M. Pardalos, Kluwer Academic Publishers, (2004).
16. *Quantitative Neuroscience*, co-editors: P.M. Pardalos, C. Sackellares, P. Carney, and L. Iasemidis, Kluwer Academic Publishers, (2004).
17. *Applications of Supply Chain Management and E-commerce Research in Industry*, co-editors: E. Alcali, J. Geunes, P.M. Pardalos, H.E. Romeijn, and Z.J. Shen, Kluwer Academic Publishers, (2004).
18. *Economics, Management, and Optimization in Sports*, co-editors: S. Butenko, J. Gil-Lafuente, and P.M. Pardalos, Springer (2004).
19. *Supply Chain and Finance*, co-editors: P.M. Pardalos, A. Migdalas, and G. Baourakis, World Scientific, (2004).
20. *Theory and Algorithms for Cooperative Systems*, co-editors: P.M. Pardalos, D. Grundel, and R. Murphey, World Scientific, (2004).
Book review appeared in:
Mathematical reviews MR2160830(2006b:90003).
21. *Handbook of Optimization in Telecommunications*, co-editors: P.M. Pardalos and M.G.C. Resende, Springer, (2006).
22. *Robust Optimization-Directed Design*, co-editors: A. Kurdila, P.M. Pardalos, and M. Zabrankin, Springer, (2006).
23. *Multiscale Optimization Methods and Applications*, co-editors: W. Hager, S.-J. Huang, P.M. Pardalos, and O. Prokopyev, Springer, (2006).
24. *Cooperative Systems, Control and Optimization*, co-editors: D. Grundel, R. Murphey, P. Pardalos, and O. Prokopyev, *Lecture Notes in Economics and Mathematical Systems*, Vol. 588, Springer, (2007).
25. *Data Mining in Biomedicine*, co-editors: P.M. Pardalos, V. Boginski, and A. Vazakopoulos, Springer, (2007).
26. *Data Mining, Systems Analysis, and Optimization in Biomedicine*, co-editors: O. Seref, O.E. Kundakcioglu, and P.M. Pardalos, American Institute of Physics, (2007).

27. *Optimization in Medicine*, co-editors: C. Alves, P.M. Pardalos, and L. Vicente, Springer, (2008).
28. *Advances in Cooperative Control and Optimization - Proceedings of the 7th International Conference on Cooperative Control and Optimization*, co-editors: Hirsch, M.J., Pardalos, P.M., Murphey, R., Grundel, D., Lecture Notes in Control and Information Sciences, Vol. 369, Springer, (2008).
29. *Optimization and Logistics Challenges in the Enterprise*, co-editors: W. Chaovalitwongse, K.C. Furman, and P.M. Pardalos, Springer, (2008).
30. *Clustering Challenges in Biological Networks*, co-editors: W. Chaovalitwongse, S. Butenko, and P.M. Pardalos, World Scientific, (2008).
31. *Data Mining and Mathematical Programming*, co-editors: P.M. Pardalos and P. Hansen, CRM vol 45, American Mathematical Society, (2008).
32. *Mathematical Modelling of Biosystems*, co-editors: R.P. Modaini and P.M. Pardalos, Springer, (2008).
33. *Pareto Optimality, Game Theory and Equilibria*, co-editors: A. Chinchuluun, A. Migdalas, P.M. Pardalos, and L. Pitsoulis, Springer, (2008).
34. *Simulation and Optimization Methods in Risk and Reliability Theory*, co-editors: P. Knopov and P.M. Pardalos, Nova Science Publishers, (2008).

RESEARCH PAPERS IN REFEREED CONFERENCE PROCEEDINGS:

1. “*Can knowledge of cortical site dynamics in a preceding seizure be used to improve prediction of the next seizure?* (with L. D. Iasemidis, J. C. Sackellares, W. Chaovalitwongse, P. Carney, and D-S Shiau), *Annals of Neurology* 52 (3), pp. S65-S66 (2002).
2. “*On the prediction of seizures, hysteresis and resetting of the epileptic brain: insights from models of coupled chaotic oscillators* (with L. D. Iasemidis, A. Prasad, J. C. Sackellares, and D-S. Shiau), In “*Order and Chaos*”, T. Bountis and, S. Pneumatikos, Eds., vol. 8, Publishing House of K. Sfakianakis, Thessaloniki, Greece (Proc. of 14th Summer School on Nonlinear Dynamics: Chaos and Complexity) 2003, pp. 283-305.
3. “*Heuristic Approaches to Production-Inventory-Distribution Problems in Supply Chain* (with B. Eksioglu and A. Migdalas), In “*Optimization and Industry: New Frontiers*” (P. Pardalos and V. Krotkikh, Eds), Kluwer Academic Publishers (2003), pp. 15-37.
4. “*A new algorithm for the minimum connected dominant set problem on Ad Hoc wireless networks*”, (with S. Butenko and C. Oliveira), *Proceedings of Int. Conf. on Computer, Communication and Control Technologies (CCCT’03)*, International Institute of Informatics and Systematics (IIIS) Vol. V (H.-W. Chu, J. Ferrer, S, Lim G. Kharatishvili, and C. Oliveira, Eds), pp. 39-44.
5. “*A randomized algorithm for minimizing user disturbance due to changes in cellular technology*”, (with C. Oliveira and D. Paolini), *Proceedings of Int. Conf. on Computer, Communication and Control Technologies (CCCT’03)*, International Institute of Informatics and Systematics (IIIS) Vol. V (H.-W. Chu, J. Ferrer, S, Lim G. Kharatishvili, and C. Oliveira, Eds), pp. 45-50.

6. “*Geometric Models, Fiber Bundles and Biomedical Applications*,” (with V. Yatsenko, C. Sackellares, P. Carney, and O. Prokopyev), Proceedings of the Institute of Mathematics of National Academy of Sciences of Ukraine Vol. 3 (2004), pp. 1518-1525.
7. “*GRASP with Path-Relinking for the Quadratic Assignment Problem*,” (with C. Oliveira and M.G.C. Resende), In “Experimental and Efficient Algorithms”, (C.S. Ribeiro, S.L. Martins, Eds.), Springer-Verlag Lecture Notes in Computer Science, Proceedings of the 3d International Workshop, WEA 2004, Angra dos Reis, Brazil (May 2004), pp. 356-368.
8. “*A Distributed Optimization Algorithm for Power Control in Wireless Ad Hoc Networks*”, (with C. Oliveira), In Proc. 18th International Parallel and Distributed Processing Symposium (IPDPS’04), volume 7 (6th Workshop on Advances in Parallel and Distributed Computational Models (WAPDCM’04), April 26th 2004, Santa Fe, New Mexico) IEEE Computer Society, pp. 177-185, 2004.
9. “*Recent advances and trends in global optimization: Deterministic and stochastic methods*”, (with F. Schoen), In Proce. of the Sixth International Conf. on “Foundations of Computer-Aided Process Design” (FOCAPD 2004) (Eds: C.A. Floudas & R. Agrawal, Princeton July 2004), Omni Press, pp. 119 - 131.
10. “*GRASP with path-relinking for the weighted maximum satisfiability problem*,” (with P. Festa, L.S. Pitsoulis and M.G.C. Resende), In WEA 2005 (Ed: S.E. Nikolettseas), Lecture Notes in Computer Science, 3503, pp. 367–379, Springer-Verlag, Berlin Heidelberg, 2005.
11. “*Quantum optimization and maximum clique problems*” (with V.A. Yatsenko, B.H. Chiarini), Proceedings of SPIE – Volume 5436, Quantum Information and Computation II, (Eric Donkor, Andrew R. Pirich, Howard E. Brandt, Editors), August 2004, pp. 373-375
12. “*New adaptive methods for sensing of chemical components and biological agents*” (with Vitaliy A. Yatsenko, Bruno H. Chiarini), Proceedings of SPIE – Volume 5232, Remote Sensing for Agriculture, Ecosystems, and Hydrology V, (Manfred Owe, Guido D’Urso, Jose F. Moreno, Alfonso Calera, Editors), February 2004, pp. 719-728
13. “*Adaptive sensor for chemical analysis*” (with Vitaliy A. Yatsenko, Svetlana M. Kochubey, and Lezhou Zhan), Proceedings of SPIE – Volume 5085, Chemical and Biological Sensing IV, (Patrick J. Gardner, Editor), August 2003, pp. 1-10.
14. “*Estimation of chlorophyll concentration in vegetation using global optimization approach*” (with Vitaliy A. Yatsenko, Svetlana M. Kochubey, Lezhou Zhan), Proceedings of SPIE – Volume 5072, Technologies, Systems, and Architectures for Transnational Defense II, (Mark K. Hamilton, Vince C. Boles, Editors), August 2003, pp. 50-59.
15. “*A Comparative Study of Linear and Nonlinear Feature Extraction Methods*” (with Cheong Hee Park and Haesun Park), ICDM 2004, pp. 495-498.
16. “*A GRASP heuristic for the cooperative communication problem in ad hoc networks*” (with C. Commander, C.A.S. Oliveira, and Mauricio G. C. Resende), In Proceedings of VI Metaheuristics International Conference, pp. 225–230, Vienna, 2005.
17. “*Parallel Algorithm for the Closest String Problem*” (with Fernando C. Gomes, Claudio N. Meneses, and Gerardo Valdisio R. Viana) Proceedings of the Fourth Brazilian Symposium on Mathematical and

- Computational Biology / First International Symposium on Mathematical and Computational Biology, Volume II (2005), (Edited by R. Mondaini), e-Papers Publishers (Rio de Janeiro, Brazil), pp. 326-332.
18. “*Network flow algorithm for the longest common subsequence problem*” (with Carlos Oliveira) Proceedings of the Fourth Brazilian Symposium on Mathematical and Computational Biology / First International Symposium on Mathematical and Computational Biology, Volume II (2005), (Edited by R. Mondaini), e-Papers Publishers (Rio de Janeiro, Brazil), pp. 300-313.
 19. “*Reliable Virtual Backbone Scheme in Mobile Ad-Hoc Networks*” (with Manki Min, Feng Wang, and Ding-Zhu Du) Proceedings of the 1st IEEE International Conference on Mobile Ad hoc and Sensor Systems, 25-27 Oct. 2004, pp. 60-69.
 20. “*On Biclustering with Features Selection for Microarray Data Set*” (with S. Busygin and O. Prokopyev), In (BIOMAT 2005) Proceedings of the International Symposium on Mathematical and Computational Biology (Edited by R. Mondaini & R. Dilao), World Scientific (2006), pp. 367-377.
 21. “*Effects of acute hippocampal stimulation on EEG dynamics*” (with Nair, S.P., Sackellares, J.C., Shiau, D-S., Norman W.M., Principe, J.C., and and Carney, P.R.), Proceedings of IEEE Engineering in Medicine and Biology Conference, New York, NY, 2006, pp. 4382-4386, 2006.
 22. “*Characteristics of the Distribution of Hamming Distance Values Between Multidimensional Assignment Problem Solutions*” (with P. Krokhmal, and A.R. Kammerdiner), In C. Edwards, E. Colet, L. Fridman, editors, “Advances in Variable Structure And Sliding Mode Control,” Lecture Notes in Control and Information Sciences Vol 334, pp. 339-352, Springer, 2006.
 23. “*Sensor Registration in a Sensor Network by Continuous GRASP*,” (with M. J. Hirsch, and M. G. C. Resende), IEEE Proc. of the Military Communications Conference (MILCOM 2006), October 2006 (2006 Raytheon Net-Centric Systems Paper of the Year).
 24. “*Detecting categorical discrimination in a visuomotor task using selective support vector machines*,” (with O. Seref, C. Cifarelli, O. E. Kundakcioglu, and M. Ding), Proceedings of BIOCOMP '07, H. R. Arabnia, M. Q. Yang, J. Y. Yang (Eds), pp. 580-590 (2007).
 25. “*Analysis of Greedy Approximations with Nonsubmodular Potential Functions*”, (with Ding-Zhu Du, Ronald L. Graham, Peng-Jun Wan, Weili Wu, and Wenbo Zhao), ((SODA) ACM-SIAM Symposium on Discrete Algorithms) 2008, pp. 167-175.

SPECIAL ISSUES OF JOURNALS EDITED:

Journal of Industrial and Management Optimization 3.1 (2007), (Special Issue on Supply Chain Optimization), co-editors: Joseph Geunes and Panos M. Pardalos.

Journal of Combinatorial Optimization 10.1 (2005), editor: Panos M. Pardalos.

Fuzzy Sets in Economics and Finance, Journal of Computational Economics 19.3 (2002), co-editors: C. Zopounidis, P. M. Pardalos, and J. Gil-Aluja.

Journal of Combinatorial Optimization 6.3 (2002), co-editors: Panos M. Pardalos and Henry Wolkowicz.

Journal of Global Optimization Volume 22 (4 issues) (2002) co-editors: P. M. Pardalos and N.V. Thoai

Journal of Global Optimization Volume 17 (4 issues) (2000) co-editors: P. M. Pardalos and G. Starvoulakis

BOOK REVIEWS:

1. J.D. Pinter, "Computational Global Optimization", Kluwer Academic Publishers (2001) [Review published in Optimization Methods & Software Vol. 17 (2002), pp. 165-166].
2. D. Bertsekas, "Nonlinear Programming: 2nd edition", Athena Scientific (1999) [Review published in Optimization Methods & Software Vol. 17 (2002), pp. 166-167].
3. I.V. Konnov, "Combined Relaxation Methods for Variational Inequalities", Lecture Notes in Economics and mathematical Systems Vol. 495, Springer-Verlag (2001) [Review published in Optimization Methods & Software Vol. 17 (2002), pp. 168-169].
4. Mitsuo Gen and Runwei Cheng, "Genetic Algorithms & Engineering Optimization," John Wiley & Sons, 1999 [Review published in SIAM Review Vol. 44, No. 4 (2002), pp. 739-740].
5. R.G. Strongin and Y.D. Sergeyev, "Global Optimization with Nonconvex Constraints: Sequential and Parallel Algorithms," Kluwer Academic Publishers, 2000 [Review published in Journal of Global Optimization 24 (2002), pp. 485-486].
6. "Algorithms for Worst-Case Design and Applications to Risk Management" (by B. Rustem & M. Howe), Princeton University Press 2002 [Review published in the Journal of Economics Volume 80, Number 2 (2003), pp. 197 - 198].
7. D. Bertsekas, Angela Nedic and Asuman E. Ozdagar "Convex Analysis and Optimization", Athena Scientific 2003 [Review Published in Optimization Methods & Software Vol. 18 (2003), pp. 735-736].
8. I. Maros "Computational Techniques of the Simplex Method", Kluwer Academic Publishers 2003 [Review Published in Optimization Methods & Software Vol. 19 (2004), pp. 121-123].
9. D. Amaratunga and J. Cabrera, "Exploration and Analysis of DNA Microarray and Protein Array Data," Wiley, 2004 [Review published in Annals of Biomedical Engineering, Volume 32, Number 11, pp. 1597 - 1597 (2005) (with S. Busygin)].
10. S. Knudsen, "Guide to Analysis of DNA Microarray Data," Wiley, 2004 [Review published in Annals of Biomedical Engineering, Volume 32, Number 11, pp. 1596 - 1596 (2005) (with S. Busygin)].
11. Sroslav D. Sergeyev (2003), Arithmetic of infinity, Edizioni Orizzonti Meridionali, 112 pp., ISBN 88-89064-01-3. [Review published in Journal of Global Optimization Vol. 34, No. 1 (2006), pp. 157 - 158.]
12. Dynamic Programming and Optimal Control, 3rd Edition (by Dimitri Betsekas), Athena Scientific, Belmont, MA, 2007 (Review published in Optimization Methods & Software, Vol. 22, no. 6 December 2007, pp. 985 - 986),

13. Multi-Parametric Programming- theory, algorithms and applications, Vol. 1 & Multi-Parametric Model-Based Control- theory and applications, Vol. 2 (edited by E.N. Pistikopoulos, M.C. Georgiadis and V. Dua), Series on Process Systems Engineering, Wiley-VCH, Weinheim, 2007 (Review published in Optimization Methods & Software 2008).
14. Equilibrium Modes and Variational Inequalities (by I. Konov), Elsevier 2007 (Review published in Optimization Methods & Software, Vol. 23, no. 1, 2008, p. 173).

CONSULTING

AT & T Labs Research, Dash Optimization, Inc., Kluwer Academic Publishers, Industries in Europe.

PATENTS (2002-present)

Multi-dimensional multi-parameter time series processing for seizure warning and prediction (with Sackellares James Chris, Iasemidis Leonidas D., Shiau Deng-Shan, Dance Linda, and Chaovalitwongse Wanpracha)// Patent 7,263,467 (August 28, 2007).

Multi-dimensional dynamical analysis (with Sackellares James Chris, Iasemidis Leonidas D., Shiau Deng-Shan, Dance Linda, and Chaovalitwongse Wanpracha)// U.S. Utility Patent application filed on December 21, 2006, Serial No.: 11/339,606.

Closed-Loop State-Dependent Seizure Prevention Systems (with Sackellares JC, Principe JC, Shiau DS, Cho J, and Nair SP) U.S. Utility Patent application filed on December 19, 2006, Serial No.: 11/641,292.

RESEARCH SUPPORT (2002-present)

US Dept. of Air Force grant (F-49620-01-1-0338), “Robust Decision Making: Addressing Uncertainties in Distributions” (2001-2003), 200,000 (with S. Uryasev)

NIH Grant Number: 1 R01 NS39687-01A1 (07/19/2001 - 04/30/2006): “Bioengineering Research Partnership in Brain Dynamics” (with J.C. Sackellares et al) (FY2001: 847,398, FY2002: 819,681, FY2003: 900,803, FY2004: 904,026, FY2005: 929,365).

NATO PST.GLG.978668, “Robust Statistical Estimates and Applications in Nuclear Safety,” EUR 10,000 (2002-2003).

Support for the “Quantitative Neuroscience” conference:

- McKnight Brain Institute 6,000
- School of Engineering 3,000
- Biomedical Engineering Department 3,000
- UF Research Foundation 3,000
- School of Medicine 6,000
- Ortho-McNeil Pharmaceutical, Inc 5,000

AFOSR, Equipment for defense Related Projects Conducted by the Risk Management & Financial Engineering Lab (with S. Uryasev and E. Romejin) 182,228 (2003-2004).

CRDF, Clique-Detection Algorithms with Applications in Biomedical Engineering, (with Ivan Sergienko, Institute of Cybernetics, UAS (Kiev)) 60,000 (2003-2004).

“A quantitative EEG method for real-time detection of neonatal seizures in the neonatal intensive care unit” (08/1/03 - 07/31/05), Partnership for Petriadic Epilepsy Research, Epilepsy Foundation of America; Total amount 75,000 (with P. Carney, C. Sackellares, and D. Shiau).

NSF, "ITR: Information Extraction from Massive Data Sets" (with Sanguthevar Rajasekaran, Thomas Cormen, and Sartaj Sahni) 3, 350,534.00 (2003-2008).

Evelyn F. & William L. McKnight Brain Institute of the University of Florida Award (with P. Carney), "Data mining and optimization techniques in EEG data analysis and epileptic brain modeling," 20,000 (2003-2004).

A Quantitative EEG Method for Real-Time Detection of Neonatal Seizures in the Neonatal Intensive Care Unit: Epilepsy Foundation Partnership for Pediatric Epilepsy Research (Paul R. Carney, M.D., J. Chris Sackellares, M.D., Deng Shiao, Ph.D. and Panos Pardalos, Ph.D), 8/1/03-7/31/05, 100,000.

OTL, University of Florida (With P. Carney, J. Principe, C. Sackellares, and D. Shiao), "On Line Real Time Seizure Prediction in Adult Patients with Epilepsy", 28,340 (2004).

NSF, "Design and Analysis of Algorithms for Multicast Networks", 246,820 (2004-2008).

NSF, "Design and Analysis of Algorithms for Multicast Networks" (Supplement Award), 44,038.00 (2005-2006).

AFOSR, Eavesdropping (or Jamming) of Communication Networks (with S. Uryasev), 240,000 (2005-2007).

AFOSR, (DURIP-05) Equipment for defense-related projects of the center for applied optimization (with S. Uryasev), 148,953.42 (2006-2007).

DIMACS (NSF) support for the Conference on Data Mining, Systems Analysis and Optimization in Neuroscience (10,000 - Spring 2007).

DIMACS (NSF) support for the Workshop on Clustering Problems in Biological Networks (14,000 - Spring 2007).

AFOSR (AGENCY NO:FA9550-07-1-0047) "Human Supervision of Time Critical Control Systems" (415,391, 12/01/2006 thru 01/14/2009).

NSF DMI-0636482, Support for the "2nd International Conference on Complementarity, Duality, and Global Optimization in Science and Engineering" (30,000 2/1/2007 - 1/31/2008).

Optima Neuroscience, Inc., "Linear and Nonlinear Causality Between Multivariate Systems" (7,285.00, 1/1/2007 - 5/15/2007).

FL Dept. of Veterans Affairs (573-D75066) "Support for Graduate Students" (3,370.00, 07/01/2007 - 08/15/2007).

FL Dept. of Veterans Affairs (573-D85040) "Support for Graduate Students" (10,497.00, 01/01/2007 - 05/14/2008).

DIMACS (NSF) support for the Conference on Computational Neuroscience (10,000 - Spring 2008).

US Dept. of Transportation/Fed Highway Admin. "Multimodal solutions for large scale evacuation" (71,481, 2/15/08 -01/31/09)

INVITED TALKS: (2002-present)

1. Invited OR Colloquium speaker (Penn State University, February 2002).
2. Invited speaker (Department of Computing, Imperial College of Science, Technology & Medicine, London - March 2002).
3. Invited speaker (Universitat Politecnica de Catalunya, Barcelona Spain - March 2002).
4. Invited Speaker, Stampacchia School of Mathematics, International Conference on Mathematical Diagnostics, Erice, Italy (June 2002).
5. Plenary speaker, International conference on Nonsmooth/Nonconvex Mechanics with Applications in Engineering, Aristotle University of Thessaloniki, Greece (June 2002).
6. Invited Speaker, National University of Singapore (August 2002).
7. Invited Speaker, International Conference on Optimization and Optimal Control (Mongolia, August 13-17, 2002).
8. Plenary Speaker, OCA2002 - The Second International Conference on Optimization and Control with Applications (China, August 18-22, 2002).
9. Invited speaker, Universite de Neuchatel, Switzerland (Nov. 2002).
10. Invited speaker, International conference on "Optimization Methods & Software" (China, Dec. 15, 2002).
11. Invited speaker, University of London, Computer Science Department (January 22, 2003).
12. Invited speaker, London School of Economics (January 23, 2003).
13. Distinguished invited speaker, Centre for Process Systems Engineering, Imperial College of Science, Technology & Medicine, London (January 24, 2003).
14. Invited speaker, Technical University of Crete and Mediterranean Agronomic Institute, Chania, Greece (April 2003).
15. Invited speaker, International conference on "Variational Analysis and its Applications," Erice, Italy (June 2003).
16. Plenary speaker, Conference on "Energy Minimization Methods in Computer Vision and Pattern Recognition (EMMCVPR) 2003" Lisbon, Portugal (July 7-9 2003).
17. Plenary speaker, AMASES (The Italian National Association for Mathematics Applied to Economics and Finance), Cagliari, Italy (Sept. 4, 2003).
18. Invited speaker, University of Cagliari, Italy (Sept. 5, 2003).
19. Invited Speaker, Conference on Global Optimization, Argonne National Laboratory (Sept. 9, 2003).
20. Invited speaker, 3rd National conference of the Hellenic Operations Research Society on Mutlicriteria Analysis (Chania, Greece, Oct. 2003).

21. Invited speaker, “Continuous Optimization and Optimal Control with Applications” conference, Australian Mathematics Research Institute, Melbourne (Dec. 15, 2003).
22. Invited speaker, University of Ballarat, Australia (Dec. 18, 2003).
23. Invited speaker, “The Boeing Center for Technology, Information & Manufacturing (Olin School of Business - Washington University in St. Louis), Febr. 9, 2004.
24. Invited speaker, Industrial Engineering Department, Texas A & M University (March 22, 2004).
25. Invited Speaker, University of Geneva Switzerland, Business School (March 30, 2004) and Computer Science Department (March 31, 2004).
26. Invited speaker, Computational Management Science Conference and Workshop on Computational Econometrics and Statistics, April 2, 2004 (Neuchatel, Switzerland).
27. Invited speaker, National Academy of Sciences of Ukraine, Kiev (April 27, 2004).
28. Invited speaker, Mediterranean Agronomic Institute, Chania, Greece (May 10, 2004).
29. Invited speaker, Catholic University of Rio de Janeiro (PUC-Rio), Brazil (May 21, 2004).
30. Invited speaker, University La Sapienza, Rome Italy (June 16, 2004).
31. Invited speaker, Fifth International Conference on Computer Sciences (July 1-3, 2004, Metz, France).
32. Invited semi-plenary speaker, European Operations Research Society XX conference, Rhodes, Greece (July 5, 2004).
33. Invited plenary speaker, Foundations of Computer Aided Process Design (FOCAPD2004) conference (Princeton, July 14, 2004).
34. Invited speaker, Research Center in Operations Research (GERAD), Montreal, Canada (August 18, 2004).
35. Invited speaker, RIKEN Brain Science Institute, Japan (August 25, 2004).
36. Invited speaker, RIKEN Brain Science Institute, Japan (August 25, 2004).
37. Invited speaker, Aristotle University of Thessaloniki, Greece (Sep. 20, 2005)
38. Invited speaker, Tecnical University of Crete, Greece (Oct. 2005)
39. Invited speaker, Universidade Federal do Ceara - UFC Brazil (Oct. 11, 2004)
40. Invited speaker, University of Calabria, Italy (Oct. 25, 2004)
41. Invited speaker (Department of Computing, Imperial College of Science, Technology & Medicine, London - Nov. 15, 2004).
42. Invited plenary speaker, 3rd WSEAS Int. Conf. on NON-LINEAR ANALYSIS, NON-LINEAR SYSTEMS AND CHAOS (Athens, Greece, Dec. 29, 2004).
43. Invited tutorial speaker, The 3rd ACS/IEEE International Conference on Computer Systems and Applications - January 2005 (AICCSA-05) January 3, 2005, Cairo, Egypt (American University in Cairo).

44. Invited speaker, Chemical Engineering Department at Texas A & M University, Lindsay Lecture Series (March 4, 2005).
45. Invited speaker, Industrial, Welding & Systems Engineering Ohio State University (April 14, 2005).
46. Invited speaker, Department of Computer Science, Georgia State University (May 5, 2005).
47. Invited tutorial speaker, Workshop of the European Chapter on Metaheuristics on “Metaheuristics and Large Scale Optimization”, Vilnius Lithuania (May 19, 2005).
48. Invited speaker, “The 1st International Conference on Control and Optimization with Industrial Applications” (May 22-25, 2005. Baku, Azerbaijan).
49. Keynote speaker, and Honorary Chair for the 9th WSEAS International Conference on Circuits (Athens, Greece), July 11, 2005.
50. Invited plenary speaker, at the “8th International Symposium on Generalized Convexity and Generalized Monotonicity” (GC8) (Verese, Italy), July 5, 2005.
51. Invited Colloquium speaker, Northern Illinois University (August 3 & 4 2005).
52. Invited plenary speaker, at the “Conference on Complementarity, Duality, and Global Optimization” (Virginia Tech.), August 15, 2005.
53. Invited speaker, Agricultural University of Athens (Sept. 6, 2005).
54. Invited speaker, International Workshop on Global Optimization (GO-05) (September 20, 2005. Almeria, Spain).
55. Invited speaker, Conference on Multicriteria Optimization, Technical University of Crete, Greece (Sept. 30, 2005).
56. Invited speaker, N.I. Lobachevski State University of Nizhni Novgorod, Russia (Oct. 25, 2005).
57. Invited Keynote speaker, International Symposium on Mathematical and Computational Biology (BIOMAT2005), Petropolis, Brazil (Dec. 6, 2005).
58. Invited Colloquium speaker, Mississippi State University, ISE Department (March 6, 2006).
59. Invited Colloquium speaker, University of Illinois, Urbana-Champaign, Mechanical and Industrial Engineering, (April 11, 2006).
60. Invited Colloquium speaker, Rutgers State University, ISE Department (April 18, 2006).
61. Invited Keynote speaker, DIMACS Workshop on ”Computational Optimization and Logistics Challenges in the Enterprise (COLCE)” ExxonMobil Research & Engineering (EMRE), NJ (April 19, 2005).
62. Invited distinguished speaker, BASF, Ludwigshafen Germany (May 22, 2006).
63. Invited Keynote speaker, FOODSIM 2006, Naples, Italy (June 16, 2006).
64. Invited speaker, MCMD conference, Chania Crete, June 19-23, 2006.
65. Invited speaker, Datamining Workshop, Oxford, England (June 29, 2006).

66. Invited speaker, Workshop on "Variational Analysis and Partial Differential Equations" (July 5-15, 2006) Erice, Italy.
67. Invited speaker, Brazilian OR Society (Sept. 12, 2006) Goiania, Brazil.
68. Invited speaker, 64th Meeting of the European Working Group on "Multiple Criteria Decision Aiding", Larisa, Greece (Sept. 29, 2006).
69. Invited speaker, Centre de recherches mathematiques, Montreal, Canada (Oct. 11, 2006)
70. Invited speaker, Radcliffe Institute for Advanced Study, Harvard (Oct. 20, 2006).
71. Invited speaker, DTC (Digital Technology Center) Innovators Lecture Series, University of Minnesota, Minneapolis (Oct. 31, 2006).
72. Invited speaker, Department of Industrial & Systems Engineering, University of Wisconsin-Madison (Nov. 10, 2006).
73. Invited plenary speaker, International Symposium on Mathematical and Computational Biology (BIOMAT 2006), Manaus, Brazil (Nov. 29, 2006).
74. Invited speaker, "Mathematical Programming in Data Mining and Machine Learning", Banff International Research Station for Mathematical Innovation and Discovery, Canada (Jan. 18, 2007).
75. Invited speaker, La Sapienza University, Rome, Italy (March 6 & 8, 2007).
76. Invited distinguished speaker, BASF, Ludwigshafen Germany (April 18, 2007).
77. Invited speaker, GOR Workshop on "Stochastische Optimierung in der Energiewirtschaft," Aachen, Germany (April 19, 2007).
78. Invited speaker, Caterpillar Colloquium Series, Iowa University (April 26, 2007).
79. Invited tutorial speaker, Optimization Days, Ecole Polytechnique de Montreal, Canada (May 7, 2007).
80. Invited speaker, Universidade Federal de Minas Gerais, Belo Horizonte, Brazil (May 16, 17, 2007).
81. Invited Speaker, Laurier Seminar Series in Computational Science, Applied & Statistical Modelling, Wilfrid Laurier University, Canada (May 24, 2007).
82. Invited Plenary Speaker, 2nd International Conference on Optimization and Optimal Control (July 17 - 20, 2007) Ulaanbaatar, Mongolia.
83. Invited Speaker, Stampacchia School of Mathematics, International Conference on New Problems and Innovative Methods in Nonlinear Optimization (July 2007), Erice, Italy.
84. Invited Keynote speaker, Annual meeting of the Spanish Society of Statistics and Operational Research (SEIO), (Sept. 25, 2007), Valladolid (SPAIN).
85. Invited Speaker, Universidad Politecnica de Madrid (UPM-DISAM), (Sept. 26, 2007), Madrid, Spain.
86. Invited Colloquium speaker, University of Pittsburgh, Industrial Engineering Department (Oct. 4, 2007).

87. Invited speaker, Heidelberg University, Germany, Interdisciplinary Center for Scientific Computing (IWR) Oct. 17, 2007.
88. Invited Keynote speaker, Globale Optimierung oder Mathematische Optimierung in KMUs (Workshop on Global Optimization), Bad Honnef, Germany (Oct. 18 & 19, 2007).
89. Invited plenary speaker, International Symposium on Mathematical and Computational Biology (BIOMAT 2007), Buzios, Brazil (Nov. 26, 2007).
90. Invited speaker, ISE Department, Arizona State University, Nov. 19, 2007.
91. Invited Plenary Speaker, Global Optimization Workshop, Imperial College of Science, Technology & Medicine, London (Dec. 15, 2007).
92. Invited Plenary Speaker, International Conference on Nonconvex Programming: Local and Global Approaches (Dec. 18, 2007, Rouen, France).
93. Invited Distinguished Series Speaker, Weldon School of Biomedical Engineering, Purdue University (April 9, 2008).
94. Invited Speaker, Northwestern University, Industrial Engineering and Management Sciences Department (April 15, 2008).

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CONFERENCE ORGANIZER: (2002-present)

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Chairman and Co-Organizer for the workshop on “Supply Chain and E-commerce” (with J. Geunes et al.), Febr. 26 - March 1, 2002, Center for Applied Optimization, University of Florida.

Chairman and Co-Organizer for the “International Conference on Financial Engineering, e-Commerce, Supply Chain, and Strategies of Development (FEES2001)” (Athens, June 10-12, 2002).

Chairman and Co-Organizer for the “International Conference on Optimization and Optimal Control”, August 13-17, 2002, Ulaanbaatar, Mongolia

Chairman and Co-Organizer for the workshop on “Cooperative Control and Optimization ” (with R. Murphey and S. Butenko), Dec. 4-6, 2002, 2001, Center for Applied Optimization, University of Florida.

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Chairman and Co-Organizer for the conference on “Quantitative Neurosciences: Models, Algorithms, Diagnostics, and Therapeutic Applications”, February 5-7, 2003. University of Florida.

Chairman and Co-Organizer for the conference on “Supply Chain Optimization”, February 27 - March 1, 2003. University of Florida.

Chairman and Co-Organizer for the workshop on “Computational Management Science, Economics, Finance, and Engineering”, March 28-30, 2003. Limassol, Cyprus.

Chairman and Co-Organizer for the “World Congress on Optimization and Economics of Sports”, May 14 - 16, 2003. Barcelona, Spain.

Chairman and Co-Organizer for the “International Conference on Computational Management Science”, May 27-30, 2003. Almyrida Beach, Chania, Crete, Greece.

Chairman and Co-Organizer for the “4-th International Conference on Frontiers in Global Optimization”, June 8-12, 2003. Santorini, Greece.

Chairman and Co-Organizer for the conference on “Cooperative Control and Optimization”, November 19-21, 2003. Destin, Florida, USA.

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Chairman and Organizer for the conference on “Data Mining Techniques in Biomedicine”, February 16-18, 2004. University of Florida.

Chairman and Co-Organizer for the conference on “Multiscale Optimization Methods and Applications”, February 26-28, 2004. University of Florida.

Chairman and Co-Organizer for the conference on “3rd Annual Supply Chain Optimization Conference”, February 28 - March 1, 2004. University of Florida.

Chairman and Co-Organizer for the conference on “Computational Management Science Conference and Workshop on Computational Econometrics and Statistics”, April 2-5, 2004. Neuchatel, Switzerland.

Chairman and Co-Organizer for the conference on “Robust Optimization-Directed Design”, April 19-21, 2004. University of Florida’s Graduate and Research Center at Shalimar, Florida, USA.

Chairman and Co-Organizer for the conference on “High Performance Algorithms and Software for Non-linear Optimization”, June 18-20, 2004. Island of Ischia, Italy.

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Chairman and Co-Organizer for the conference on “Cooperative Control and Optimization”, January 20-22, 2005. University of Florida.

Chairman and Organizer for the conference “Systems Analysis, Data Mining and Optimization in Biomedicine”, February 2-4, 2005. University of Florida.

Chairman and Co-Organizer for the conference “4rd Annual Supply Chain Optimization Conference”, February 25 - 27, 2005. Cocoa Beach, Florida.

Chairman and Organizer for the conference “International Conference on Computational Management Science”, March 31 - April 3, 2005. University of Florida.

Chairman and Co-Organizer for the “International Workshop Multilevel Optimization : Algorithms and Applications”, May 15 - 17, 2005. Chania, Crete, Greece.

Chairman and Co-Organizer for the “International Workshop on Metaheuristics for Large Scale Optimization”, May 19-21, 2005, Vilnius, Lithuania.

Chairman and Co-Organizer for the “International Conference on Control and Optimization with Industrial Applications”, May 22-25, 2005, Baku, Azerbaijan.

Chairman and Co-Organizer for the “International Workshop on Optimization in Medicine”, July 20-22, 2005. Coimbra, Portugal.

Chairman and Co-Organizer for the “International Workshop on Global Optimization”, September 18-22, 2005. Almer Spain.

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Chairman and Co-Organizer for the 6th conference on “Cooperative Control and Optimization”, February 1-3, 2006, University of Florida.

Chairman and Co-Organizer for the conference “5th Annual Supply Chain Optimization Conference”, February 25 - 26, 2006, University of Florida.

Chairman and Organizer for the conference “Data Mining, Systems Analysis and Optimization in Neuroscience”, February 15-17, 2006, University of Florida.

Chairman and Co-Organizer for the DIMACS Workshop on “Clustering Problems in Biological Networks”, May 9 - 11, 2006. DIMACS Center, Rutgers University.

Chairman and Co-Organizer for the International Conference on “Dynamics of Disasters”, October 5-7, 2006, Athens, Greece.

Chairman and Co-Organizer for the Workshop on “Data Mining and Mathematical Programming”, Oc-

tober 10-13, 2006. Centre de recherches mathtiques.

-

Chairman and Co-Organizer for the “7th International Conference on Cooperative Control and Optimization”, January 31 - February 2, 2007. University of Florida.

Chairman and Co-Organizer for the “6th Annual Florida Supply Chain Conference”, February 16-17, 2007. University of Florida.

Chairman and Co-Organizer for the “2nd International Conference on Complementarity, Duality, and Global Optimization in Science and Engineering”, February 28 - March 2, 2007. University of Florida, Gainesville, FL.

Chairman and Co-Organizer for the “Data Mining, Systems Analysis and Optimization in Biomedicine”, March 28-30, 2007. University of Florida, Gainesville, FL.

Chairman and Co-Organizer for the “Workshop on Global Optimization: Methods and Applications”, May 11-12, 2007. Fields Institute.

Chairman and Co-Organizer for the “Power Systems Modeling Conference”, June 5, 2007. Plaza Resort Hotel, Athens, Greece.

Chairman and Co-Organizer for the “5th International Conference on Advances in Global Optimization: Methods and Applications”, June 13 - 17, 2007. Myconos, Greece.

Chairman and Co-Organizer for the “2nd International Conference on Optimization and Optimal Control”, July 17 - 20, 2007. Ulaanbaatar, Mongolia.

Chairman and Co-Organizer for the “International Conference on Nonconvex Programming: Local and Global Approaches”, December 17 - 21, 2007. Rouen, France.

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Chairman and Co-Organizer for the “8th International Conference on Cooperative Control and Optimization”, January 30 - February 1, 2008. University of Florida, Gainesville, FL.

Chairman and Co-Organizer for the “Conference on Computational Neuroscience”, February 20-21, 2008. Gainesville, Florida.

Chairman and Co-Organizer for the “World Congress on Global Optimization in Engineering and Science”, July 1 - 5, 2008. Hunan, China.

Chairman and Co-Organizer for the “International Workshop on Stochastic and Applied Global Optimization (Sago 2008)”, July 19 - 22, 2008. Berg en Dal, South Africa.

Conference Committees and Advisory Boards: (2002-present)

Member of the Program Committee of the “International Conference on Production System Design, Supply Chain Management and Logistics (Miedzyzdroje, Poland, October 23-25, 2002).

Member of the International Advisory Committee of the “ICM -2002 (Control and Optimization)”, Xian, China, Aug. 30 - Sept. 1, 2002).

Member of the Program Committee of the conference on “Mathematical Methods for Learning: Advances in data mining and knowledge discovery”, June 21-24 2004, Villa Geno, Como, Italy .

Member of the Program Committee of the “The First International Conference on Algorithmic Applications in Management” , June 22-25, 2005, Xi’an, Shaanxi, China.

Member of the Program Committee of the “13th Baikal International Conference on Optimization Methods and Their Applications”, Irkutsk-Severobaikalsk, Russia, July 2-8, 2005.

Member of the Program Committee of the “3rd world conference on Computational Statistics & Data Analysis”, Limassol, Cyprus, 28-31 October, 2005.

Member of the Program Committee of the “18th EURO Mini-Conference on the theme Variable Neighbourhood Search”, Tenerife, Spain, 23 to 25 November 2005.

Member of the International Program Committee of the “The IASTED International Conference on

Computational and Systems Biology (CASB 2006)", November 13-15, 2006, (Dallas, Texas, USA).

Member of the International Program Committee of the "4th International Conference on Computational Management Science," 20-22 April 2007, Geneva.

Member of the International Program Committee of the "4th International Conference on Informatics, Control and Robotics (ICINCO 2007)," 9-12 May 2007, Angers, France.

Member of the International Program Committee of the "Learning and Intelligent OptimizatioN (LION 2007 II)," December 8-13, 2007, Trento, Italy.

Member of the International Program Committee of the "XIV-th Baikal International School-Seminar on Methods of Optimization and Their Applications)," Severobaikalsk, Siberi (July 1-8, 2008).

Member of the International Scientific Committee of EngOpt 2008 (International Conference on Engineering Optimization, Rio de Janeiro, Brazil, June 1-5, 2008).

Member of the Program Committee of the INFORMS Optimization Society 2008 Conference March 14 - March 16, 2008 "Theory, Computation, and Emerging Applications."

Chair-committee member of The AMERICAN COMPUTING CONFERENCE 2008 (MIT, Cambridge, USA) April 21-23, 2008.

Member of the International Scientific Committee of The Second International Conference on Nonlinear Programming with Applications (7 - 9 April, 2008, Academy of Mathematics and Systems Science (AMSS), Beijing, China).

Member of the International Scientific Program Committee of 2008 IEEE International Conference on Granular Computing (IEEE GrC 08), Hangzhou, China, (Aug 26-28, 2008).

Member of the International Scientific Program Committee of the conference on "Learning and Intelligent OptimizatioN - LION 3" (January 14-18, 2009) Trento, Italy.

William W. Hager, Professor of Mathematics

Co-Director, Center for Applied Optimization

Affiliated Faculty of Department of Mechanical & Aerospace Engineering

ACADEMIC AWARDS (2002-present)

- 2008 University of Florida Research Foundation Professorship (2008–2011).
- 2006 Society for Industrial and Applied Mathematics Best Paper Award (best paper coauthored with student).

MEDIA CITATIONS (2002-present)

Society for Industrial and Applied Mathematics Newsletter, October, 2004, “Accolades for an accomplished community,” articles describing Mathematics/CAO special year conferences.

PROFESSIONAL ACTIVITIES

Journals:

Editor-in-Chief of the “Computational Optimization and Applications,” Springer.

Award Committees and Societies:

Member SIAM Activity Group in Control and System Theory best paper prize committee.

Chair Computational Optimization and Applications Best Paper Prize Committee.

Member Society for Industrial and Applied Mathematics.

Member Mathematical Programming Society.

Member American Geophysical Union.

ADMINISTRATIVE SERVICE

Departmental committees: Hiring plan committee, Numerical Analysis PhD Exam Committee, Computer Committee, Postdoc-Search Committee, Tenure-Track Search Committee

Ph.D. STUDENTS SUPERVISED (2002-present)

Graduate Committee Activities

Applicant's Role	Student	Research Topic	Home Department	Complete
Chair	Aslan Beyza	Lightning modeling	Mathematics	2007
3 PhD	Zhang Hongchao	Optimization	Mathematics	2006
Committees	Huang Shu Jen	Lightning modeling	Mathematics	2005
Chair	Li Shuo	Optimal control	Mathematics	2006
2 Masters	Krishnaswamy Sukanya	Sparse matrices	Mathematics	2005
Member	Aurora Pawan K	Graph partitioning	Computer Eng.	2007
4 Masters	Mascarenhas Adrian	Sparse matrices	Computer Eng.	2002
Committees	Sadhana Vishnu V	Optimization	Computer Eng.	2002
Member	Chinchuluun Altannar	Optimization	ISE	2007
35 PhD	Commander Clayton	Optimization	ISE	2007
Committees	Dang Thi	Material design	Mech. Eng.	2007
	Han Seung Ju	Wireless communication	Elec. Comp. Eng.	2007
	Lord Nicholas Andrew	Imaging	Comp. Eng.	2007
	Ragle Michelle Anne	Optimization	ISE	2007
	Roldanmdkinley Javier	Robotics	Mech. Eng.	2007
	Chen Pengwen	Imaging	Mathematics	2007
	Busygin Stanislav	Optimization	ISE	2007
	Nahapetyan Artyom	Optimization	ISE	2006
	Prokopyev Oleg Alexan	Optimization	ISE	2006
	Zahnen Jeffrey A	Imaging	Mathematics	2006
	Viieru Dragos	Wing Aerodynamics	Aero. Eng.	2006
	Zhang Baoning	Aero.	Aero. Eng.	2006
	Asghari Hossein	Wireless communication	Computer Eng.	2006
	Bhat Yermal Sujeet	Homogenization	Mathematics	2006
	Hirsch Michael J	Optimization	ISE	2006
	Boginski Vladimir L	Optimization	ISE	2005
	Jammulamadaka Anand	Supercavitating vehicles	Aero. Eng.	2005
	Jiang Yi	Wireless communication	Elec. Comp. Eng.	2005
	Zhang Xiaoyan	Materials	Mech. Eng.	2005
	Liu Yong	Wireless communication	Elec. Comp. Eng.	2005
	Meneses Claudio N	Optimization	ISE	2005
	Murphey Robert Arthur	Optimization	ISE	2005
	Okafor Anthony Uzoma	Optimization	ISE	2005
	Sun Yijun	Classifiers	Elec. Comp. Eng.	2004
	Zhu Huadong	Metallic foams	Aero. Eng.	2004
	Wang Yanwei	Signal analysis/missing data	Elec. Comp. Eng.	2004
	Butendo Sergiy Ivanovick	Optimization	ISE	2003
	Pasiliao Eduardo L J	Optimization	ISE	2003
	Wang Weijian	Peizo Ceramics	Aero. Eng.	2003
	Wunderli Thomas	Imaging	Mathematics	2003

EXTERNAL Ph.D. EXAMINER / ADVISOR (International):

Served as an external examiner (December 2006) of the PhD dissertation by Maxime Barrault from Ecole Nationale des Point et Chaussées, France

UNIVERSITY SCHOLARS PROGRAM STUDENTS:

Samuel Bass, Lightning Analysis (2002).

Publications by William W. Hager (2002-present)

PAPERS IN REFEREED JOURNALS:

1. “*Self-adaptive inexact proximal point methods*” (with H. Zhang) *Computational Optimization and Applications*, 2007, doi 10.1007/s10589-007-9067-3.
2. “*A Generalized Eigenproblem for the Laplacian*” (with B. C. Aslan and S. Moskow) *Journal of Mathematical Analysis and Applications*, Vol. 341 (2008), pp. 1028–1041.
3. “*The generalized triangular decomposition*” (with Y. Jiang and J. Li) *Mathematics of Computation*, Vol. 77 (2008), pp. 1037–1056.
4. “*An Affine-scaling Interior-point CBB Method for Box-Constrained Optimization*” (with H. Zhang and B. A. Mair) *Mathematical Programming*, 2007, doi: 10.1007/s10107-007-0199-0.
5. “*Analysis of Charge Transport During Lightning Using Balloon Borne Electric Field Sensors and LMA*” *Journal of Geophysical Research*, (with R. G Sonnenfeld, B. C. Aslan, G. Lu, W. P. Winn, and W. L. Boeck) Vol. 112 (2007), doi: 10.1029/2006JD008187.
6. “*Tunable channel decomposition for MIMO communications using channel state information*” (with Y. Jiang and J. Li) *IEEE Transactions on Signal Processing*, Vol. 54 (2006), pp. 4405–4418.
7. “*A survey of nonlinear conjugate gradient methods*” (with H. Zhang) *Pacific Journal of Optimization*, Vo. 2 (2006), pp. 35–58.
8. “*Training signal design for estimation of correlated MIMO channels with colored interference*” (with Y. Liu and T. F. Wong) *IEEE Transactions on Signal Processing*, Vol. 55 (2007), pp. 1486–1497.
9. “*Dual multilevel optimization*” (with T. A. Davis), *Mathematical Programming*, Vol. 112 (2008), pp. 403–425.
10. “*A sparse proximal implementation of the LP dual active set algorithm*” (with T. A. Davis) *Mathematical Programming*, Vol. 112 (2008), pp. 275–301.
11. “*Asymptotic convergence analysis of a new class of proximal point methods*” (with H. Zhang) *SIAM Journal on Control and Optimization*, Vol. 46 (2007), pp. 1683–1704.
12. “*Multilevel domain decomposition for electronic structure calculations*” (with M. Barrault, E. Cancès, and C. Le Bris) *Journal of Computational Physics*, Vol. 222 (2007), pp. 86–109.
13. “*CG_DESCENT, a conjugate gradient method with guaranteed descent*” (with H. Zhang) *ACM Transactions on Mathematical Software*, Vol. 32 (2006), pp. 113–137.
14. “*A new active set algorithm for box constrained optimization*” (with H. Zhang) *SIAM Journal on Optimization*, Vol. 17 (2006), pp. 526–557.
15. “*Optimization of generalized mean square error in signal processing and communication*” (with Y. Liu and T. F. Wong) *Linear Algebra and Applications*, Vol. 416 (2006), pp. 815–834.

16. “*The cyclic Barzilai-Borwein method for unconstrained optimization*” (with Y.H. Dai, K. Schittkowski, and H. Zhang) *IMA Journal on Numerical Analysis*, Vol. 26 (2006), pp. 604–627.
17. Hager, William W. Editorial [Proceedings of the Conference on Multiscale Optimization, Methods and Applications]. Held at the University of Florida, Gainesville, FL, February 26–28, 2004. *Comput. Optim. Appl.* 33 (2006), no. 1, 5–6.
18. “*Uniform channel decomposition for MIMO communications*” (with Y. Jiang and J. Li) *IEEE Transactions on Signal Processing*, Vol. 53 (2005), pp. 4283–4294.
19. “*Joint transceiver design for MIMO communications using geometric mean decomposition*” (with Y. Jiang and J. Li) *IEEE Transactions on Signal Processing*, Vol. 53 (2005), pp. 3791–3803.
20. “*A new conjugate gradient method with guaranteed descent and an efficient line search*” (with H. Zhang) *SIAM Journal on Optimization*, Vol. 16 (2005), pp. 170–192.
21. “*Row modifications of a sparse Cholesky factorization*” (with T. A. Davis) *SIAM Journal on Matrix Analysis and Applications*, Vol. 26 (2005), pp. 621–639.
22. “*Global convergence of SSM for minimizing a quadratic over a sphere*” (with S. Park) *Mathematics of Computation*, Vol. 74 (2005), pp. 1413–1423.
23. “*The geometric mean decomposition*” (with Y. Jiang and J. Li) *Linear Algebra and Applications*, Vol. 396 (2005), 373–384.
24. “*A nonmonotone line search technique and its application to unconstrained optimization*” (with H. Zhang) *SIAM Journal on Optimization*, Vol. 14 (2004), pp. 1043–1056.
25. “*The gradient projection method with exact line search*” (with S. Park) *Journal of Global Optimization*, Vol. 30 (2004), pp. 103–118.
26. “*Multiset graph partitioning*” (with Y. Krylyuk) *Mathematical Methods in Operations Research* Vol. 55 (2002), pp. 1–10.
27. “*The dual active set algorithm and its application to linear programming*” *Computational Optimization and Applications*, Vol. 21 (2002), pp. 263–275.
28. “*Minimizing the profile of a symmetric matrix*” *SIAM Journal on Scientific Computing*, Vol. 23 (2002), pp. 1799–1816.

PAPERS IN REFEREED BOOKS AND MAGAZINES:

1. “*Numerical analysis in optimal control*” In *Optimal control of complex structures* (Oberwolfach, 2000), 83–93, *Internat. Ser. Numer. Math.*, 139, Birkhuser, Basel, 2002.
2. “*The dual active set algorithm and the iterative solution of linear programs*” In *Novel approaches to hard discrete optimization* (Waterloo, ON, 2001), 97–109, *Fields Inst. Commun.*, 37, Amer. Math. Soc., Providence, RI, 2003.

3. “*PACBB: a projected adaptive cyclic Barzilai-Borwein method for box constrained optimization*” (with H. Zhang) In Multiscale optimization methods and applications, 387–392, Nonconvex Optim. Appl., 82, Springer, New York, 2006.
4. “*Recent advances in bound constrained optimization*” (with H. Zhang) In System modeling and optimization, 67–82, IFIP Int. Fed. Inf. Process., 199, Springer, New York, 2006.

BOOKS EDITED:

1. Multiscale Optimization Methods and Applications, co-editors: W. Hager, S.-J. Huang, P.M. Pardalos, and O. Prokopyev, Springer, (2006).

SPECIAL ISSUES OF JOURNALS EDITED:

Computational Optimization and Applications Vol. 33 (2006), (Special Issue for the Conference on Multiscale Optimization Methods and Applications)

RESEARCH SUPPORT (2002-present)**a. Funded Externally**

1. **Title:** CMG COLLABORATIVE RESEARCH in Measurement and Analysis of Thunderstorm Electrification and Lightning
Funding Agency: National Science Foundation
Effective Dates: 9/1/2007 to 8/31/2011
Direct Costs: 303,032 (UF)
Indirect Costs: 123,336 (UF)
Total Funding: 1,045,845 (UF and New Mexico Tech)
Role of Nominee: PI (Hager share = 426,368, balance to New Mexico Tech)
2. **Title:** MSPA-ENG: Scalable Sparse Matrix Algorithms and Software for Nonlinear Optimization
Funding Agency: National Science Foundation
Effective Dates: 6/01/2006 to 7/31/2009
Direct Costs: 323,214
Indirect Costs: 136,786
Total Funding: 460,000
Role of Nominee: PI (Hager share = 230,000)
3. **Title:** SCREMS: Developing Computational Mathematics at the University of Florida
Funding Agency: National Science Foundation
Effective Dates: 7/1/2006 to 6/30/2009
Direct Costs: 81,000
Indirect Costs: 000
Total Funding: 81,000
Role of Nominee: co-PI

4. **Title:** University of Florida 2003/2004 Special Year in Mathematics
Funding Agency: National Science Foundation
Effective Dates: 9/15/2003 to 8/31/2004
Direct Costs: 30,000
Indirect Costs: 000
Total Funding: 30,000
Role of Nominee: PI
5. **Title:** Sparse matrix algorithms and their application to dual active set techniques in optimization
Funding Agency: National Science Foundation
Effective Dates: 5/10/2002 to 6/30/2006
Direct Costs: 372,726
Indirect Costs: 137,274
Total Funding: 510,000
Role of Nominee: co-PI (Hager share = 279,000)
6. **Title:** Modeling and Optimal Design in Micro-optics
Funding Agency: National Science Foundation
Effective Dates: 5/1/1999 to 3/1/2002
Direct Costs: 17,100
Indirect Costs: 000
Total Funding: 17,100
Role of Nominee: co-PI (Hager share = 5,700)

Summary of External Grant Funding

ROLE	TOTAL	Direct Costs	Indirect Costs
Principal Investigator	1,051,368	752,264	299,104
Co-Principal Investigator	800,829	606,221	194,608
TOTALS	1,852,197	1,358,485	493,712

b. Funded Internally

1. **Title:** A Computer Model of the Changes in Electric Field within a Thundercloud
Funding Agency: UF University Scholars Program
Effective Dates: 6/1/2002 to 6/1/2003
Total Funding: 3,000
Role of Nominee: Faculty mentor for project by Samuel Bass

Summary of Internal Grant Funding

ROLE	TOTAL	Direct Costs	Indirect Costs
Faculty Mentor	3,000	3,000	0
TOTALS	3,000	3,000	0

c. Submitted, Pending Decision

1. **Title:** A Computational Framework for Simplified Path Planning and Guidance Law Development for Autonomous Unmanned Ground Vehicles
Funding Agency: Army Research Office
Effective Dates: 7/1/2008 to 6/30/2011
Total Funding: 314,614
Role of Nominee: co-PI

Lectures, Speeches or Posters Presented at Professional Conferences/Meetings

International Conferences

1. "Quadratic Programming Techniques for Graph Partitioning," Nonconvex programming, local and global approaches, December 17–21, 2007, Rouen, France (invited).
2. "Quadratic Programming Techniques for Graph Partitioning," 46th Workshop at the International School of Mathematics G. Stampacchia, Erice, Italy, July 31 – August 9, 2007 (invited).
3. "An Affine-scaling Interior-point CBB Method for Box-Constrained Optimization," 6th International Conference on Industrial and Applied Mathematics, Zurich, July 16–20, 2007 (invited).
4. "A Generalized Eigenproblem for the Laplacian and its Application to the Lightning Discharge," 23rd IFIP TC 7 Conference on System Modeling and Optimization, Cracow, Poland, July 23-27, 2007 (invited).
5. "Optimization problems arising in wireless communication," Optimization and Wireless Communication Conference, Kyungpook National University, Dague, Korea, July 5–6, 2006 (invited).
6. "Quadratic programming techniques for graph partitioning," 2nd International Conference on Complementarity, Duality and Global Optimization in Science and Engineering, Gainesville, FL, February 28-March 2, 2007 (invited).
7. "Recent advances in box constrained optimization," International Conference on Numerical Optimization and Numerical Linear Algebra, Lhasa, Tibet, August 8-12, 2005 (invited).
8. "Recent advances in box constrained optimization," 22nd IFIP TC 7 Conference on System Modeling and Optimization, Turin, Italy, July 18-22, 2005 (invited).
9. "Bound Constrained Optimization," SIAM Optimization Conference, Stockholm, Sweden, May 16-19, 2005 (invited).
10. "Dual multilevel optimization," Conference on multiscale optimization, methods and applications, February, 2004 (contributed).
11. "A Sparse Multilevel Implementation of the LP Dual Active Set Algorithm," International Symposium on Mathematical Programming, August, 2003 (contributed).
12. "The dual active set algorithm in control and optimization," Analysis and optimization of differential systems, Constanta, Romania, September, 2002 (invited).
13. "The dual active set algorithm in control and optimization," Conference on Quantum Control, Univ. Montreal, October, 2002 (invited).

National Conferences

1. "Analysis of charge transport during lightning using balloon borne electric field sensors and LMA," American Geophysical Annual Fall Meeting, December, 2007 (contributed poster).

2. "Lightning Charge Transport During a Thunderstorm Near Langmuir Laboratory on 18 August 2004," American Geophysical Annual Fall Meeting, December, 2007 (contributed poster).
3. "Sphere constrained optimization," SIAM Annual Meeting, Boston, July, 2006 (invited).
4. "Asymptotic convergence analysis of a new class of proximal point methods," Joint Mathematics Meetings, New Orleans, January 5–8, 2007, (invited).
5. "A continuous approach to the lightning discharge," American Geophysical Annual Fall Meeting, December, 2006 (contributed poster).
6. "Analysis of charge transport during lightning using balloon borne electric field sensors and LMA," American Geophysical Annual Fall Meeting, December, 2006 (contributed).
7. "LP Dual Active Set Algorithm, INFORMS Annual Meeting," Denver, October, 2004 (invited).
8. "Global Convergence of SSM for Minimizing a Quadratic Over a Sphere," SIAM Annual Meeting, Portland, July, 2004 (contributed).
9. "A multilevel implementation of LPDASA," SIAM Optimization Conference, June, 2002 (invited).

Regional Conferences

1. "The dual active set algorithm in control and optimization," Regional AMS conference, Orlando, November, 2002 (invited).

Colloquia

1. "Optimization Problems Arising in Wireless Communication," Northern Illinois University, October 26, 2007
2. "Recent advances in box constrained optimization," Computational Mathematics Colloquium, University of Waterloo, February 5, 2007
3. "Modeling and Computation of Thunderstorm Electrification and Lightning at the Kennedy Space Center," Global Hydrology and Climate Center, NASA Marshall Space Flight Center, Huntsville, AL, September, 2005

Conferences and Minisymposia Organized

1. Organizing committee for Nonconvex programming, local and global approaches, December 17–21, 2007, Rouen, France, and organizer of a minisymposium on quadratic global optimization.
2. Organizer of minisymposium on bound constrained optimization, SIAM Optimization Conference, Stockholm, Sweden, May 16-19, 2005.
3. Organizer of Conference on Multiscale Optimization, Gainesville, Florida, March, 2004.
4. Organizer of minisymposium on sparse techniques in optimization, SIAM Optimization Conference, Toronto, Sweden, May 20-22, 2002.
5. Organizing committee for the conference Analysis and optimization of differential systems, Constanta, Romania, September, 2002

DONALD WILLIAM HEARN
 Professor Emeritus & Chair
 Department of Industrial and Systems Engineering
 University of Florida, Gainesville, Florida

EXPERIENCE (2002-present)

Academic

2007-Present, Professor Emeritus, ISE Department, University of Florida.

1997-2007, Chair, ISE Department, University of Florida.

SOCIETIES AND ORGANIZATIONS

The Institute for Operations Research and Management Science (INFORMS)

The Mathematical Programming Society

Transportation Science Section of INFORMS

AWARDS AND CITATIONS (2002-present)

Elected INFORMS Fellow, 2004.

RESEARCH GRANTS (2002-present)

PI, A Toll Pricing Framework for Traffic Assignment Problems, NSF, 1999-2002

PI, Models and Methods for Value Pricing Applications, NSF, 2003-2007

Co-PI, Eavesdropping (or Jamming) of Communication Networks, AFOSR, 2006-2007.

PROFESSIONAL ACTIVITIES (2002-present)

ORSA Lanchester Prize Committee, 2007-08

INFORMS ACORD (Association of Chairs of Operations Research Departments) Treasurer, 2003 - 2005,
 President, 2005 - present

Transportation Science Dissertation Prize Committee, 2005-2007.

Referee for *Operations Research*, *Management Science*, *IIE Transactions*, *Mathematical Programming*,
Transportation Science, *OR Letters* and several textbook publishers

Past Associate Editor of *Operations Research*, and *Transportation Research*

Current Associate Editor of *Computational Optimization and Applications*, and *Applied Optimization Series*, Kluwer Academic Press

INTERNATIONAL ACTIVITIES (2002-present)

Ph. D. Committees Member of the Ph. D. committees of Younes Hamdouch, U. of Montreal (2002),
 Manuel Cepeda, U. of Montreal (2002).

KTH Exchange Program With P. O. Lindberg of Royal Institute of Technology (KTH), Stockholm,

an exchange program was initiated where engineering students from KTH visit UF for three months to conduct research under the direction of faculty in ISE and Mathematics and to write their final thesis. The thesis is approved by both the UF faculty and a member of the KTH faculty. Through fall, 2007, over 120 KTH students have successfully completed this program.

COLLEGE & UNIVERSITY SERVICE – Major Committees (2002-present)

2003-2004 Chair, College of Engineering Graduate Engineering Research Center (GERC/REEF) Director Search Committee.

BOOKS - Co-EDITOR (2002-present)

Mathematical and Computational Models for Congestion Charging, Applied Optimization, Vol. 101, Springer-Verlag, 240p., 2006 (Co-editor with S. Lawphongpanich and M. J. Smith).

REFEREED PUBLICATIONS (2002-present)

1. "Optimization Models in Transportation Planning," *Handbook of Applied Optimization*, P. Pardalos and M. Resende (Eds.), Oxford University Press, 870-885, 2002 (with M. Florian).
2. "A Toll Pricing Framework for Traffic Assignment Problems with Elastic Demand," *Current Trends in Transportation and Network Analysis: Papers in honor of Michael Florian*, M. Gendreau and P. Marcotte (Eds.), Kluwer Academic Publishers, 135-145, 2002 (with M. B. Yildirim).
3. "A First Best Toll Pricing Framework for Variable Demand Traffic Assignment Models," *Transportation Research B*, 2004, (with M. B. Yildirim).
4. "Decomposition Techniques for the Minimum Toll Revenue Problem," *Networks*, Vol. 44, No. 2, 142 - 150, 2004, (with L. Bai and S. Lawphongpanich).
5. "An MPEC Approach to Second Best Toll Pricing," *Mathematical Programming*, Series B 101, 33-55, 2004, (with S. Lawphongpanich).
6. "Relaxed Toll Sets for Congestion Pricing Problems," *Mathematical and Computational Models for Congestion Charging, Applied Optimization, Vol. 101*, S. Lawphongpanich, D. W. Hearn and M. J. Smith (Eds.), Springer-Verlag, 23-44, 2006 (with L. Bai and S. Lawphongpanich).
7. "Congestion Pricing for Multi-Modal Transportation Systems," *Transportation Research*, Series B 41, 275-271, 2007 (with Y. Hamdouch, M. Florian, and S. Lawphongpanich).
8. "Traffic Assignment: Equilibrium Modeling," to appear in *Pareto Optimality, Game Theory and Equilibria*, A. Chinchuluun, P. Pardalos et al. (Eds.), pp. 581-602, 2007 (with M. Florian).

INVITED LECTURES (2002-present)

"Computational Issues in Toll Pricing Models," *IFORS 2002 International Meeting*, Edinburgh, Scotland, July, 2002.

"On the Second Best Toll Pricing Problem with Elastic Demand," *ICCP International Conference on Complementarity Problems*, Cambridge, UK, July, 2002.

“Solving 2nd Best Toll Pricing,” *Congestion Charging Conference*, Imperial College, London, August, 2003.

“Second Best Toll Pricing - Models and Methods,” *Maryland Transportation Initiative Distinguished Speaker Series*, U. of Maryland, October, 2003.

“Recent Advances in Congestion Toll Pricing of Traffic Networks,” *NSF Grantee Conference*, Phoenix, AZ, January, 2005, Penn State University, October, 2005, George Mason University, April, 2006.

CURRICULUM VITAE (2002 - present)

J. COLE SMITH

Associate Professor

Department of Industrial and Systems Engineering, University of Florida

P.O. Box 116595, Gainesville, FL 32611

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PROFESSIONAL SOCIETIES

The Institute for Operations Research and Management Science (INFORMS)

The Institute of Industrial Engineers (IIE)

Mathematical Programming Society (MPS)

HONORS AND AWARDS

Honorable Mention, 2003 Junior Faculty INFORMS Group (JFIG) Best Paper Award.

Recipient of a Young Investigator Award by the Office of Naval Research, 2002.

SIE Faculty/Student Interface Excellence Award, 2002, 2003, 2004, 2005.

EDITORIAL BOARD

Guest Editor: Networks, Special Issue on Games, Interdiction, and Human Interaction Problems on Networks

Associate Editor

- Networks (2005 current)
- Journal of Global Optimization (2005 current)
- Optimization Letters (2006 current)
- Journal of Problem Solving (2006 current)
- IIE Transactions (2006 current)
- OMEGA (2006 current)

SERVICE

Intramural

ISE Faculty Search Committee Chair, 2008

ISE Graduate Committee Co-Chair, 2007 2008

ISE Graduate Committee Chair, 2006 2007

ISE Graduate Committee, 2005 current

(University of Arizona) SIE Graduate

- Co-Chair: 2003-2004
- Chair: 2004-2005

(University of Arizona) Recruiting Faculty Fellow, 2004-present

(University of Arizona) Advised a Senior Design team for ENGR 498a, involving weekly meetings and trips to Lockheed-Martin in Phoenix

(University of Arizona) SIE Faculty Scribe, 2002-2003 (one academic year)

(University of Arizona) Participant in the 2002 Wildcat Welcome

(University of Arizona) SIE Ad Hoc Committee on Operations Research Curriculum, 2001-2003.

Extramural

Program co-chair, 2009 Industrial Engineering Research Conference

Track chair, 2009 INFORMS Computing Society Conference

Workshop Program co-chair, Decision Modeling and Behavior in Uncertain and Complex Environments, held in Tucson, AZ, February 2008.

Tutorial Chair, 2007 INFORMS Summer National Meeting

Track Chair, 2007 IERC Operations Research

Workshop Program co-chair, Decision Modeling and Behavior in Uncertain and Complex Environments, held in Tucson, AZ, February 2006.

Tutorial Chair, 2005 INFORMS National Meeting

Session Cluster Chair, 2005 INFORMS Conference, New Orleans, LA.

Future Academician Colloquium Chair, 2004 INFORMS National Meeting (formerly the Doctoral Colloquium)

Program Committee Member: IASTED Modeling, Simulation, and Optimization Conference, Kauai, HI, August 2004.

IIE Best Book and Best Paper Award Panelist, 2003

NSF Proposal Review Panelist, 2001, 2003.

- Individual Proposal Review Panelist, NSF: 2004, 2005, 2007
- Individual Proposal Review Panelist, AFOSR: 2004-present

Individual Proposal Review Panelist, Civilian Research and Development Foundation, 2006

Ad Hoc Committee Chair to Recommend Surplus Budget Expenditure, INFORMS Optimization Section, 2001-2003

Session Stream Chair, 2002 IFORS Conference, Edinburgh, Scotland.

Program Committee Member, 2003 Eighth INFORMS Computing Society Conference, Phoenix, AZ.

Refereed papers for the following journals: Operations Research, Management Science, Mathematical Programming, SIAM Journal on Optimization, IIE Transactions, INFORMS Journal on Computing, Risk Analysis, Production and Operations Management, Transportation Science, Annals of OR, Computational Optimization and Applications, Networks, AIAA Journal, OMEGA, The Computer Journal, International Journal of Industrial Engineering, Professional Geographer, Interfaces, Geographical Analysis, IEEE Transactions on Systems, Man, and Cybernetics, IEEE Transactions on Reliability, Telecommunication Systems, Naval Research Logistics, Discrete Optimization, International Transactions in Operational Research, Discrete Applied Mathematics, Optimization Letters, Journal of Global Optimization, Applications and Applied Mathematics, others.

Refereed papers for the following conferences: The Intelligence and Security Informatics Conference, IASTED Modeling, Simulation, and Optimization Conference, and conferences hosted by the INFORMS Computing Society, and by the Society of Mining Engineering.

PUBLICATIONS

A. K. Andreas and J. C. Smith. Decomposition algorithms for the design of a non-simultaneous capacitated evacuation tree network (to appear). *Networks*, 2008.

A.K. Andreas, J.C. Smith, and S. Küçükyavuz. A branch-and-price-and-cut algorithm for solving the reliable h-paths problem (to appear). *Journal of Global Optimization*, 2008.

April K. Andreas and J. Cole Smith. Mathematical programming algorithms for two-path routing problems with reliability considerations (to appear). *INFORMS Journal on Computing*, 2008.

Benjamin Armbruster, J. Cole Smith, and Kihong Park. The optimization of packet filter placements to combat distributed denial of service attacks. *European Journal of Operational Research*, 176(2):1283–1292, 2007.

Kenneth Baker and J. Cole Smith. A multiple-criterion model for machine scheduling. *Journal of Scheduling*, 6:7–16, 2003.

Moustafa Elshafei, Hanif D. Sherali, and J. Cole Smith. Radar pulse interleaving for multi-target tracking. *Naval Research Logistics*, 51(4):72–94, 2004.

Manish Garg and J. Cole Smith. Models and algorithms for the design of survivable multicommodity flow networks with general failure scenarios (to appear). *Omega*, 2008.

J. A. Horne and J. C. Smith. A dynamic programming algorithm for the conditional covering problem on tree graphs. *Networks*, 46(4):186–197, 2005.

J. A. Horne and J. C. Smith. Dynamic programming algorithms for the conditional covering problem on path and extended star graphs. *Networks*, 46(4):177–185, 2005.

- T. Kugler, J. C. Smith, T. Connolly, and Y.-J. Son, editors. *Decision Modeling and Behavior in Uncertain and Complex Environments*. Springer, New York, NY, 2008.
- C. Lim, J. N. Bearden, and J. C. Smith. Sequential search with multi-attribute options. *Decision Analysis*, 3(1):3–15, 2006. (to appear).
- C. Lim and J. C. Smith. Algorithms for discrete and continuous multicommodity flow network interdiction problems. *IIE Transactions*, 39(1):15–26, 2007.
- L. Lopes, M. Aronson, G. Carstensen, and J.C. Smith. Optimization support for senior design project assignments (to appear). *Interfaces*, 2008.
- Brian J. Lunday, J. Cole Smith, and Jeffrey B. Goldberg. Algorithms for solving the conditional covering problem on paths. *Naval Research Logistics*, 52(4):293–301, 2005.
- E. C. Mofya and J. Cole Smith. Exact and heuristic algorithms for solving the generalized minimum filter placement problem. *Journal of Combinatorial Optimization*, 12(3):231–256, 2006.
- E. Chisonge Mofya and J. Cole Smith. Algorithms for the generalized minimum filter placement problem on tree structures (to appear). *INFORMS Journal on Computing*.
- E. Chisonge Mofya and J. Cole Smith. The optimal deployment of filters to limit forged address attacks in communication networks. *Lecture Notes in Computer Science*, 3073:239–251, 2004.
- M. A. Ragle, J.C. Smith, and P. M. Pardalos. An optimal cutting-plane algorithm for solving the non-unique probe selection problem. *Annals of Biomedical Engineering*, 35(11):2023–2030, 2007.
- H. D. Sherali and J. C. Smith. An improved linearization strategy for zero-one quadratic programming problems. *Optimization Letters*, 1(1):33–47, 2007.
- Hanif D. Sherali and J. Cole Smith. A class of web-based facets for the generalized vertex packing problem. *Discrete Applied Mathematics*, 146:273–286, 2005.
- Hanif D. Sherali and J. Cole Smith. Interleaving two-phased jobs on a single machine with application to radar pulse interleaving. *Discrete Optimization*, 2(4):348–361, 2005.
- Hanif D. Sherali and J. Cole Smith. A polyhedral study of the generalized vertex packing problem. *Mathematical Programming, Series A*, 107(3):367–390, 2006.
- Hanif D. Sherali and J. Cole Smith. Two-stage stochastic risk threshold and hierarchical multiple risk problems: Models and algorithms (to appear). *Mathematical Programming*, 2008.
- Hanif D. Sherali, J. Cole Smith, and Antonio A. Trani. An airspace planning model for selecting flight-plans under workload, safety, and equity considerations. *Transportation Science*, 36(4):378–397, 2002.
- C. M. Smith, J. C. Smith, S. K. Williams, J. J. Rodriguez, and J. B. Hoying. Accurate volumetric measurements of vasculature using confocal microscopy and image processing. *Journal of Microscopy*, 225(3):244–257, 2007.
- J. C. Smith, editor. *TutORials in Operations Research*. Institute for Operations Research and the Management Sciences, Hanover, MD, 2005.

- J. C. Smith. Organization of the NCAA college baseball tournament. In D. Percy, P. Scarf, and C. Robinson, editors, *Proceedings of the First International Conference on Mathematics in Sport*, pages 198–203, Manchester, UK, 2007. Institute of Mathematics and Its Applications.
- J. C. Smith, B. M. P. Fraticelli, and C. Rainwater. A bracket assignment problem for the NCAA men’s basketball tournament. *International Transactions in Operational Research*, 13(3):253–271, 2006.
- J. C. Smith, D. L. Henderson, A. Ortega, and J. DeVoe. A parameter optimization heuristic for a temperature estimation model (to appear). *Optimization and Engineering*, 2008. Paper 35254.
- J. C. Smith, C. Lim, and J. N. Bearden. On the optimality of a threshold policy for a multi-attribute stopping problem with general value functions. *Operations Research Letters*, 35(3):324–330, 2007.
- J. C. Smith, C. Lim, and F. Sudargho. Survivable network design under optimal and heuristic interdiction scenarios. *Journal of Global Optimization*, 38(2):181–199, 2007.
- J. Cole Smith. A genetic algorithm approach to solving a multiple inventory loading problem. *International Journal of Industrial Engineering*, 10(1):45–54, 2003.
- J. Cole Smith. Algorithms for distributing telecommunication traffic on a multiple-ring sonet-based network. *European Journal of Operational Research*, 154(3):659–672, 2004.
- J. Cole Smith and Sheldon H. Jacobson. An analysis of the alias method for discrete random-variate generation. *INFORMS Journal on Computing*, 17(3):321–327, 2005.
- J. Cole Smith and Churlzu Lim. Algorithms for network interdiction and fortification games. In L. Pitsoulis A. Migdalas, P. Pardalos and A. Chinchuluun, editors, *Pareto Optimality, Game Theory and Equilibria*. Springer, New York, NY, 2008 (in press).
- J. Cole Smith, Churlzu Lim, and Aydin Alptekinoglu. Optimal mixed-integer programming and heuristic methods for a bilevel stackelberg product introduction game. Technical report, Department of Industrial and Systems Engineering, The University of Florida, Gainesville, FL, 2007.
- J. Cole Smith and John Penuel. Solving a two-stage facility location problem with second-stage activation costs. In *Proceedings of the 2008 Industrial Engineering Research Conference*, Vancouver, Canada, 2008.
- J. Cole Smith, Andrew J. Schaefer, and Joyce W. Yen. A stochastic integer programming approach to solving a synchronous optical network ring design problem. *Networks*, 44(1):12–26, 2004.
- Z. C. Taşkın, J. C. Smith, S. Ahmed, and A. J. Schaefer. Cutting plane algorithms for solving a robust edge-partition problem. Technical report, Department of Industrial and Systems Engineering, University of Florida, Gainesville, Florida, 2008.
- Z. C. Taşkın, J. C. Smith, and H. E. Romeijn. Mixed-integer programming techniques for decomposing IMRT fluence maps using rectangular apertures. Technical report, Department of Industrial and Systems Engineering, University of Florida, Gainesville, Florida, 2008.
- Z. C. Taşkın, J. C. Smith, H. E. Romeijn, and J. F. Dempsey. Optimal multileaf collimator leaf sequencing in IMRT treatment planning. Technical report, Department of Industrial and Systems Engineering, University of Florida, Gainesville, Florida, 2007.

PRESENTATIONS

Contemporary Optimization Methods, a 20-hour short course delivered at Universidad Autonoma de Baja California, Mexicali, Mexico, August 2002.

The Design of Modern Survivable Networks, Fault Tolerant Network Principal Investigator Meeting, January 2002, San Diego, CA.

A Stochastic Intra-Ring SONET Design Problem, Invited Lecture, Arizona State University, February 2002, Tempe, AZ.

A Stochastic Intra-Ring SONET Design Problem, Invited Lecture, University of Texas, April 2002, Austin, TX.

Valid Facetial Inequalities for a Generalized Vertex Packing Problem, Invited Lecture, IFORS 2002 Conference, July 2002, Edinburgh, UK.

The Design of Modern Survivable Networks, Summer 2002 Fault Tolerant Network Principal Investigator Meeting, July 2002, Newport, RI.

A Mixed-Integer Programming Approach to Improving Network Security, Invited Lecture, INFORMS 2002 Conference, November 2002, San Jose, CA.

An Integer Programming Approach to Single Machine Scheduling with Multi-phase Jobs, Invited Lecture, INFORMS 2002 Conference, November 2002, San Jose, CA.

A Class of SONET Optimization Problems, Invited Lecture, Iowa State University (Computer Science), March 2003, Ames, IA.

The Role of Algorithmic Theory in Contemporary Optimization Problems, Invited Lecture, University of California at Los Angeles (Computer Science), April 2003, Los Angeles, CA.

The Use of Baseline Scenarios in Solving Stochastic and Robust Programming Problems, Invited Lecture, Naval Postgraduate School, September 2003, Monterey, CA.

Integer Programming Approaches to Designing Nonsimultaneous Multicommodity Flow Networks, Invited Lecture, INFORMS 2003 Conference, October 2003, Atlanta, GA.

A Stochastic Intra-Ring SONET Design Problem, Invited Lecture, INFORMS 2003 Conference, October 2003, Atlanta, GA. This talk was given as a requirement of the JFIG award competition.

A Class of SONET Optimization Problems, Invited Lecture, Purdue University, November 2003, West Lafayette, IN.

Operations Research Modeling and Algorithms for Airspace Planning Problems, Invited Lecture, Clemson University, February 2004, Clemson, SC.

A Stochastic Edge-Partition Problem with Application to the Design of Nonsplit SONET Ring Networks, Invited Lecture, The 7th INFORMS Telecommunications Conference, March 2004, Boca Raton, FL.

A Stochastic Intra-Ring SONET Design Problem, Invited Lecture, The University of Florida, September 2004, Gainesville, FL.

An Algorithm for the Minimum Risk Problem with Binary First Stage Variables, Invited Lecture, The Tenth International Conference on Stochastic Programming, October 2004, Tucson, AZ.

Optimizing the NCAA Basketball Tournament Pod Constituency and Regional Assignment Problem, Invited Lecture, INFORMS 2004 Conference, October 2004, Denver, CO.

Optimizing the Deployment of Packet Filters to Improve Network Security, Invited Lecture, Clemson University, November 2004, Clemson, SC.

Minimum-Cost Paths with Survivability Considerations, Invited Lecture, Georgia Institute of Technology, January 2005, Atlanta, GA.

Minimum-Cost Paths with Survivability Considerations, Invited Lecture, Clemson University, January 2005, Clemson, SC.

Minimum-Cost Paths with Survivability Considerations, Invited Lecture, University of Florida, January 2005, Gainesville, FL.

Two-Stage Stochastic Risk Threshold and Hierarchical Multiple Risk Problems, Invited Lecture, IFORS 2005 Conference, July 2005, Honolulu, HI.

Optimizing Team Travel in the NCAA Basketball Tournament, Invited Lecture, IFORS 2005 Conference, July 2005, Honolulu, HI.

Survivable Network Design under Various Interdiction Scenarios, International Workshop on Global Optimization, September 2005, San Jos, Spain.

Optimization Methods for Routing Problems on Networks with Stochastic Failures, Invited Lecture, Auburn University, February 2006, Auburn, AL.

Fortifying Networks Against Human Interdiction, Invited Lecture, Workshop on Decision Modeling and Behavior in Uncertain and Complex Environments, February 2006, Tucson, AZ.

Solution of a Nonlinear Integer Program for a College Baseball Tournament Assignment Problem, Invited Lecture, EURO XXI, July 2006, Reykjavik, Iceland.

A Benders Decomposition Approach to Solving an Evacuation Problem, Invited Lecture, INFORMS 2006 Conference, October 2006, Pittsburgh, PA.

Algorithms for Network Interdiction Under Suboptimal Enemy Behavior, Invited Lecture, INFORMS 2006 Conference, October 2006, Pittsburgh, PA.

An Improved Linearization Strategy for 0-1 Quadratic Programming Problems, Invited Lecture, INFORMS 2006 Conference, October 2006, Pittsburgh, PA.

A Bracket Assignment Problem for the NCAA Mens Basketball Tournament, Invited Lecture, Ohio State University, May 2007, Columbus, OH.

A Tutorial On Mathematical Programming in Sports, Tutorial, Industrial Engineering Research Conference, May 2007, Nashville, TN.

Mathematical Programming in Sports, Tutorial, INFORMS International Conference, June 2007, Rio Grande, Puerto Rico.

Network Design Under Varying Enemy Behaviors, Invited Lecture, 40th Annual Meeting of the Society for Mathematical Psychology, July 2007, Irvine, CA.

Enhanced Cutting Planes for a Class of Binary Multi-Level Optimization Algorithms, Invited Lecture, MIP 2007 Workshop on Mixed Integer Programming, August 2007, Montral, Canada.

Minimum Filter Placement for Computer Security, Invited Lecture, INFORMS 2008 Conference, November 2007, Seattle, WA.

Two-Stage Stochastic Hierarchical Multiple Risk Problems, Invited Lecture, INFORMS 2008 Conference, November 2007, Seattle, WA.

GRANTS AND SPONSORED PROJECTS

Principal Investigator (100% responsibility): ITR/AP:Discrete Optimization Methods for Designing Survivable Networks, Defense Advanced Research Projects Agency, 301,184, 2001-2004.

Co-Principal Investigator (50% responsibility with S. Sen): Equipment for Distributed and Parallel Computing, State of Arizona Information Technology and Commerce Institute, 80,000, 2002.

Principal Investigator (100% responsibility): Optimization Methods for Routing Problems on Networks with Stochastic Failures, Office of Naval Research (Young Investigator Program), 300,000, 2003-2006.

Principal Investigator (20% responsibility, with R. Askin, T. Bahill, T. Connolly, J. Jin, A. Rapoport, S. Sen, Y. Son, F. Szidarovszky): Predicting and Prescribing Human Decision Making Under Uncertain and Complex Scenarios, Air Force Office of Scientific Research, 3,987,238, 2003-2008.

Principal Investigator (100% responsibility): Enhanced Cutting Plane Techniques for Bi-Level Optimization Algorithms, Air Force Office of Scientific Research, 61,000, 2007.

Principal Investigator (100% responsibility): Variable Expansion Techniques for Decomposable Optimization Problems, Air Force Office of Scientific Research, 244,444, 2008-2010.

GRADUATE RESEARCH SUPERVISION

Ph.D. Dissertations

Jennifer Horne, Models and Algorithms for A Facility Location Problem Involving Complex Coverage Requirements, May 2004.

Dale Henderson, Heuristic and Exact Techniques for Solving a Temperature Estimation Model, December 2005.

E. Chisonge Mofya, Exact and Heuristic Algorithms for Solving the Generalized Minimum Filter Placement Problem, December 2005.

April Andreas, Mathematical Programming Algorithms for Reliable Routing and Evacuation Problems, July 2006.

Ph.D. Dissertations (in progress)

John Penuel, Title TBD (expected May 2009)
Z. Caner Taskin, Title TBD (expected May 2009)
Siqian Shen, Title TBD (expected May 2011)
Sibel Sonu, Title TBD (expected May 2011)
Sadie Thomas, Title TBD (expected May 2011)

M.S. Theses/Reports

Ashwin Naik, Thesis: Development of a Flexible Metaheuristic Library with Application to Survivable Network Design, August 2002.
Manish Garg, Thesis: Design of Survivable Multicommodity Flow Networks, August 2003.
Sonali Joshi, Thesis: Optimizing Bioassembly Tool Operations, December 2003.
Omrum Aki, Thesis: Stochastic Facility Location Problems for Disaster Relief, May 2004.
Travis J. Lindberg (co-advised with Terry Bahill), Thesis: A Corps (and Below) Engineer Planning Resource, May 2004.
Sandeep Sastry, Report: Integer and Dynamic Programming Models for Survivable Shortest Path Problems with Random Arc Failures, May 2004.
Hitesh Jain, Report: A Column Generation Algorithm for Nonsimultaneous Multicommodity Flow Problems, May 2004.
Srikanth Sista, Report: Advanced Solution Approaches for Survivable Shortest Path Problems with Random Arc Failures, December 2004.
Josephat Zimba, Report: The Effect of Symmetry in Neighborhood-Based Heuristics, December 2004.
Chad Reynolds, Report: Algorithms for Predicting Human Decision-Making by a Weighted Attribute Model, December 2004.
Tingting Cui, Thesis: A Bilevel Programming Approach for a Class of Stackelberg Games with Applications in Financial Policy Making, August 2005.
Francisca Sudargho, Thesis: Network Design under Various Interdiction Scenarios, August 2005.

Jay Gopalakrishnan, Associate Professor

Faculty of Department of Mathematics
University of Florida

Publications by Jay Gopalakrishnan (2002-present)**PAPERS IN REFEREED JOURNALS:**

1. “*Locally conservative fluxes from the continuous Galerkin method*”, (with B. Cockburn and H. Wang). *SIAM Journal on Numerical Analysis*, Vol. 45, Issue 4, pp. 1742–1776, 2007.
2. “*The convergence of V-cycle multigrid algorithms for axisymmetric Laplace and Maxwell equations*”, (with J. E. Pasciak). *Mathematics of Computation*, Vol. 75, pp. 1697–1719, 2006.
3. “*Integration of hp-adaptivity and a two grid solver: Electromagnetic problems*”, (with L. Demkowicz and D. Pardo). *Computer Methods in Applied Mechanics and Engineering*, Volume 195, pp. 2533–2573, 2006.
4. “*New hybridization techniques*”, (with B. Cockburn). *GAMM-Mitteilungen* 28, pp. 154–182, 2005. Invited review paper.
5. “*Incompressible finite elements via hybridization: Part II*”, (with B. Cockburn). *SIAM Journal on Numerical Analysis*, Volume 43, Number 4, pp. 1651–1672, 2005.
6. “*Incompressible finite elements via hybridization: Part I*”, (with B. Cockburn). *SIAM Journal on Numerical Analysis*, Volume 43, Number 4, pp. 1627–1650, 2005.
7. “*Error analysis of variable degree mixed methods for elliptic problems via hybridization*”, (with B. Cockburn). *Mathematics of Computation*, Vol. 74, pp. 1653–1677, 2005.
8. “*Nédélec spaces in affine coordinates*”, (with L. Demkowicz and L. E. García-Castillo). *Computers and Mathematics with Applications*, Vol. 49, Issue 7-8, pp. 1285–1294, 2005.
9. “*Quasioptimality of some spectral mixed methods*”, (with L. F. Demkowicz). *Journal of Computational and Applied Mathematics*, Vol. 167, Issue 1, pp. 163–182, 2004.
10. “*A characterization of hybridized mixed methods for second order elliptic problems*”, (with B. Cockburn). *SIAM Journal on Numerical Analysis*, Vol. 42, No. 1, pp. 283–301, 2004.
11. “*Analysis of a multigrid algorithm for time-harmonic Maxwell equations*”, (with L. Demkowicz and J. E. Pasciak). *SIAM Journal on Numerical Analysis*, Vol. 42, No. 1, pp. 90–108, 2004.
12. “*A multilevel discontinuous Galerkin method*”, (with G. Kanschat). *Numerische Mathematik*, Vol. 95, No. 3, pp. 527–550, 2003.
13. “*A Schwarz preconditioner for a hybridized mixed method*”. *Computational Methods in Applied Mathematics*, Vol. 3, No. 1, pp. 116–134, 2003.

14. “*Overlapping Schwarz preconditioners for indefinite time-harmonic Maxwell equations*”, (with J. E. Pasciak). *Mathematics of Computation*, Vol. 72, No. 241, pp. 1–15, 2003.
15. “*A mathematical model for irrigated epicardial radiofrequency ablation*”. *Annals of Biomedical Engineering*, Vol. 30, Issue 7, pp. 884–893, 2002.
16. “*A mixed method for axisymmetric div-curl systems*”, (with D. Copeland and J. E. Pasciak). *Mathematics of Computation*. To appear (2008)
17. “*Multigrid convergence for smooth complex coefficients*”, (with J. E. Pasciak). *Computer Methods in Applied Mechanics and Engineering*. Submitted .
18. “*Why does early-stopping work?*”, (with W. Liu and J. C. Príncipe). *IEEE Transactions on Neural Networks*. Submitted.
19. “*Polynomial extension operators: Part II*”, (with L. Demkowicz and J. Schöberl). *SIAM Journal on Numerical Analysis*. Submitted.
20. “*Asymptotic and numerical techniques for resonances of thin photonic structures*”, (with S. Moskow and F. Santosa). *SIAM Journal on Applied Mathematics*. Submitted.
21. “*Polynomial extension operators: Part I*”, (with L. Demkowicz and J. Schöberl). *SIAM Journal on Numerical Analysis*. Submitted.
22. “*Unified hybridization of DG, mixed, and CG methods for second order elliptic problems*”, (with B. Cockburn and R. Lazarov). Submitted.

RESEARCH PAPERS IN REFEREED CONFERENCE PROCEEDINGS:

1. “*The performance of a multigrid algorithm for the acoustic single layer equation*”, (with S. Gemmrich and N. Nigam). Accepted in the proceedings of ENUMATH 2007.
2. “*A multigrid algorithm for the acoustic single layer equation*”, (with S. Gemmrich and N. Nigam). In proceedings (refereed extended abstracts) of the Waves 2007 conference.
3. “*Application of unified DG analysis to preconditioning DG methods*”, (with G. Kanschat). In “K. J. Bathe, editor, *Computational Fluid and Solid Mechanics*” 2003, pp. 1943–1945. Proceedings of the Second MIT Conference on Computational Fluid and Solid Mechanics, Cambridge, MA, USA. Elsevier, 2003.
4. “*Multilevel preconditioners for the interior penalty method*”, (with G. Kanschat). In “*Numerical Mathematics and Advanced Applications*”, F. Brezzi, A. Buffa, S. Corsaro, and A. Murli, eds., Milano, Springer Italia, (Proceedings of ENUMATH 2001) pp. 795–804, 2003.

RESEARCH SUPPORT (2002-present)

National Science Foundation (DMS-0713833), “Frontiers of finite element methods”, (July 1, 2007–June 30, 2010), 162,901 (Sole investigator).

Ministerio de Ciencia y Tecnología (Spain), “Adaptatividad Automática *hp* en Tres Dimensiones para el Análisis de Dispositivos Pasivos y Radiantes de Microondas”, (December 2007–December 2010), 85,063, One of 12 co-investigators. (PI: Luis E. García-Castillo, Universidad Carlos III de Madrid).

National Science Foundation (DMS–0619080), “SCREMS: Developing computational mathematics at the University of Florida”, (August 1, 2006–July 31, 2009), 81,000, PI, leading a group of four co-investigators, (Equipment only grant).

National Science Foundation (DMS–0410030), “Improving mixed methods by hybridization and multi-grid techniques”, (September 1, 2004–August 31, 2007), 139,654 (Sole investigator).

Ministerio de Ciencia y Tecnología (Spain), “Simulador electromagnetico haciendo uso de procedimientos autoadaptativos *hp*”, (January 1, 2005–December 31, 2007), 48,400, One of eight co-investigators (PI: Luis E. García-Castillo, Universidad de Alcalá).

Medtronic Inc., “Finite element modeling of irrigated ablation devices”, (January 1, 2003–December 31, 2004), 20,000 (Sole investigator, Full overhead return to the university.)

National Science Foundation (DMS–0324609), “University of Florida 2003/2004 Special Year in Mathematics”, (October 1, 2003–September 30, 2004), 30,000, One of four co-investigators (PI: William W. Hager, University of Florida).

Stan Uryasev
Professor
Department of Industrial and Systems Engineering
University of Florida, Gainesville, Florida

CONTRACT AND GRANTS:

Detecting and Jamming Dynamic Communication Networks in Anti-Access Environments (2008 - 2011) - *Source of Funds:* Air Force (AFOSR).

Percentile-based Risk Management Approaches in Discrete Decision-making Problems (2005 - 2008) - *PI:* Stan Uryasev. *Source of Funds:* NSF.

Eavesdropping (or Jamming) of Communication Networks (2005 - 2008) - *Source of Funds:* Air Force (AFOSR).

Conference on Risk Management and Quantitative Approaches in Finance (2005 - 2005) - *Source of Funds:* NSF.

Risk Management and Conditional Value-at-Risk: Methodology, Application & Software (2003 - 2004) - *Source of Funds:* International Center for Automated Information Research.

Equipment for Defense Related Projects Conducted by the Risk Management and Financial Engineering Lab (2003 - 2004) - *Source of Funds:* Air Force (AFOSR).

Conference on Modeling, Optimization and Risk Management in Finance (2003 - 2004) - *Source of Funds:* NSF.

UNIVERSITY OF FLORIDA GOVERNANCE AND SERVICE:

2001-Present Member of the Faculty Recruitment Committee for the ISE Department.

1998-Present Member, Chair of the Library Committee for the College of Engineering.

1999-2004 Commencement Marshal for the College of Engineering.

QUANTITATIVE FINANCE PROGRAM AT UF:

Organizer and director of the interdisciplinary Quantitative Finance Ph.D. program involving the departments of Industrial and Systems Engineering, Mathematics, Statistics and Finance, Insurance, and Real Estate of the Business School. This interdisciplinary Ph.D. program trains students for academic and research positions in the quantitative finance and risk management areas. It is focused on teaching and research, design, development, and implementation of new financial and risk management products, processes, strategies, and systems to meet the demands of various institutions, corporations, governments, and households. For a detailed description of the program see the following website: <http://www.ise.ufl.edu/rmfe/co-major.html>.

PH.D. STUDENTS:

I attracted top Ph.D. students to the Ph.D. program with concentration in quantitative finance at the University of Florida. I have graduated three Ph.D. students: M. Zabaranin, P. Krokhmal and V. Bugera. Dr. M. Zabaranin holds a tenure track assistant professor position at the Stevens Institute of Technology, Hoboken, NJ. Dr. P. Krokhmal holds a tenure track assistant professor position at the University of Iowa, Iowa City, IA. Dr. Vladimir Bugera and Dr. Sergey Sarykalin hold analyst positions at the American Express Cards in Phoenix, AZ. Dr. Jonathon Wang holds an analyst position at the Teleos Asset Management in Greenwich, CT. Currently, I am supervising four Ph.D. students.

TEACHING:

1. Introduction to Stochastic Optimization (graduate course);
2. Advanced Engineering Economy (graduate course);
3. Engineering Economy (undergraduate course);
4. Introduction to Financial Engineering (undergraduate course).

RISK MANAGEMENT AND FINANCIAL ENGINEERING (RMFE) LAB:

Organizer and director of the RMFE Lab (interdepartmental unit organized in 2000). Website of the RMFE Lab: www.ise.ufl.edu/rmfe. Mission of the RMFE Lab:

facilitate research and applications in the area of risk management, financial engineering and mathematics;

provide a basis for the collaborative efforts of the multidisciplinary team of UF researchers and industrial partners;

provide access to the state-of-the-art risk management and financial engineering software to improve research capabilities and the teaching process;

support activities of the interdisciplinary Quantitative Finance Ph.D. program.

EDITORSHIPS 2006-Present:

Editor in Chief of the Journal of Risk

2006-Present Associate Editor of the Journal of Risk Management in Financial Institutions

2005-Present Associate Editor of the Journal of Risk Finance

1998-Present Associate Editor of the Journal of Global Optimization

ORGANIZATION OF CONFERENCES AND SEMINARS:

Fall 2000 present, organizer of the seminar series in the framework of activities of the Risk Management and Financial Engineering (RMFE) Lab. The seminar series is focused on recent developments in financial modeling, optimization and relevant applications. Seminar site: www.ise.ufl.edu/rmfe/seminar.html.

Organizer of the International Conference on Financial Engineering, Gainesville, FL, March, 2006.

Organizer of the International Workshop: Tutorials on Financial Engineering, Gainesville, FL, March, 2006.

Organizer of the International Conference on Risk Management and Quantitative Approaches in Finance, Gainesville, FL, April, 2005.

Organizer of 4 Invited Sessions on Financial Modeling at INFORMS meetings (Denver, CO, October, 2004; Atlanta, GA, October, 2003; San Jose, CA, November, 2002; Miami, FL, November, 2001).

Organizer of 5 workshops on Integrated Risk-Return Management: New Approach to Management of Bank Portfolios, (November, 2002; March, 2003; December, 2003; July 2004; April 2005).

Member of International Scientific Committee of International Stochastic Programming Conference, Tucson, AZ, November, 2003.

Organizer of the invited session on Conditional Value-at-Risk at Eastern Finance Association, Lake Buena Vista, FL, April, 2003.

Organizer of the Conference on Modeling, Optimization and Risk Management in Finance, Gainesville, FL, March, 2003. This conference was concentrated on recent developments in risk management and finance applications. Article V.

REVIEWER:

Journal of Banking and Finance, Annals of Operations Research, Mathematical Programming, SIAM Journal of Optimization, Journal of Economic Dynamics and Control, Journal of Global Optimization, Management Science, The Journal of Risk, European Journal of Operations Research.

Israel Science Foundation

National Science Foundation, reviewer on panels

HONORS:

2003 The Boeing Company Bronze Phantom Award. In recognition of contributions in creating the future of aerospace.

MEMBERSHIP IN PROFESSIONAL SOCIETIES:

1. American Finance Association (AFA)

2. International Association of Financial Engineers (IAFE)
3. Bachelier Finance Society (BFS)
4. Southern Finance Association (SFA)
5. Financial Management Association (FMA)
6. Institute for Operations Research and the Management Sciences (INFORMS)
7. Society for Industrial and Applied Mathematics (SIAM)

PUBLICATIONS (2002 present):

Books, Contributor of Chapter(s)

1. Bugera, V., Uryasev S. and G. Zrazhevsky. Classification Using Optimization: Application to Credit Rating of Bonds. E.J. Konthoghiorghes, et al (Eds) Computational Methods in Financial Engineering, Springer Publishers, accepted for publication (2008).
2. Golodnikov, A., Macheret, Y., Trindade, A., Uryasev, S., and G. Zrazhevsky. Estimating the Probability Distributions of Alloy Impact Toughness: a Constrained Quantile Regression Approach. D. Grundel, et al (Eds) Advances in Cooperative Control and Optimization, World Scientific, (2006), pp. 303-318.
3. Trindade A., and S. Uryasev. Combining Model and Test Data for Optimal Determination of Percentiles and Allowables: CVaR Regression Approach. A.J. Kurdila, et al (Eds) Part I. Robust Optimization-Directed Design, Vol. 81, Springer Publishers, (2006), pp. 179-208.
4. Trindade A., and S. Uryasev. Combining Model and Test Data for Optimal Determination of Percentiles and Allowables: CVaR Regression Approach. A.J. Kurdila, et al (Eds) Part II. Robust Optimization-Directed Design, Vol. 81, Springer Publishers, (2006), pp. 209-247.
5. Krokhmal, P., Murphey, R., Pardalos, P. and S. Uryasev, Use of Conditional Value-at-Risk in Stochastic Programs with Poorly Defined Distributions, S. Butenko et al (Eds.) Recent Developments in Cooperative Control and Optimization, Kluwer Academic Publishers, (2004), pp. 225-241.
6. Krokhmal, P., Murphey, R., Pardalos, P., Uryasev, S., and G. Zrazhevsky, Robust Decision Making: Addressing Uncertainties in Distributions, S. Butenko, et al (Eds.) Cooperative Control: Models Applications and Algorithms, Kluwer Academic Publishers, (2003), pp.165-185.
7. Krokhmal, P., Uryasev, S., and G. Zrazhevsky, Numerical Comparison of CVaR and CDaR Approaches: Application to Hedge Funds, W.T. Ziemba (Ed.), The Stochastic Programming Approach to Asset Liability and Wealth Management, AIMR/Blackwell Publisher, (2003), pp. 143-152.
8. Testuri, C.E. and S. Uryasev, On Relation between Expected Regret and Conditional Value-At-Risk, Z. Rachev (Ed.), Handbook of Numerical Methods in Finance, Birkhauser, (2003), pp. 17-23.
9. Chekhlov, A., Uryasev, S., and M. Zabaranin, Portfolio Optimization with Drawdown Constraints, B. Scherer (Ed.), Asset and Liability Management Tools, Risk Books, London, (2003), pp. 1-17.

10. Larsen, N., Mausser H., and S. Uryasev, Algorithms for Optimization of Value-at-Risk, P. Pardalos and V.K. Tsitsiringos, (Eds.), Financial Engineering, E-commerce and Supply Chain, Kluwer Academic Publishers, (2002), pp.29-157.
11. H. Konno, J. Gotoh, S. Uryasev and A. Yuki, Failure Discrimination by Semi-Definite Programming, P. Pardalos and V. K. Tsitsiringos, (Eds.), Financial Engineering, E-commerce and Supply Chain, Kluwer Academic Publishers, (2002), 379-396.
12. Zabaranin, M., Uryasev, S., and P. Pardalos, Optimal Risk Path Algorithms, R. Murphey and P. Pardalos (Eds.) Cooperative Control and Optimization. Kluwer Academic Publishers, (2002), pp.273-303.

Refereed Journal Publications

1. Rockafellar, R.T., Uryasev S. and M. Zabaranin. Risk Tuning With Generalized Linear Regression. Mathematics of Operations Research. Accepted for Publication, (2008).
2. Liu, J., Men, C., Cabrera V.E., Uryasev, S. and C.W. Frasier. Optimizing Crop Insurance under Climate Variability. Journal of Applied Meteorology and Climatology. Accepted for Publication, (2008).
3. Wang C.-J. and S. Uryasev. Efficient Execution in the Secondary Mortgage Market: a Stochastic Optimization Model Using CVaR Constraints. The Journal of Risk. Vol. 10 1, (2007).
4. Trindade A., Uryasev, S. Shapiro, A. and G. Zrazhevsky. Financial Prediction with Constrained Tail Risk. Journal of Banking and Finance, 31 (11), Nov (2007), pp. 3524-3538.
5. Rockafellar, R.T., Uryasev S. and M. Zabaranin. Equilibrium with Investors Using a Diversity of Deviation Measures. The Journal of Banking and Finance, 31 (11), Nov (2007), pp. 3251-3268.
6. Commander, C.W. Pardalos, P.M., Ryabchenko, V., Uryasev, S. and G. Zrazhevsky. The Wireless Network Jamming Problem. Journal of Combinatorial Optimization. Vol. 14, 4, (2007), pp. 481-498.
7. Chen, G., Daskin M., Shen M. and S. Uryasev. The alpha-Reliable Mean-excess Regret Model for Stochastic Facility Location Modeling. Naval Research Logistics, Vol. 53, 7, October (2006).
8. Zabaranin, M., Uryasev, S. and R. Murphey. Aircraft Routing under the Risk of Detection. Naval Research Logistics, Vol. 53 (DOI: 10.1002/nav.20165) (2006), pp. 728-747.
9. Rockafellar, R. T., Uryasev, S. and M. Zabaranin, Optimality Conditions in Portfolio Analysis with Generalized Deviation Measures, Mathematical Programming, V. 108, 2-3, (2006), pp. 515-540.
10. Krokhmal P. and S. Uryasev. A Sample-Path Approach to Optimal Position Liquidation. Annals of Operations Research, Published Online (2006), pp. 1-33.
11. Trindade, A. and S. Uryasev. Improved Tolerance Limits by Combining Analytical and Experimental Data: an Information Integration Methodology, The Journal of Data Science, 4(3) (2006), pp. 371-386.
12. Rockafellar, R. T., Uryasev, S. and M. Zabaranin, Generalized Deviations in Risk Analysis, Finance and Stochastics, Vol. 10, (2006), pp. 51-74.

13. Rockafellar, R. T., Uryasev, S. and M. Zabarankin, Master Funds in Portfolio Analysis with General Deviation Measures, *The Journal of Banking and Finance*, Vol. 30, 2 (2006).
14. Commander, C.W. Pardalos, P.M., Ryabchenko, V., Shylo, O., Uryasev, S. and G. Zrazhevsky. Jamming Communication Networks under Complete Uncertainty. *Optimization Letters*. Published online, (2006), pp. 1-18.
15. Butenko, S., Golodnikov, A. and S. Uryasev, Optimal Security Liquidation Algorithms, *Computational Optimization and Applications*, Vol. 32, 1-2, (2005), pp. 927.
16. Golodnikov, A., Macheret, Y., Trindade, Uryasev, S. and G. Zrazhevsky, Statistical Modeling of Composition and Processing Parameters for Alloy Development, *Modeling and Simulation in Material Science and Engineering*, 13, (2005), pp. 633-644.
17. Chekhlov, A., Uryasev, S., and M. Zabarankin, Drawdown Measure in Portfolio Optimization, *International Journal of Theoretical and Applied Finance* V. 8, 1, (2005), pp. 13-58
18. Ryabchenko V., Sarykalin S., and S. Uryasev. Pricing European Options by Numerical Replication: Quadratic Programming with Constraints. *Asia-Pacific Financial Markets*, Vol. 11, 3, (2004).
19. Chen, G., Uryasev, S. and T. Young, On Prediction of the Cesarean Delivery Risk in a Large Private Practice, *American Journal of Obstetrics and Gynecologists*, 191/2, (2004), pp. 624-632.
20. Theiler, U. and S. Uryasev, Credit Risk Management Barriers, *GARP Risk Review*, (2003), pp. 22-26.
21. Bugera, V., Konno H., and S. Uryasev, Credit Cards Scoring with Quadratic Utility Function, *Journal of Multi-Criteria Decision Analysis (Special Issue on MCDA Methodologies in Finance)*, 11, (2002), pp. 197-211.
22. Krokhmal, P., Uryasev, S., and G. Zrazhevsky, Risk Management for Hedge Fund Portfolios: A Comparative Analysis of Linear Portfolio Rebalancing Strategies, *Journal of Alternative Investments*, V.5, 1, (2002), pp.10-29.
23. Krokhmal, P., Palmquist, J., and S. Uryasev, Portfolio Optimization with Conditional Value-At-Risk Objective and Constraints, *The Journal of Risk*, Vol. 4, No. 2, (2002), pp. 11-27.
24. Rockafellar, R. T. and S. Uryasev, Conditional Value-at-Risk for General Loss Distributions, *The Journal of Banking and Finance*, 26/7, (2002), pp. 1443-1471.

Refereed Conference Proceedings

1. Theiler, U., Bugera, V., Revenko, A., and S. Uryasev, Regulatory Impacts on Credit Portfolio Management, *Operations Research Proceedings 2002, Selected Papers of the Symposium on Operations Research (OR 2002)*, Berlin, pp. 20-26.

Non-refereed Publications (Newspapers and Working Papers)

1. Wang C.-J. and S. Uryasev. Efficient Execution in the Secondary Mortgage Market: a Stochastic Optimization Model Using CVaR Constraints. Research Report 2006-5, ISE Dept., University of Florida, May 2006

2. Liu, J., Men, C., Cabrera, V. E., Uryasev, S., and C. W. Frayse. CVaR Model for Optimizing Crop Insurance under Climate Variability. Research Report 2006-1, ISE Dept., University of Florida, January 2006.
3. Wang, C.-J. and S. Uryasev. Best Execution in Mortgage Secondary Markets. Research Report 2005-3, ISE Dept., University of Florida, March, 2005.
4. Trindade, A., Uryasev, S and G. Zrazhevsky, Controlling Risk via Asymmetric Residual Error Tail Constraints with an Application to Financial Returns, Research Report 2004-1, ISE Dept., University of Florida, March, 2004, pp. 1-22.
5. Bugera, V., Uryasev, S. and G. Zrazhevsky, Classification Using Optimization: Application to Credit Ratings of Bonds, Research Report 2003-14, ISE Dept., University of Florida, September, 2003, pp. 1-24.
6. Murphey, R., Zabarankin, M. and S. Uryasev, Trajectory Optimization in a Threat Environment, Research Report 2003-9, ISE Dept., University of Florida, July, 2003, pp. 1-25.
7. Rockafellar, R. T., Uryasev, S. and M. Zabarankin, Deviation Measures in Generalized Linear Regression, Research Report 2002-9, ISE Dept., University of Florida, December, 2002, pp. 1-18.
8. Rockafellar, R. T., Uryasev, S. and M. Zabarankin, Deviation Measures in Risk Analysis and Optimization, Research Report 2002-7, ISE Dept., University of Florida, December, 2002, pp. 1-27.

PRESENTATIONS AT CONFERENCES/MEETINGS (2002 - 2006):

Invited Conference Presentations International

1. IIASA day in Honor of Ermoliev. Vienna, Austria, (October 2006)
2. Conference on Risk Measures. Evry, France, (July 2006)
3. CARISMA 2006 Research and Postgraduate Training meeting. London, England (May 2006)
4. Risk Management Workshop. Middlesex University, London, England (October 2005)
5. International Risk Management Workshop. Carnegie Melon University. Pittsburg, PA, (July 2005).
6. Global Association of Risk Professionals. New York, NY (July 2005)
7. International Workshop on Optimization in Finance, Coimbra, Portugal, (July, 2005).
8. International Risk Management Workshop, Carnegie Melon University, Pittsburg, PA, (July 2005).
9. New Directions in Risk Modeling and Financial Planning, London, UK, (May, 2005).
10. Risk Management and Quantitative Approaches in Finance, Gainesville, FL, (April, 2005).
11. Computational Management Science, Gainesville, FL, (March 2005).
12. Winter Simulation Conference, Washington DC, (December, 2004).
13. INFORMS Meeting, Denver, CO, (October, 2004).

14. Tenth Stochastic Programming Conference, Tucson, AZ, (October, 2004).
15. Columbia-Japanese Association of Financial Engineers Conference, New York, NY, (October, 2004).
16. International School on Modeling and Analysis of Safety and Risk in Complex Systems, St. Petersburg, Russia, (October, 2004).
17. International Conference on Robust Optimization-Directed Design, Shalimar, FL, (April, 2004).
18. 4th Annual International Conference on Cooperative Control and Optimization. Sandestin, FL, (November, 2003).
19. EU-workshop on Modeling and Optimization for Financial Institutions, Vienna, Austria, (January, 2003).
20. INFORMS Meeting, San Jose, CA, (November, 2002).
21. International Conference on Financial Engineering, E-commerce & Supply Chain, Athens, Greece, (June, 2002).
22. Fifth Columbia Jaffe Mathematics of Finance Conference, New York, NY, (April, 2002).
23. Fields Institute, International Conference on Computational Challenges in Mathematical Finance, Toronto, Canada, (February, 2002).
24. Global Association of Risk Professionals 3rd Annual Risk Management Convention and Exhibition, New York, NY, (February, 2002).

Invited Conference Presentations National

1. Cooperative Control, Gainesville, FL (January, 2006)
2. Cooperative Control and Optimization, Gainesville, FL (February, 2006)
3. Control and Optimization, Gainesville, FL (January, 2005)
4. Eastern Finance Association, Lake Buena Vista, FL, (April, 2003).

Contributed Conference Presentations International

1. Bachelier Finance Society Third World Congress, Chicago, IL, (July 2004).
2. Dependence Modeling Statistical Theory and Applications in Insurance and Finance, Qubec, Canada, (May, 2004).
3. German/Austrian Association of Operations Research, Klagenfurt, Austria, (September, 2002).

Contributed Conference Presentations National

1. Southern Finance Association. Key West, FL, (November, 2005)
2. Southern Finance Association meeting, Key West, FL, (November, 2005).

3. American Agricultural Economics Association Annual Meeting, Denver, CO, (August, 2004).
4. Southern Finance Association, Key West, FL, (November, 2002).

Invited Presentations at Universities and Research Labs International

1. University of Washington. Seattle, WA (October, 2006)
2. Princeton University. Princeton, NJ (September, 2006)
3. Middlesex University, London, UK, (October, 2005).
4. London School of Economics, UK, (May, 2005).
5. Imperial College, London, UK, (May, 2005).
6. Brunel University, London, UK, (May, 2005).
7. Kiev University, Kiev, Ukraine, (February, 2005).
8. University of Brescia, Brescia, Italy, (May, 2004).
9. Imperial College, London, UK, (May, 2004).
10. Norwegian University of Science and Technology, Trondheim, Norway, (October, 2002).

Invited Presentations at Universities and Research Labs National

1. University of Illinois at Chicago. Chicago, IL, (April, 2006).
2. SUNY at Stony Brook. Stony Brook, NY (April, 2006)
3. Georgia Tech. Atlanta, GA (February, 2006)
4. University of Michigan, Ann Arbor, MI, (April, 2005)
5. University of Chicago, Chicago, IL, (November, 2004).
6. University of Washington, Seattle, WA, (May, 2004).
7. University of Tennessee, Knoxville, TN, (April, 2004).
8. University of Florida, Dept. of Agriculture Engineering, Gainesville, FL, (December, 2003).
9. Stevens Institute of Technology, Hoboken, NJ, (June, 2003).
10. Princeton University, Princeton, NJ, (June, 2003).
11. University of Washington, Seattle, WA, (May, 2003).
12. Princeton University, Princeton, NJ, (December, 2002).
13. Stevens Institute of Technology, Hoboken, NJ, (December, 2002).
14. Northwestern University, Evanston, IL, (October, 2002).

15. Washington University, Seattle, WA, (April, 2002).
16. University of Tennessee, Business School, Knoxville, TN, (March, 2002).

Invited Presentations at Industry and Practitioners Meetings International

1. S&P Credit Risk Summit. New York, NY (October 2006)
2. Standard and Poors. London, England (March 2006).
3. Old Mutual Asset Managers. London, England (October 2005).
4. Global Association of Risk Professionals workshop, New York, NY, (July, 2005).
5. Old Mutual, London, UK, (October, 2005).
6. MYSIS, London, UK, (May, 2005).
7. HSBC, London, UK, (May, 2005).
8. Credit Risk Asia, Singapore, Singapore, (March, 2005).
9. Global Risk Management Practices Conference, Moscow, Russia, (June, 2004).
10. III International Workshop on Risk Measurement and Control, Rome, Italy, (June, 2004).
11. The National Center for the Training of Bank Personnel of Ukraine, Kiev, Ukraine, (June, 2004).
12. Institutional Investors Summit on Risk Management & Performance Measurement, West Palm Beach, FL, (April, 2003).
13. Insurance-Based Hedge Funds, New York, NY, (December, 2002).
14. The Professional Risk Managers' International Association (PRMIA), Chicago, IL, (October, 2002).
15. The Petit Dejeuner de la Finance: a seminar organized by Frontiers in Finance, Paris, France, (October, 2002).
16. Hedge Fund Forum, New York, NY, (June, 2002).
17. Global Association of Risk Professionals 3rd Annual Risk Management Convention and Exhibition, New York, NY, (February, 2002).

Invited Presentations at Industry and Practitioners Meetings National

1. State Street Global Advisors. Boston, MA (June 2006)
2. Goldman Sacks. New York, NY (April 2006)
3. Air Force Office of Scientific Research meeting, St. Louis, MO, (August, 2005).
4. Standard and Poors, New York, NY, (October, 2004).
5. Citigroup Global Markets, New York, NY, (October, 2004).

6. Air Force Office of Scientific Research Conference, Pasadena, CA, (August, 2004).
7. Air Force Office of Scientific Research Meeting, Arlington, VA, (August, 2004).
8. Morgan Stanley, New York, NY, (October, 2004).
9. Ohio Savings Bank, Cleveland, OH, (January, 2004).
10. DARPA, Arlington, VA, (January, 2004).
11. Boeing, St. Louis, MO, (November, 2003).
12. Hedge Fund Meeting, New York, NY, (June, 2003).
13. Air Force Office of Scientific Research meeting, Estes Park, CO, (May, 2003).
14. Freddie Mac, McLean, VA, (July, 2002).
15. Air Force Office of Scientific Research seminar, Arlington, VA, (July, 2002).
16. CTC-Manhattan, New York, NY, (May, 2002).

CONSULTING:

Standard and Poors, USA

Barclays, UK

American Optimal Decisions (AOrDa.com), USA

RESUME (2002 - Present)**Edwin Romeijn**

Name : Hilbrand Edwin Romeijn
Current position : Professor, Department of Industrial and Systems Engineering
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WWW : <http://www.ise.ufl.edu/romeijn>
Place of birth : Katwijk aan Zee, The Netherlands
Date of birth : March 21, 1966
Nationality : Dutch
Permanent resident of the U.S.A.
Languages : Dutch, English

Professional employment

August 2006–present:

Professor, Department of Industrial and Systems Engineering, University of Florida, Gainesville, Florida.

August 2002–August 2006:

Associate Professor, Department of Industrial and Systems Engineering, University of Florida, Gainesville, Florida.

October 1999–August 2002:

Assistant Professor, Department of Industrial and Systems Engineering, University of Florida, Gainesville, Florida.

October 1993–September 1999:

Assistant Professor, Department of Decision and Information Sciences, Rotterdam School of Management, Erasmus University Rotterdam, Rotterdam, The Netherlands (with tenure from October 1995).

September 1992–September 1993:

Postdoctoral fellow, Department of Industrial Engineering and Operations Research, Columbia University, New York, New York.

June 1988–June 1992:

Assistant researcher (a.i.o.), Department of Operations Research, Econometric Institute/Tinbergen Institute, Erasmus University Rotterdam, Rotterdam, The Netherlands.

January 1986–May 1988:

Research/teaching assistant, Department of Econometrics, Econometric Institute, Erasmus University Rotterdam, Rotterdam, The Netherlands.

July–December 1985:

Teaching assistant, Department of Probability Theory and Statistics, Econometric Institute, Erasmus University Rotterdam, Rotterdam, The Netherlands.

Visiting positions

June 17–21, 2007:

Visiting scholar, Division of Optimization and Systems Theory, Department of Mathematics, Royal Institute of Technology (KTH), Stockholm, Sweden.

May 14–17, 2007:

Visiting scholar, Management School and Economics, University of Edinburgh, Edinburgh, U.K.

January–April 2007:

Visiting professor, Department of Civil and Environmental Engineering, Massachusetts Institute of Technology, Cambridge, Massachusetts.

November–December 2006:

Visiting scholar, Department of Industrial Engineering, University of Pittsburgh, Pittsburgh, Pennsylvania.

September–October 2006:

Visiting scholar, Department of Industrial Engineering and Operations Research, University of California, Berkeley, California.

August 12–19, 2005:

Visiting scholar, Saïd School of Business, University of Oxford, Oxford, U.K.

July 21–August 21, 2002:

Visiting professor, Department of Decision and Information Sciences, National University of Singapore, Singapore.

May 21–June 21, 2002:

Visiting professor, Faculty of Economics and Business Administration, Maastricht University, Maastricht, The Netherlands.

Honors and awards

Featured article (<http://iol-a.informs.org/site/OperationsResearch/>):

H.E. Romeijn, R.K. Ahuja, J.F. Dempsey, and A. Kumar. A new linear programming approach to radiation therapy treatment planning problems. *Operations Research* 54:2 (2006), 201–216.

2006 Industrial Engineering Research Conference Best Paper Award, Service Systems Track.

2005 Industrial Engineering Research Conference Best Paper Award, Logistics and Inventory Track.

2004 Young Investigator’s Award for paper presented at the International Conference on the use of

Computers in Radiotherapy (ICCR) in Seoul, Korea, May 2004.

2003 Pierskalla Best Paper Award, INFORMS Health Applications Section.

Professional activities

Chair and graduate coordinator, ISE Department graduate committee (August 2004–August 2006)

Member, ISE Department graduate committee (January 2001–August 2004)

Chair, ISE Department ABET committee (January 2001–August 2004)

Member, ISE Department ABET committee (August 2004–August 2005; August–December 2000)

Guest Editor (with Stefanos Zenios), *Operations Research*, Special issue on “Operations Research in Health Care”.

Guest Editor, *Journal of Global Optimization* 26:1 (2003), Special issue on “Supply Chain Optimization”.

Associate Editor of *International Journal of Inventory Research* (2006–present).

Associate Editor of *Journal of Global Optimization* (1994–present).

Treasurer, INFORMS Health Applications Section (2005).

Sponsored cluster organizer (with Jay Rosenberger), INFORMS, Seattle, Washington (2007).

Invited session chairman, INFORMS, Seattle, Washington (2007).

Invited cluster organizer, INFORMS International, Puerto Rico (2007).

Invited session chairman, INFORMS, Pittsburgh, Pennsylvania (2006).

Invited session chairman, 19th International Symposium on Mathematical Programming, Rio de Janeiro, Brazil (2006).

Invited session chairman, INFORMS International, Hong Kong (2006).

Invited session chairman, Industrial Engineering Research Conference, Orlando, Florida (2006).

Invited session chairman, INFORMS, San Francisco, California (2005).

Invited session chairman, IFORS, Honolulu, Hawaii (2005).

Invited session chairman, SIAM Optimization, Stockholm, Sweden (2005).

Invited session chairman, INFORMS, Denver, Colorado (2004).

Ph.D. students (current)

Ehsan Salari (Co-chairman with J. Cole Smith). Expected graduation: Summer 2011.

Chunhua Men (Chairman). Expected graduation: Summer 2009.

Mehmet Önal (Chairman). Expected graduation: Summer 2009.

Chase Rainwater (Co-chairman with Joseph Geunes). Expected graduation: Summer 2009.

Thomas Sharkey (Chairman). Expected graduation: Summer 2008. National Science Foundation Graduate Research Fellowship recipient. 2007 ISE Graduate Student Research Award recipient.

Kanya Auckara-aree (Co-chairman with Rein Boondiskulchok). Collection station location and vehicle routing optimization in the natural rubber industry. Expected graduation: Summer 2008.

Committee member for: Semra Ağralı, Alex Grasas, Alla Kammerdiner, Caner Taşkın, Mehmet Yesildağ.

Ph.D. students (graduated)

Dionne M. Aleman, *Optimization Methods in Intensity Modulated Radiation Therapy Treatment Planning*. August 20, 2007 (Chairman). National Science Foundation Graduate Research Fellowship recipient. Assistant Professor, Department of Mechanical and Industrial Engineering, University of Toronto, Toronto, Ontario, Canada.

Zeynep Sargut, *Efficient Approaches to Integrated Requirements Planning Problems in Supply Chain Optimization*. July 17, 2006 (Chairman). Project Manager, Innovative Scheduling, Gainesville, Florida.

Ghina M. Yamout, *Applications of Single Party and Multiple Party Decision Making Under Risk and Uncertainty to Water Resources Allocation Problems*. August 22, 2005 (Co-Chairman with Kirk Hatfield). Senior Water Resources Specialist, Parsons Transportation Group, Phoenix, Arizona.

Arvind Kumar, *Novel Models for Intensity Modulated Radiation Therapy Treatment Planning*. July 8, 2005 (Co-Chairman with Ravindra K. Ahuja). Research Director, Innovative Scheduling, Gainesville, Florida.

Jie Cao, *Stochastic Inventory Control in Dynamic Environments*. June 24, 2005 (Chairman). Senior Analyst, FedEx Services, Memphis, Tennessee.

Huang Wei, *Optimization Models for Sourcing Decisions in Supply Chain Management*. July 19, 2004 (Chairman). Research Director, Innovative Scheduling, Gainesville, Florida.

Sombat Sindhuchao, *An Integrated Inventory-Transportation System for Multi-item Joint Replenishment with Limited Vehicle Capacity*. March 8, 2004 (Co-Chairman with Rein Boondiskulchok). Lecturer, Department of Industrial Engineering, Ubonratchathani University, Ubonratchathani, Thailand.

Sandra Duni Ekşioğlu, *Optimizing Integrated Production, Inventory and Transportation Problems in Supply Chains*. August 26, 2002 (Co-Chairman with Panos M. Pardalos). Assistant Professor, Department of Industrial and Systems Engineering, Mississippi State University, Mississippi State, Mississippi.

Other advisement activities

Postdoctoral visitor:

Wilco van den Heuvel (January–August 2007); Econometric Institute, Erasmus University Rotterdam, The Netherlands.

Visiting scholar:

Robert Rooderkerk (September 2001–May 2002); Econometric Institute, Erasmus University Rotterdam, The Netherlands.

Visiting Master's students:

Daniel Glaser (September–December 2004), Erik Lögdberg (September–December 2003), Johan Wallgren (September–December 2002).

Current research activities and interests

Optimization approaches to radiation therapy treatment planning (with James Dempsey (University of Florida)).

Supply chain optimization (with Joe Geunes (University of Florida), Wilco van den Heuvel (Erasmus University Rotterdam), Dolores Romero Morales (University of Oxford), Max Shen (University of California at Berkeley), and Kevin Taaffe (Clemson University)).

Network flow problems in infinite networks (with Robert Smith (The University of Michigan) and Archis Ghate (University of Washington)).

A stochastic programming approach to Asset Liability Management (with Stan Uryasev (University of Florida) and Guus Boender (Free University of Amsterdam and ORTEC Consultants)).

Active research funding

National Science Foundation, “Intensity Modulated Radiation Therapy: integrated models and algorithms” (PI, with co-PI James F. Dempsey), US 249,816, 7/2005–6/2008. CIEG Supplement, US 15,000 (direct costs).

National Science Foundation, “Solving tactical logistics planning problems under uncertainty” (PI, with co-PI Joseph Geunes), US 245,984, 5/2004–4/2008.

Past research funding

Florida Department of Health, “Optimization of proton therapy treatment planning” (co-PI, with PI James F. Dempsey), US 429,275, 8/2004–6/2007.

Varian Medical Systems, “Efficient global fluence map optimization” (co-PI, with PI James F. Dempsey), US 143,532, 12/2004–11/2005.

Motorola, “A simulation tool for improving operations planning at Motorola GTSS” (co-PI, with PI Joseph Geunes), US 44,000, 2003.

Motorola, “Motorola Global Telecommunications Solutions Sector inventory optimization” (co-PI, with PI Joseph Geunes and co-PI Elif Akçalı), US 35,000, 2002–2003.

National Science Foundation, “Solving large-scale logistics problems in real-time — models, algorithms and information systems” (PI, with co-PI Ravindra K. Ahuja), US 102,890, 9/2000–9/2002.

St. John’s River Water Management District, “Development of a water supply operation management system for the city of Cocoa water resource department” (co-PI, with PI Kirk Hatfield), US 142,047, 7/2000–7/2002.

Pending research funding

National Science Foundation, “Analysis of integrated supply and demand management strategies for perishable products” (co-PI, with PI Amar Sapro).9/2008–9/2011.

Publications in refereed journals

- [1] D.M. Aleman, H.E. Romeijn, and J.F. Dempsey. A response surface approach to beam orientation optimization in Intensity Modulated Radiation Therapy treatment planning. Forthcoming in *INFORMS Journal on Computing*.
- [2] D.M. Aleman, A. Kumar, R.K. Ahuja, H.E. Romeijn, and J.F. Dempsey. Neighborhood search approaches to beam orientation optimization in Intensity Modulated Radiation Therapy treatment planning. Forthcoming in *Journal of Global Optimization*.
- [3] T. Bortfeld, D. Craft, J.F. Dempsey, T. Halabi, and H.E. Romeijn. Evaluating target cold spots by use of tail EUDs. Forthcoming in *International Journal of Radiation Oncology Biology Physics*.
- [4] T.C. Sharkey and H.E. Romeijn. Simplex-inspired algorithms for solving a class of convex programming problems. Forthcoming in *Optimization Letters*.
- [5] J. Geunes, Y. Merzifonluoğlu, and H.E. Romeijn. Capacitated procurement planning with price-sensitive demand and general concave revenue functions. Forthcoming in *European Journal of Operational Research*.
- [6] I.S. Bakal, J. Geunes, and H.E. Romeijn. Market selection and inventory decisions under price-sensitive demand. Forthcoming in *Journal of Global Optimization*.
- [7] T.C. Sharkey and H.E. Romeijn. A simplex method for minimum-cost network-flow problems in infinite networks. Forthcoming in *Networks*.
- [8] K. Taaffe, J. Geunes, and H.E. Romeijn. Target market selection with demand uncertainty: the selective newsvendor problem. *European Journal of Operational Research* 189:3 (2008), 987–1003.
- [9] H.S. Li, H.E. Romeijn, C. Fox, J.R. Palta, and J.F. Dempsey. A computational implementation and comparison of several intensity modulated proton therapy treatment planning algorithms. *Medical Physics* 35:3 (2008), 1103–1112.

- [10] G.J. Burke, J. Geunes, H.E. Romeijn, and A.J. Vakharia. Allocating procurement to capacitated suppliers with concave quantity discounts. *Operations Research Letters* 36:1 (2008), 103–109.
- [11] C. Men, H.E. Romeijn, Z.C. Taşkın, and J.F. Dempsey. An exact approach to direct aperture optimization in IMRT treatment planning. *Physics in Medicine and Biology* 52:24 (2007), 7333–7352.
- [12] F.Z. Sargut and H.E. Romeijn. Capacitated production and subcontracting in a serial supply chain. *IIE Transactions* 39:11 (2007), 1031–1043.
- [13] G.M. Yamout, K. Hatfield, and H.E. Romeijn. Comparison of new Conditional Value-at-Risk based risk management models for optimal allocation of uncertain water supplies. *Water Resources Research* 43:7 (2007), W07430.
- [14] F.Z. Sargut and H.E. Romeijn. Lot-sizing with nonstationary cumulative capacities. *Operations Research Letters* 35:4 (2007), 549–557.
- [15] Y. Merzifonluoğlu, J. Geunes, and H.E. Romeijn. Integrated capacity, demand, and production planning with subcontracting and overtime options. *Naval Research Logistics* 54:4 (2007), 433–447.
- [16] R.K. Ahuja, W. Huang, H.E. Romeijn, and D. Romero Morales. A heuristic approach to the multi-period single-sourcing problem with production and inventory capacities and perishability constraints. *INFORMS Journal on Computing* 19:1 (2007), 14–26.
- [17] H.E. Romeijn, J. Geunes, and K. Taaffe. On a nonseparable convex maximization problem with continuous knapsack constraints. *Operations Research Letters* 35:2 (2007), 172–180.
- [18] S.D. Ekşioğlu, B. Ekşioğlu, H.E. Romeijn. A Lagrangean heuristic for integrated production and transportation planning problems in a dynamic, multi-item, two-layer supply chain. *IIE Transactions* 39:2 (2007), 191–201.
- [19] H.E. Romeijn, J. Shu, and C.P. Teo. Designing two-echelon supply networks. *European Journal of Operational Research* 178:2 (2007), 449–462.
- [20] F.Z. Sargut and H.E. Romeijn. Capacitated requirements planning with pricing flexibility and general cost and revenue functions. *Journal of Industrial and Management Optimization* 3:1 (2007), 87–98.
- [21] J. Choi, S.X. Bai, J. Geunes, and H.E. Romeijn. Manufacturing delivery performance for supply chain management. *Mathematical and Computer Modelling* 45 (2007), 11–20.
- [22] H.E. Romeijn, D. Sharma, and R.L. Smith. Extreme point characterizations for infinite network flow problems. *Networks* 48:4 (2006), 209–222.
- [23] S.D. Ekşioğlu, H.E. Romeijn, and P.M. Pardalos. Cross-facility management of production and transportation planning problem. *Computers & Operations Research* 33:11 (2006), 3231–3251.
- [24] H.S. Li, H.E. Romeijn, and J.F. Dempsey. A Fourier analysis on the optimal grid size for discrete proton beam dose calculation. *Medical Physics* 33:9 (2006), 3508–3518.
- [25] M.A. Odijk, H.E. Romeijn, and H. van Maaren. Generation of classes of robust periodic railway timetables. *Computers & Operations Research* 33:8 (2006), 2283–2299.
- [26] C. Fox, H.E. Romeijn, and J.F. Dempsey. Fast voxel and polygon ray-tracing algorithms for IMRT treatment planning. *Medical Physics* 33:5 (2006), 1364–1371.

- [27] J. Geunes, H.E. Romeijn, and K. Taaffe. Requirements planning with dynamic pricing and order selection flexibility. *Operations Research* 54:2 (2006), 394–401.
- [28] H.E. Romeijn, R.K. Ahuja, J.F. Dempsey, and A. Kumar. A new linear programming approach to radiation therapy treatment planning problems. *Operations Research* 54:2 (2006), 201–216.
- [29] A. Alonso Ayuso, L.F. Escudero, C. Pizarro, H.E. Romeijn, and D. Romero Morales. On solving the multi-period single-sourcing problem under uncertainty. *Computational Management Science* 3 (2006), 29–53.
- [30] J. Choi, J. Cao, H.E. Romeijn, J. Geunes, and S.X. Bai. A stochastic multi-item inventory model with unequal replenishment intervals and limited warehouse capacity. *IIE Transactions* 37:12 (2005), 1129–1141.
- [31] S. van Hoesel, H.E. Romeijn, D. Romero Morales, and A.P.M. Wagelmans. Integrated lot-sizing in serial supply chains with production capacities. *Management Science* 51:11 (2005), 1706–1719.
- [32] S. Sindhuchao, H.E. Romeijn, E. Akçalı, and R. Boondiskulchok. An integrated inventory-routing system for multi-item joint replenishment with limited vehicle capacity. *Journal of Global Optimization* 32:1 (2005), 93–118.
- [33] D.L.J. Alexander, D.W. Bulger, J.M. Calvin, H.E. Romeijn, and R.L. Sherriff. Approximate implementations of Pure Random Search in the presence of noise. *Journal of Global Optimization* 31:4 (2005), 601–612.
- [34] D.W. Bulger and H.E. Romeijn. Optimizing noisy objective functions. *Journal of Global Optimization* 31:4 (2005), 599–600.
- [35] H.E. Romeijn, R.K. Ahuja, J.F. Dempsey, and A. Kumar. A column generation approach to radiation therapy treatment planning using aperture modulation. *SIAM Journal on Optimization* 15:3 (2005), 838–862.
- [36] W. Huang, H.E. Romeijn, and J. Geunes. The Continuous-time Single-Sourcing Problem with capacity expansion opportunities. *Naval Research Logistics* 52:3 (2005), 193–211.
- [37] J.F. Dempsey, H.E. Romeijn, J.G. Li, D.A. Low, and J.R. Palta. A Fourier analysis of the dose grid resolution required for accurate IMRT fluence map optimization. *Medical Physics* 32:2 (2005), 380–388.
- [38] H.E. Romeijn, J.F. Dempsey, and J.G. Li. A unifying framework for multi-criteria fluence-map optimization models. *Physics in Medicine and Biology* 49:10 (2004), 1991–2013.
- [39] H.E. Romeijn and D. Romero Morales. Asymptotic analysis of a greedy heuristic for the multi-period single-sourcing problem: the acyclic case. *Journal of Heuristics* 10:1 (2004), 5–35.
- [40] J. Geunes, Z.J. Shen, and H.E. Romeijn. Economic ordering decisions with market selection flexibility. *Naval Research Logistics* 51:1 (2004), 117–136.
- [41] R. Freling, H.E. Romeijn, D. Romero Morales, and A.P.M. Wagelmans. A Branch and Price algorithm for the multi-period single-sourcing problem. *Operations Research* 51:6 (2003), 922–939.
- [42] H.E. Romeijn, R.K. Ahuja, J.F. Dempsey, A. Kumar, and J.G. Li. A novel linear programming approach to fluence map optimization in intensity modulated radiation therapy treatment planning. *Physics in Medicine and Biology* 48:21 (2003), 3521–3542.

- [43] H.E. Romeijn and D. Romero Morales. An asymptotically optimal greedy heuristic for the multi-period single-sourcing problem: the cyclic case. *Naval Research Logistics* 50:5 (2003), 412–437.

Refereed chapters in books

- [1] D.M. Aleman, H.E. Romeijn, and J.F. Dempsey. Beam orientation optimization methods in Intensity Modulated Radiation Therapy treatment planning. In: G. Lim and E.K. Lee, editors, *Optimization in Medicine and Biology* (2008).
- [2] J. Geunes, Y. Merzifonluoğlu, H.E. Romeijn, and K. Taaffe. Demand selection and assignment problems in supply chain planning. In: J.C. Smith, editor, *TutORials in Operations Research*, INFORMS (2005), 124–141.
- [3] D. Romero Morales and H.E. Romeijn. The Generalized Assignment Problem and extensions. In: D.Z. Du and P.M. Pardalos, editors, *Handbook of Combinatorial Optimization, supplement volume B*, Springer (2005), 259–311.
- [4] H.E. Romeijn and D. Romero Morales. A greedy heuristic for a three-level multi-period single-sourcing problem. In: A. Klose, M.G. Speranza, L.N. Van Wassenhove, editors, *Quantitative Approaches to Distribution Logistics and Supply Chain Management* (2002), 191–214. Springer-Verlag, Berlin, Germany.
- [5] P. Chaovalitwongse, H.E. Romeijn, and P.M. Pardalos. A scenario-based heuristic for a capacitated transportation-inventory problem with stochastic demands. In: E.J. Kontoghiorghes, B. Rustem, and S. Siokos, editors, *Computational Methods in Decision-Making, Economics and Finance* (2002), Kluwer Academic Publishers, Dordrecht, The Netherlands.
- [6] S.D. Ekşioğlu, P.M. Pardalos, and H.E. Romeijn. A dynamic slope scaling procedure for the fixed-charge cost multi-commodity network flow problem. In: P.M. Pardalos and V.K. Tsitsiringos, editors, *Financial Engineering, e-Commerce and Supply Chain* (2002), 247–270. Kluwer Academic Publishers, Dordrecht, The Netherlands.

Papers in refereed proceedings

- [1] S.B. Jiang, H.E. Romeijn, C. Men, N. Tyagi, J. Lewis, L. Tang, D.J. Choi, A. Majumdar, T. Pawlicki, C. Yashar, and A.J. Mundt. Towards on-line adaptive radiotherapy for cervical cancer. Forthcoming in: Y. Censor, M. Jiang, A.K. Louis, editors, *Proceedings of the Interdisciplinary Workshop on Mathematical Methods in Biomedical Imaging and Intensity-Modulated Radiation Therapy (IMRT)*, Centro di Ricerca Matematica Ennio De Giorgi, Pisa, Italy (2007).
- [2] T.C. Sharkey, H.E. Romeijn, and J. Geunes. Analysis of a class of nonlinear knapsack problems. In: *Proceedings of the IE Research Conference*, Orlando, Florida (2006).
- [3] D.M. Aleman, H.E. Romeijn, and J.F. Dempsey. A response surface-based approach to beam orientation optimization in IMRT treatment planning. In: *Proceedings of the IE Research Conference*, Orlando, Florida (2006).
- [4] D. Tirumalasetty, K. Taaffe, and H.E. Romeijn. All-or-nothing order selection with piecewise-linear cost functions. In: *Proceedings of the IE Research Conference*, Orlando, Florida (2006).

- [5] R. Levi, J. Geunes, H.E. Romeijn, and D. Shmoys. Joint inventory and facility location problems with market selection. In: M. Jünger and V. Kaibel, editors, *Integer Programming and Combinatorial Optimization*, Proceedings of the 11th International IPCO Conference, Berlin, Germany, June 8–10, 2005. Lecture Notes in Computer Science, vol. 3509 (2005), 111–124. Springer, Germany.
- [6] K. Taaffe, J. Geunes, and H.E. Romeijn. Market choice and advertising in a newsvendor setting. In: *Proceedings of the Manufacturing and Service Operations Management (MSOM) Conference*, Evanston, Illinois, 2005.
- [7] K. Taaffe, J. Geunes, and H.E. Romeijn. Capacity acquisition and stochastic customer demand assignment in a network of facilities. In: *Proceedings of the IE Research Conference*, Atlanta, Georgia (2005).
- [8] K. Taaffe and H.E. Romeijn. Selective newsvendor problems with all-or-nothing order requests. In: *Proceedings of the IE Research Conference*, Atlanta, Georgia (2005).
- [9] J. Cao and H.E. Romeijn. Joint pricing and inventory control in a Markov modulated demand environment. In: *Proceedings of the IE Research Conference*, Atlanta, Georgia (2005).
- [10] W. Huang, J. Geunes, and H.E. Romeijn. Multi-period production planning with product specification flexibility. In: *Proceedings of the IE Research Conference*, Houston, Texas (2004).
- [11] K. Taaffe, J. Geunes, and H.E. Romeijn. Market entrance and product ordering decisions under demand uncertainty. In: *Proceedings of the IE Research Conference*, Houston, Texas (2004).
- [12] H.E. Romeijn, J.F. Dempsey, and J.G. Li. On the equivalence of multi-criteria fluence map Optimization problems. In: B.Y. Yi, S.D. Ahn, E.K. Choi, and S.W. Ha, editors, *Proceedings of the 14th International Conference on the Use of Computers in Radiation Therapy (ICCR)*, Seoul, South Korea (2004), 714–717.
- [13] J.F. Dempsey, J.G. Li, H.E. Romeijn, D.A. Low, and J.R. Palta. A Fourier analysis of discretization errors in fluence map optimization for IMRT. In: B.Y. Yi, S.D. Ahn, E.K. Choi, and S.W. Ha, editors, *Proceedings of the 14th International Conference on the Use of Computers in Radiation Therapy (ICCR)*, Seoul, South Korea (2004), 240–243.
- [14] H.E. Romeijn, R.K. Ahuja, J.F. Dempsey, and A. Kumar. A rigorous approach to aperture modulation in IMRT treatment planning. In: B.Y. Yi, S.D. Ahn, E.K. Choi, and S.W. Ha, editors, *Proceedings of the 14th International Conference on the Use of Computers in Radiation Therapy (ICCR)*, Seoul, South Korea (2004), 169–173.
- [15] J. Geunes, H.E. Romeijn, and K. Taaffe. Models for integrated production planning and order selection. In: *Proceedings of the IE Research Conference*, Orlando, Florida (2002).

Books

- [1] P.M. Pardalos and H.E. Romeijn (editors). *Handbook of Optimization in Medicine* (in preparation), Springer, New York, New York.
- [2] J. Geunes, E. Akçalı, P.M. Pardalos, H.E. Romeijn, and Z.J. Shen (editors). *Applications of Supply Chain Management and e-Commerce Research* (2005), Springer, New York, New York.

- [3] P.M. Pardalos and H.E. Romeijn (editors). *Handbook of Global Optimization volume 2* (2002), Kluwer Academic Publishers, Dordrecht, The Netherlands.
- [4] J. Geunes, P.M. Pardalos, and H.E. Romeijn (editors). *Supply Chain Management: Models, Applications, and Research Directions* (2002), Kluwer Academic Publishers, Dordrecht, The Netherlands.

Published abstracts

- [1] C. Men, H.E. Romeijn, Z.C. Taşkın, J.F. Dempsey. Direct aperture optimization in IMRT treatment planning. *Medical Physics* 34:6, 2254. Poster presentation (C. Men) at the American Association for Physicists in Medicine (AAPM) annual meeting, Minneapolis, July 2007.
- [2] J.F. Dempsey, B. Dionne, J. Fitzsimmons, A. Haghigat, J.G. Li, D. Low, S. Mutic, J.R. Palta, H.E. Romeijn, G. Sjoden. A real-time MRI guided external radiotherapy delivery system. *Medical Physics* 33:6, 2254. Oral presentation (J.F. Dempsey) at the American Association for Physicists in Medicine (AAPM) annual meeting, Orlando, July 2006.
- [3] D.M. Aleman, H.E. Romeijn, and J.F. Dempsey. A response surface-based approach to beam orientation optimization in IMRT. *Medical Physics* 33:6, 2206. Moderated poster presentation (D.M. Aleman) at the American Association for Physicists in Medicine (AAPM) annual meeting, Orlando, July 2006.
- [4] D.M. Aleman, H.E. Romeijn, and J.F. Dempsey. A novel neighborhood for local search and simulated annealing methods in beam orientation optimization in IMRT. *Medical Physics* 33:6, 2192. Poster presentation (D.M. Aleman) at the American Association for Physicists in Medicine (AAPM) annual meeting, Orlando, July 2006.
- [5] H. Li, C. Fox, H.E. Romeijn, and J.F. Dempsey. Implementation and comparison of several proton IMRT algorithms. *Medical Physics* 33:6, 2192. Oral presentation (H. Li) at the American Association for Physicists in Medicine (AAPM) annual meeting, Orlando, July 2006.
- [6] C. Fox, B. Lynch, D.M. Aleman, H. Li, H.E. Romeijn, and J.F. Dempsey. A scientific comparison of inverse treatment plan quality using a convex non-linear programming model as a function of beam quality and beam number. *Medical Physics* 33:6, 2192. Oral presentation (C. Fox) at the American Association for Physicists in Medicine (AAPM) annual meeting, Orlando, July 2006.
- [7] C. Fox, H. Li, H.E. Romeijn, and J.F. Dempsey. Fast efficient global fluence map optimization using a parallelized objective function for IMRT treatment planning. *Medical Physics* 33:6, 2103. Poster presentation (C. Fox) at the American Association for Physicists in Medicine (AAPM) annual meeting, Orlando, July 2006.
- [8] H. Li, C. Fox, H.E. Romeijn, and J.F. Dempsey. 3D Intensity Modulated Proton Therapy with minimal beam number. *Medical Physics* 33:6, 2051. Poster presentation (H. Li) at the American Association for Physicists in Medicine (AAPM) annual meeting, Orlando, July 2006.
- [9] H.E. Romeijn and J.F. Dempsey. On the relationship between risk management and IMRT treatment plan optimization. *Medical Physics* 32:6, 1976. Poster presentation (H.E. Romeijn) at the American Association for Physicists in Medicine (AAPM) annual meeting, Seattle, July 2005.

- [10] K. Cheong, T. Suh, H.E. Romeijn, J.G. Li, and J.F. Dempsey. Fast nonlinear optimization with simple bounds for IMRT planning. *Medical Physics* 32:6, 1975. Poster presentation (K. Cheong) at the American Association for Physicists in Medicine (AAPM) annual meeting, Seattle, July 2005.
- [11] J.F. Dempsey, H.E. Romeijn, J.G. Li, D.A. Low, and J.R. Palta. Analysis of errors due to limited dose-grid resolution in fluence map optimization for IMRT. *Medical Physics* 31:6, 1863. Poster presentation (J.F. Dempsey) at the American Association for Physicists in Medicine (AAPM) annual meeting, Pittsburgh, July 2004.
- [12] H.E. Romeijn, J.F. Dempsey, and J.G. Li. On the equivalence of multi-criteria fluence map optimization problems. *Medical Physics* 31:6, 1777. Oral presentation (H.E. Romeijn) at the American Association for Physicists in Medicine (AAPM) annual meeting, Pittsburgh, July 2004.
- [13] J.F. Dempsey, H.E. Romeijn, and E. Lögdberg. Fast global solutions to fluence map optimization problems for adaptive radiotherapy. *Medical Physics* 31:6, 1777. Oral presentation (J.F. Dempsey) at the American Association for Physicists in Medicine (AAPM) annual meeting, Pittsburgh, July 2004.
- [14] H.E. Romeijn, R.K. Ahuja, J.F. Dempsey, and A. Kumar. An exact approach to aperture modulation in IMRT treatment planning. *Medical Physics* 31:6, 1776. Oral presentation (H.E. Romeijn) at the American Association for Physicists in Medicine (AAPM) annual meeting, Pittsburgh, July 2004.
- [15] D.M. Aleman, H.E. Romeijn, and J.F. Dempsey. A response surface based approach for integrating beam orientation optimization with fluence map optimization in IMRT. *Medical Physics* 31:6, 1776. Oral presentation (D.M. Aleman) at the American Association for Physicists in Medicine (AAPM) annual meeting, Pittsburgh, July 2004.
- [16] J.F. Dempsey, H.E. Romeijn, R.K. Ahuja, A. Kumar, and J.G. Li. A novel linear programming approach to fluence map optimization for intensity modulated radiation therapy treatment planning. *Radiotherapy & Oncology* 68:Suppl. 1 (2003), S68–S69. Oral presentation (J.F. Dempsey) at the ESTRO Meeting on Physics and Radiation Technology, Geneva, Switzerland, September 2003.
- [17] J.F. Dempsey, R.K. Ahuja, S. Kamath, A. Kumar, J.G. Li, J.R. Palta, H.E. Romeijn, S. Ranka, and S. Sahni. The leaf sequencer: an underestimated problem? *Radiotherapy & Oncology* 68:Suppl. 1 (2003), S3. Oral presentation (J.F. Dempsey) at the ESTRO Workshop “Optimisation of IMRT”, Geneva, Switzerland, September 2003.
- [18] J.F. Dempsey, A. Kumar, R.K. Ahuja, J.G. Li, and H.E. Romeijn. An automated linear programming based treatment planning system for head-and-neck IMRT. *Medical Physics* 30:6, 1491. Poster presentation (J.F. Dempsey) at the American Association for Physicists in Medicine (AAPM) annual meeting, San Diego, August 2003.
- [19] A. Kumar, R.K. Ahuja, H.E. Romeijn, J.G. Li, and J.F. Dempsey. A linear programming based approach for integrating coplanar equi-spaced beam orientation optimization with fluence map optimization in IMRT. *Medical Physics* 30:6, 1341. Poster discussion presentation (A. Kumar) at the American Association for Physicists in Medicine (AAPM) annual meeting, San Diego, August 2003.
- [20] H.E. Romeijn, R.K. Ahuja, J.F. Dempsey, A. Kumar, and J.G. Li. A novel linear programming model for fluence map optimization in IMRT treatment planning. *Medical Physics* 30:6, 1334. Poster discussion presentation (H.E. Romeijn) at the American Association for Physicists in Medicine (AAPM) annual meeting, San Diego, August 2003.

Technical reports

- [1] Z.C. Taşkın, J.C. Smith, and H.E. Romeijn. Mixed-integer programming techniques for decomposing IMRT fluence maps using rectangular apertures. Submitted for publication to *Annals of Operations Research*.
- [2] C. Fox, H.E. Romeijn, B. Lynch, C. Men, D.M. Aleman, and J.F. Dempsey. Comparative analysis of ^{60}Co Intensity Modulated Radiation Therapy. Revision submitted for publication to *Physics in Medicine and Biology*.
- [3] T.C. Sharkey, H.E. Romeijn, and J. Geunes. A class of nonlinear nonseparable continuous knapsack and multiple-choice knapsack problems. Submitted for publication to *Mathematical Programming*.
- [4] W. van den Heuvel, O.E. Kundakcioglu, J. Geunes, H.E. Romeijn, T.C. Sharkey, and A.P.M. Wagelmans. Integrated market selection and production planning: complexity and solution approaches. Submitted for publication to *Operations Research*.
- [5] C. Rainwater, J. Geunes, and H.E. Romeijn. The Generalized Assignment Problem with flexible jobs. Submitted for publication to *Discrete Applied Mathematics*.
- [6] Z.C. Taşkın, J.C. Smith, H.E. Romeijn, and J.F. Dempsey. Optimal multileaf collimator leaf sequencing in IMRT treatment planning. Submitted for publication to *Operations Research*.
- [7] H.E. Romeijn, T.C. Sharkey, Z.-J. Shen, and J. Zhang. Integrating facility location and production planning decisions. Revision submitted for publication to *Networks*.
- [8] K. Taaffe, H.E. Romeijn, and D. Tirumalasetty. A selective newsvendor approach to order management. Revision submitted for publication to *Naval Research Logistics*.

Recent and upcoming seminars and invited conference presentations

- [1] “Optimal multileaf collimator leaf sequencing in IMRT treatment planning”, SIAM Optimization, Boston, Massachusetts (May 11, 2008).
- [2] “Supply chain planning problems with market choice”, Department of Industrial Engineering, Mississippi State University, Mississippi State, Mississippi (February 8, 2008).
- [3] “Towards a cyberinfrastructure for online adaptive radiotherapy”, NSF CMII Grantees’ Conference, Knoxville, Tennessee (January 8, 2008).
- [4] “Operations Research in medicine”, RECNET annual meeting, TNO, The Hague, The Netherlands (October 19, 2007).
- [5] “Supply chain planning problems with market choice”, Department of Industrial Engineering and Management Sciences, Northwestern University, Evanston, Illinois (October 2, 2007).
- [6] “Optimal multileaf collimator leaf sequencing in IMRT treatment planning”, Operating On Health Care: An Operations Research Symposium, Vancouver, B.C., Canada (August 16, 2007).
- [7] “Radiation therapy treatment plan optimization”, Division of Optimization and Systems Theory, Department of Mathematics, Royal Institute of Technology (KTH), Stockholm, Sweden (June 19, 2007).

- [8] “Supply chain planning problems with market choice”, Department of Industrial and Operations Engineering, The University of Michigan, Ann Arbor, Michigan (May 24, 2007).
- [9] “Radiation therapy treatment planning: current approaches and future directions”, San-Ei Gen Seminar, Management School and Economics, University of Edinburgh, U.K. (May 17, 2007).
- [10] “Supply chain planning problems with market choice”, Management School and Economics, Management Science and Business Economics seminar, University of Edinburgh, U.K. (May 15, 2007).
- [11] “Supply chain planning problems with market choice”, Sloan School of Management, Massachusetts Institute of Technology, Cambridge, Massachusetts (April 23, 2007)
- [12] “A direct aperture optimization approach to IMRT treatment planning”, Massachusetts General Hospital, Department of Radiation Oncology, Harvard University, Boston, Massachusetts (March 6, 2007).
- [13] “Radiation therapy treatment plan optimization”, Department of Industrial and Operations Engineering, The University of Michigan, Ann Arbor, Michigan (January 17, 2007).
- [14] “Capacitated procurement planning with price-sensitive demand and concave revenue functions”, Econometric Institute, Erasmus University Rotterdam, Rotterdam, The Netherlands (December 7, 2006).
- [15] “Radiation therapy treatment plan optimization: models and algorithms”, Edward P. Fitts Department of Industrial and Systems Engineering, North Carolina State University, Raleigh, North Carolina (November 17, 2006).
- [16] “Radiation therapy treatment plan optimization: models and algorithms”, Graduate School of Business, Stanford University, Stanford, California (October 19, 2006).
- [17] “Radiation therapy treatment plan optimization: models and algorithms”, Industrial Engineering Program, University of Washington, Seattle, Washington (October 17, 2006).
- [18] “Capacitated procurement planning with price-sensitive demand and concave revenue functions”, Operations and Information Technology Management Group, Haas School of Business, University of California, Berkeley, California (September 22, 2006).
- [19] “Multi-facility multi-newsvendor problems”, INFORMS San Francisco (November 14, 2005).
- [20] “Radiation therapy treatment plan optimization: models and algorithms”, Department of Industrial Engineering, University of Pittsburgh, Pittsburgh, Pennsylvania (October 13, 2005).
- [21] “A column generation approach to aperture modulation in radiation therapy treatment planning”, Saïd School of Business, University of Oxford, Oxford, U.K. (August 17, 2005).
- [22] “From IMRT to IGIMRT optimization”, IGIMRT at Sea, Alaska (August 5, 2005).
- [23] “Models for radiation therapy treatment planning”, IFORS Conference, Honolulu, Hawaii (July 12, 2005).
- [24] “Integrating treatment plan design and delivery for IMRT”, International Conference on Continuous Optimization I, Troy, New York (August 2, 2004).

- [25] “Polynomial-time algorithms for multi-level lot-sizing problems with production capacities”, Workshop on Mathematics in the Supply Chain, Oberwolfach, Germany (April 11, 2004).
- [26] “A column generation approach to radiation treatment planning using aperture modulation”, Systems and Industrial Engineering Department, University of Arizona, Tucson, Arizona (November 20, 2003).
- [27] “Optimization for intensity modulated radiation therapy treatment planning”, Tutorial, INFORMS conference, Atlanta, Georgia (October 21, 2003).
- [28] “A column generation approach to radiation treatment planning using aperture modulation”, Mathematical Programming Symposium, Copenhagen, Denmark (August 20, 2003).

CURRICULUM VITAE

Paul Richard Carney, M.D.

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of Florida College of Medicine JHMHC, Room HD-410, Box 100296

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Fax: 352-392-9802

Email: carnepr@peds.ufl.edu

Websites: Research: <http://www.neurology.peds.ufl.edu/carneylab/index.htm> Division:

<http://www.neurology.peds.ufl.edu>

SELECTED RESEARCH HIGHLIGHTS:

First experimental demonstration of seizure prediction in vivo in animal models of temporal lobe epilepsy

First experimental demonstration of in vivo control of chaotic system

High resolution brain imaging of brain connectivity in limbic epilepsy

Discovery that single unit activity can be used to predict seizures

Discovery that children with epilepsy have co morbid sleep disorders

ADMINISTRATIVE HIGHLIGHTS:

Division of Pediatric Neurology at the University of Florida

Appointed Chief (August, 2004)

Established 4 new clinical programs

Comprehensive Pediatric Epilepsy Program

Pediatric Epilepsy Surgery Program

Multi-disciplinary Teaching Program

Pediatric Neuromuscular Program

Epilepsy Ketogenic Diet Program

Epilepsy Neuroprosthetic Program

Pediatric Epilepsy Research Program at the University of Florida and McKnight Brain Institute

Appointed Director of the Center for Epilepsy Research at the University of Florida (2007)

Established the Epilepsy Research Laboratory (2003)

Established the Neuroprosthetics Laboratory (2005)

Endowment of Epilepsy Research Program Wilder Gift (2 M + 2 M state match) (2005)

AWARDS and HONORS:

2004 William Pierskalla Best Paper Award, Institute for Operations Research and the Management Sciences, Co-recipient

2004- Wilder Epilepsy Research Chair Professor

2006 Honorary Member, Chilean Child and Adolescent Psychiatry and Neurology Society (October 13, 2006)

2007 Best Doctors of America honorary award

CONSULTING ACTIVITY:

2002- Lippincott Wilkins and Williams Publishers

2003- Novartis, Inc.

2001-02 UCB Pharma

2006 Sanofi Aventis, Inc.

2007 Greenley Associates

TEACHING ACTIVITIES:

2004- Lecturer, Neuroscience course GMS6007

2004- Member, Neurology Residency Advisory Committee,
Department of Neurology

2004- Lecturer, Neuroscience course GMS 6007, Department of Neuroscience

2005- Faculty preceptor, MEL 4012 Undergraduate Physician Shadowing Program

2005- Course Instructor for graduate course BME 6010, 2 credit hours graduate Level course, Clinical Preceptorship course Department of Bioengineering, College of Engineering, University of Florida, Summer, Fall, Spring Semesters, 12-25 students per class

University of Florida Graduate Student Activities:**Doctoral Dissertation Committees**

2000-03 Sobha Fritz, Department of Child Psychology Thesis: Maternal-child adherence in childhood epilepsy

- 2001-04 Danielle Becker, Department of Neuropsychology Thesis: Relation between sleep and epilepsy in children
- 2001-05 Greg Selke, Department of Neuropsychology, Thesis: Emotional Reactivity to Picture Stimuli in Children in Children with and without Attention-Deficit/Hyperactivity Disorder
- 2002-06 Sandeep Nair, M.S., Department of Bioengineering Thesis: Quantitative EEG signal analysis in rat limbic epilepsy model
- 2003-07 Susan Bongiolatti, Department of Neuropsychology Thesis: Frontal lobe dysfunction in childhood epilepsy & cognitive problems in children with sleep disorders and epilepsy
- 2005- Alex Cadotte, Department of Bioengineering Thesis: Non- linear dynamics for discrimination of pharmaceutical agents on MEA's
- 2005- Gila Recklass, Department of Neuropsychology Topic: Cognitive changes during epileptogenesis
- 2006- Rabia Zafar, Department of Neuroscience Topic: Epilepsy gene therapy
- 2006- Mansi Parekh, Department of Neuroscience Topic: MRI and Epileptogenesis in an Animal Model of Limbic Epilepsy
- 2006- Hector Selpulveda, Department of Neuroscience Topic: MRI and cortical dysplasia
- 2007- Jason Winters, Department of Biomedical Engineering Topic: Closed-loop hypothermal seizure prevention
- 2007- Stephen Meyers, Department of Biomedical Engineering Topic: Closed-loop pharmacological seizure prevention
- 2007- Nicole Nasewicz-Pies, College of Education Thesis: Can pre-service teachers differentiate ADHD-PI from absence seizures

Masters Degree Committees

- 2003-05 Mandy Layman, Department of Food Science Thesis: Ketogenic diet in intractable childhood epilepsy
- 2007 Chelsey Durgin, Biomedical Engineering Dept, Topic: Diffusion Tensor Imaging and Epilepsy
- 2001-02 Jonathan Day, Uniformed Services University
- 2002-03 Meadow Maze, University of Arizona
- 2002 Ryan Asdourian, University of Florida
- 2007- Angela Brown, University of Florida

University of Florida Post-Doctoral Scholars

- 2003- Wendy Norman, DMV, PhD Project title: Seizure Prediction in the Rat Chronic Limbic Epilepsy Model

2004-06 Justin C. Sanchez, Ph.D. Project title: Hybrid Brain Machine Interface in Epilepsy

2005-07 Greg Selke, Ph.D. Project title: Relation between Sleep Disorders and ADHD

2006- Sachin Talathi, Ph.D. Project title: Evolution into Epilepsy time series analysis

2007- Dan Tarquinio, D.O, Research Neurology Fellow Project: Rett Syndrome (Co-Mentors Dr. Alan Percy, UAB, Dr. Dan Driscoll, UF) University of Florida Clinical Fellows Supervised

2003-04 George Gacibieu, M.D., Fellow in Clinical Neurophysiology University of Florida Faculty Advisor-Pediatric Residents

2003-04 Liliana Petrova, M.D., Pediatric resident

UNIVERSITY GOVERNANCE and SERVICE:

University of Florida College of Medicine

2003 Member, Department of Neurology Epilepsy Faculty search committee, University of Florida

2003 Ad Hoc Interviewer, Division of Critical Care Faculty search committee, Department of Pediatrics, University of Florida

2004-05 Ad Hoc Member, University of Florida McKnight Brain Institute Director Search Committee, University of Florida College of Engineering

2002 Conference Co-Organizer, Quantitative Neuroscience: Models, Algorithms, Diagnostic & Therapeutic Applications, Univ. Florida

2003 Advisory Board Member, Data Mining in Biomedicine, University of Florida, College of Engineering and McKnight Brain Institute

2003- Ad Hoc Interviewer, Department of Bioengineering Faculty Search Committee, University of Florida College of Engineering

2003- Co-Organizer, Quantitative Neuroscience/Neural Engineering Seminar Graduate Course in Biomedical Engineering, University of Florida, College of Engineering and McKnight Brain Institute

2004- Member, Center for Applied Optimization, University of Florida, College of Engineering and McKnight Brain Institute

2004- Faculty Search Committee, Department of Bioengineering, University of Florida 2005- Member, Academic Graduate Committee, Dept of Biomedical Engineering, University of Florida

2005 Co-Organizer, Conference on Systems Analysis, Data Mining, and Optimization in Biomedicine, University of Florida Feb. 2-4, 2005

2005 Ad Hoc Advisory Board Member, Dept. Biomedical Engineering, College of Engineering, University of Florida (May, 2005)

2006 Advisory Committee, Conference on Data Mining, Systems Analysis and Optimization in Neuroscience February 15-17, 2006. University of Florida.

2003- Medical Advisor, NICA, Tallahassee, FL Shands Childrens Hospital

PROFESSIONAL ACTIVITY and PUBLIC SERVICE:

Membership in Professional Societies

2003- Society for Pediatric Research, American Academy of Pediatrics

2006- Institute of Electrical Engineering and Electronics (IEEE)

Membership in Professional Institutes

2002 Biomedical Research Partnership for Brain Dynamics, Univ of Florida

2003 Child Research Institute, University of Florida

2004 Center for Optimization, College of Engineering, Univ of Florida

EDITORIAL SERVICE:

Managing Editorial Board

2005- Computers in Biology & Medicine

2007- Recent Patents on Biomedical Engineering

Reviewer

2002- Lippincott Williams & Wilkins Publishers (2-3/year)

2003- Psychosomatic Medicine (1-2/year)

2006- Basic & Clinical Pharmacology & Toxicology (1-2/year)

2006- ACTA Neuropsychiatrica (1-2/year)

2006- Sleep (1-2/year)

2006- Experimental Medicine & Biology Society IEEE

2006- Chaos (1-2/year)

2006- Clinical Pediatrics (2-4/year)

2005- Epilepsy & Behavior (2-3/year)

2005- Computers in Biology & Medicine (25-35/year)

2007- Journal of Pharmacology & Experimental Therapeutics (1-2/year)

2007- Journal of Pediatric Neurology (2-3/year)

2007 American Academy of Neurology (Sleep Section)

2007- The FASEB Journal (2-3/year)

EXTRAMURAL INVITED PRESENTATIONS and CONTINUING EDUCATION LECTURES:

International

2003 Invited Speaker: University of Chile and University of Valparaiso, Chilean Pediatric Neurology Society, Valparaiso, Chile, 1st International Iberoamerican Pediatric Neurology Conference, Topics: Childhood Epilepsy and Childhood Sleep Disorders, 3/2003

Invited Speaker: The First International Collaborative Workshop on Seizure Prediction, International Seizure Prediction Group, Bonn, Germany, Topic: Seizure Prediction in a Generalized Epilepsy Animal Model, 3/200

2004 Invited Speaker: University of Valparaiso, Society for Pediatric Neurology, Topics: Pharmacoresistant Childhood Epilepsy and Evaluation and Treatment of Sleep Disorders, 6/2004

2005 Invited Speaker: Chilean Pediatric Society, Chile, 1st International Iberoamerican Pediatric Neurology Conference, Topics: Childhood Epilepsy and Childhood Sleep Disorders, 10/2005

2006 Invited Speaker & Platform Moderator: 4th International Sleep Disorders Forum Rome, Italy, 7-8 September, 2006

Invited Speaker: 23rd Congreso de Psiquiatria y Neurologia de la Infancia y la Adolescencia. Topics: Seizure Prediction; Emerging Technologies for Epilepsy: Diffusion Tensor Imaging and Photoacoustic Tomography. October 12-14, 2006 Vina del Mar, Chile, South America

2006 Invited Speaker: 60th Annual Meeting of the American Epilepsy Society, Sensing the Brain; Engineering Special Interest Group. Topic: Neural Prosthetic for Epilepsy, December 1, 2006, San Diego, CA.

2007 Invited Panel Guest: 2007 4-D Neuroimaging Conference, Denver, Colorado, June 6-8, 2007

Invited Speaker: Third International Seizure Prediction Workshop, September 30- October 4, 2007; Talk: Dynamics of a Limbic Epilepsy Model, Freiburg, Germany.

Invited Speaker: International Conference on Translational Research, Peking Union Medical College Hospital (PUMC), Topic: Neural Interface for Repair and Treatment: Potential for Epilepsy. November 11-13, 2007, Beijing, China.

Invited Speaker: State Key Laboratory of Brain and Cognitive Science Institute of Psychology, Chinese Academy of Sciences. Nov. 15, 2007. Topic: Sleep disorders in children and adults. Beijing, China

Invited Speaker: Capital Medical University Beijing Tiantan Hospital. November 15, 2007. Topic: Brain Machine Interface for Epilepsy. Beijing, China

2008 Invited Speaker: Conference on Computational Neuroscience 2008. Topic: Temporal Lobe Epilepsy: Anatomical and Effective Connectivity. University of Florida, Center for Applied Optimization, Gainesville FL February 20, 2008

National

2002 Invited Speaker: Recent Advances in Modeling and Prediction of Epileptic Seizures, Grand Rounds, Department of Neurology, Case Western Reserve University, Cleveland, OH, March 1, 2002

2003 Invited Speaker: Practical Approach to the Diagnosis and Management of Sleep Disorders, North Florida Neurological Society, 2/13/2002 Invited Speaker: Seizure Prediction and Substrates for Seizure Prediction Platform, Topic; Seizure prediction by nonlinear time series analyses of brain electrical activity. April 23, 2003

Invited Speaker: Florida Chapter AAP Annual Meeting and Florida Pediatric Alumni Association Annual Meeting, Topic: Recent Advances in the Diagnosis and Treatment of Pediatric Epilepsy. June 20, 2003

2004 Invited Speaker: Grand Rounds, University of Florida, Department of Pediatrics, Jacksonville, FL, Title: Catastrophic Childhood Epilepsy: Advances in Diagnosis and Management, April, 23, 2004

Invited Speaker: American Epilepsy Society Annual Meeting, Special Interest Group and Participatory Roundtable, New Orleans, LA. Topic: Brain Dynamics in Rat Chronic Limbic Epilepsy Model

Invited Speaker: Grand Rounds, University of Arkansas, Department of Pediatrics. Topic: Modeling and Seizure Prediction, May 12, 2004

2005 Invited Speaker: Conference on Systems Analysis, Data Mining, and Optimization in Biomedicine, Topic: Dynamical Characteristics in Rat Chronic Limbic Epilepsy Model, February 2-4, 2005

2006 Invited Speaker, DIMACS Workshop on Data Mining, Systems Analysis, and Optimization in Neuroscience, Gainesville, FL, Topic: Dynamical EEG Properties in the Limbic Epilepsy Rat Model, February 15-17, 2006

Invited Speaker, Florida Neurological Society, Topic: Epilepsy Behavioral and Cognitive Comorbidities in Pediatric Epilepsy: Recognition, Mechanisms, Assessment and Treatment. December 14, 2006, Orlando, Florida

2007 Invited Speaker, Data Mining, Systems Analysis & Optimization in Biomedicine University of Florida College of Engineering, March 28-30, 2007 Curriculum Vitae Paul Richard Carney

Invited Speaker: Neural Interface for Repair and Treatment: Potential for Epilepsy, Mt Sinai School of Medicine, New York, NY, September 17, 2007

2008 Invited Speaker: American Association of Critical-Care Nurses. Swamped with Knowledge 2008. Topic: To Seize or Not to Seize: That is the Question. March 1, 2008, Gainesville, Florida Local

2004 Invited Speaker: Conference on Data Mining in Biomedicine, Center for Applied Optimization, Modeling and Computation for Engineering, Science and Industry, College of Engineering, University of Florida, Gainesville, Topic: A Quantitative EEG Method for real-time Detection of Neonatal Seizures in the Neonatal Intensive Care Unit. February 16-18, 2004

Invited Speaker: Quantitative Neuroscience/Neural Engineering Seminar, University of Florida, Neonatal Seizures, March 2, 2004

Invited Speaker: Childrens Medical Services, Nursing Symposium, Topic: Childhood Sleep Disorders: Evaluation and Management, 4/2004 Curriculum Vitae Paul Richard Carney

2005 Platform Speaker: American Academy of Neurology, Miami, FL, Topic: Seizure Prediction in a Limbic Model of Temporal Lobe Epilepsy, May, 2005

Invited Speaker: Research Seminar Grand Rounds, Department of Physical Medicine and Rehabilitation, University of Florida, Gainesville, FL Topic: Brain Machine Interface for Epilepsy, September 14, 2005

2006 Invited Speaker: Neuroscience Grand Rounds, Topic: Pathophysiology of Temporal Lobe Epilepsy, February 5, 2006, University of Florida Invited Speaker: Conference on Data Mining, Systems Analysis and Optimization in Neuroscience February 15-17, 2006. University of Florida. Topic: EEG Dynamics in an Animal Model of Temporal Lobe Epilepsy

Invited Speaker: College of Engineering Recruitment, University of Florida, Gainesville, FL Topic: Brain Dynamics and Neural Networks in Epilepsy, February 17, 2006

2008 Invited Speaker: Neural Interface for Repair and Treatment: Potential for Epilepsy, University of Florida Department of Neuroscience, January 16, 2008 State

2005 Platform Speaker: American Academy of Neurology, Miami, FL, Topic: Seizure Prediction in a Limbic Model of Temporal Lobe Epilepsy, May, 2005

Platform Speaker: American Academy of Neurology, Miami, FL, Topic: Seizure Prediction in a Limbic Model of Temporal Lobe Epilepsy, May 2, 2005

Invited Speaker: Research Seminar Grand Rounds, Department of Physical Medicine and Rehabilitation, University of Florida, Gainesville, FL Topic: Brain Machine Interface for Epilepsy, September 14, 2005

SCIENTIFIC and PROFESSIONAL WORKSHOPS and SEMIMARS:

2003 Conference Co-organizer, Quantitative Neuroscience: Models, Algorithms, Diagnostic and Therapeutic Applications Conference, University of Florida

2004-05 Advisory Board, Data Mining in Biomedicine, College of Engineering, University of Florida

2005 Invited Guest, National Science Foundation, Collaborative Research Computational Neuroscience, Bethesda, MD, 3/05

2005 Scientific Judge, Lincoln Middle School Science Fair, Gainesville, FL, 2/05

2006 Advisory Board, DIMACS Workshop on Data Mining, Systems Analysis, and Optimization in Neuroscience, University of Florida, Gainesville, FL,

2007 Member, American Epilepsy Society Scientific Program Committee

PATENT INVENTION DISCLOSURES and COPYRIGHTS:

Real-Time Brain Monitoring System Inventors: Paul R. Carney, MD, J. Chris Sackellares, MD, Deng Shaiu, Ph.D. Type: Provisional Patent UF-11220 2003

Multi-Dimensional Multi-Parameter Time Series Processing for Seizure Warning and Prediction Inventors: J. Chris Sackellares, MD, Paul R. Carney, MD Type: Provisional Patent UF-No 028724-143 2003

Closed-Loop Micro-Control System for Predicting and Preventing Epileptic Seizures Inventors: Justin Sanchez and Paul R. Carney Provisional Patent UF- 63815P(49163), 2005

Real-Time Brain Monitoring System, Inventors: Paul R. Carney, MD, J. Chris Sackellares, MD, Deng Shiau, Ph.D. Type: Provisional Patent UF-11220 February 25, 2005

Interactive Dynamical Brain Monitoring and Neuro Diagnostic Systems Inventors: Sackellares JC, Carney PR, and Shiau DS. (Attorney Docket No. 028724-144.001; United States Patent Application Number 11/065,703). Type: U.S. patent application filed on February 25, 2005

Sackellares JC, Iasemidis LD, Dance LK, Carney PR, Chaovalitwongse W, Pardalos PM: Provisional Patent UF 11213. 2005

State Dependent, Direct and Model-based Closed-loop Seizure Control System. Inventors: Sackellares JC, Principe JC, Shiau DS, Pardalos PM, Carney PR, Cho J, Nair SP, Suharitdamrong W and Dance LK. UF invention disclosure 11926. 2005

Neuromodulation of Excitation and Inhibition to Control Epilepsy and Neurological Disorders. Inventors: Ditto, WL, Carney PR, Talathi S, Hwang, DU. UF invention disclosure UF 12785, February 11, 2008

GRANT SUPPORT ACTIVE:

Title: Collaborative Research in Computational Neuroscience: Automatic Prediction of the Onset of Epilepsy via Analysis of High Angular Resolution Diffusion MRI Effective Dates: 2006-10 Funding Agency: NSF/NIBIB (R01-EB004752-01) Role: Co-Principal Investigator Direct Cost: 900,000 Indirect Cost: 396,877 Total: 1,296,877

Title: Collaborative Research in Computational Neuroscience: Evolution into Epilepsy Effective Dates: 2004-08 Funding Agency: R01-EB004752 Role: Principal Investigator for Projects 1 and 2 Direct Cost: 900,000 Indirect Costs: 387,170 Total Award: 1,287,170 Title: Statistical Performance Analysis of Early Seizure Detection Algorithms for their Applicability in the Development of Closed-Loop Seizure Intervention Systems. Effective Dates: 2008-09 Funding Agency: Epilepsy Foundation Post-Doctoral Research Training Fellowship Role: Mentor to Sachin Talathi, Ph.D. Direct Costs: 40,000 Total Award: 40,000

Title: Dichloroacetate Kinetics, Metabolism and Toxicity Funding Agency: NIH/NIEHS (R01 ES07355) Effective Dates: 2004-09 Role : Co-Investigator Direct Costs: 2,057,930 Indirect Costs: 833,530 Total: 2,891,460 Title: Phase 3 Trial of Coenzyme Q10 in Mitochondrial Diseases Effective Dates: 09/20/2006-05/31/2007 Funding Agency: NIH Role: Co-Investigator (PI: Stacpoole) Direct Cost: 23,3228 Indirect Cost: 6,3304 Total Award: 29,6533

Title: Rufinamide: A Double-Blind, Placebo-Controlled, Parallel-Group Study Project Number: 00064900 Effective Dates: 2006-12-05 thru 2007-10-26 Role: Co-Principal Investigator Direct Cost: 8,027 Indirect Cost: 2,006 Total Award: 10,971

RECENT RESEARCH SUPPORT (Last 5 years):

Title: Bioengineering Research Partnership in Brain Dynamics Effective Dates: 2003-07 Funding Agency: NIH/NIBIB Program Project (R01 EB002089) Role: Principal Investigator on Projects 3 and 4 Direct Costs: 1,887,987 Indirect Costs: 846,207 Total Award: 2,734,194

Title: On-Line Real-Time Seizure Prediction Effective Dates: 2006-07 Funding Agency: NIH/NINDS (R01-NS050582-01A1) Role: Co-Principal Investigator Direct Cost: 1,864,599 Indirect Cost: 518,125 Total Award: 2,382,724 Title: Novel Anti-Epileptic Drug Discovery: Somatostatin Receptor Modulation for Treating Epilepsy Effective Dates: 2004-06 Funding Agency: Research Opportunity Fund Competition, Division of Sponsored Research, University of Florida Role: Principal Investigator Direct Cost: 100,000 Indirect Cost: 0 Total Award: 100,000

Title: An EEG Method for Real-Time Detection of Neonatal Seizures in the Neonatal Intensive Care Unit Effective Dates: 2003-06 Role: Principal Investigator Agency: Epilepsy Foundation of America Partnership for Pediatric Epilepsy Research Foundation Direct Costs: 75,000 Indirect Costs: 0

Title: Outcome of Therapeutic Hypothermia in Pediatric Arrest R21 HD 044981 Effective Dates: 2003-06 Funding Agency: NIH/NICHD Role: Co-Investigator Direct Cost: 200,000 Indirect Cost: 90,000 Total Award: 290,000

Title: Pediatric Epilepsy Program PI: Paul R. Carney, MD Agency: Childrens Miracle Network Grant 98HS-001 Type: Research Amount: 2,587 Period: 1998-99 Title: Epilepsy Monitoring Program Agency: Childrens Miracle Network Grant 98HF-015 Type: Intramural Patient PI: Paul R. Carney, MD Amount: 48,000 Period: 1998-99

Title: Dynamical On-Line Real-Time Seizure Warning and Treatment in an Epilepsy-Prone Rodent Model Agency: University of Florida Division of Sponsored Research Opportunity Fund Type: Research PI: Paul R. Carney, MD Direct: 50,000 Period: 2001-02

Title: On-Line Real-Time Seizure Prediction in Adult Patients with Epilepsy Agency: Office of Technology Licensing, University of Florida Division of Sponsored Research Co-Principal Investigator: Paul R. Carney, M.D. Direct Cost: 26,872 Period: 2004-05

Title: Evaluation of the efficacy and tolerability of Levetiracetam add on treatment in refractory pediatric patients with partial onset seizures Role: Principal Investigator Agency: GlaxoSmithKline Grant LAM40013. Period: 2002-03

Title: A Multicenter, Open Label Conversion of Valproate Monotherapy to Lamotrigine Monotherapy in Patients with Epilepsy Role: Co-Principal Investigator Agency: Abbott Pharmaceuticals, Inc. Period: 2002-03.

Title: GlaxoSmithKline Grant LAM 40013. A Multicenter, Open Label Conversion of Valproate Monotherapy to Lamotrigine Monotherapy in Patients with Epilepsy Role: Co-Investigator Period: 2002-04

Title: UCB Pharma Grant N157 & N159. Evaluation of the Efficacy and Tolerability of Levetiracetam Add-On Treatment in Refractory Pediatric Patients with Partial Onset Seizures: A 28-Week Double-Blind, Placebo-Controlled Multicenter Trial Role: Co-Investigator Agency: UCB Pharma Inc. Period: 2002-03

Title: GlaxoSmithKline Grant LAM40117. A MultiCenter Open-Label, Pilot Study of Lamotrigine as Adjunctive Therapy and Monotherapy in Patients with Epilepsy and Comorbid Depressive Symptoms
Role: Co-Investigator Period: 2002-03

Pending

Title: Multi-Site Microscopic Analysis of Hippocampal Neuronal Ensembles in Epilepsy Funding Agency: NIH/NINDS 1R01NS057760-01 Role: Principal Investigator

Title: Behavioral and Cognitive Problems in Children with Epilepsy and Sleep Disorders Funding Agency: NIH/NINDS 1R21NS054935-01 Role: Principal Investigator

Title: Closed-Loop Seizure Control in a Limbic Seizure Model Funding Agency: NIH/NINDS 1R21NS054171-01 Role : Principal Investigator

Title: Micro-Control of Epileptogenesis Funding Agency: NIH/NINDS 1R21NS054874-01 Role: Principal Investigator

Title: Preictal Detection and Treatment in Epileptic Rodent Model Funding Agency: NIH/NINDS 1R21NS042340-01A1 Role: Principal Investigator

Title: Phe-impaired Glutamate Transmission in Developing Brain

PUBLICATIONS:

Textbooks

1. Pardalos PM, Sackellares JC, Carney PR, Iasemidis LD. Quantitative Neuroscience: Models, Algorithms, Diagnostics, and Therapeutic Applications. Kluwer Academic Publishers, Norwell, MA 2004.
2. Carney PR, Geyer JD, Berry R, eds. Clinical Sleep Disorders, 1st ed. Lippincott-Williams & Wilkins, Inc., Philadelphia, 2005.
3. Geyer JD, Keating JM, Potts DC, Carney PR. Neurology for the Boards, 3rd ed. Lippincott-Williams & Wilkins, Inc., Philadelphia, 2006.
4. Carney PR and Geyer JD. Pediatric Practice: Neurology, McGraw Hill Professional Pubs, May 2008 (under contract)
5. Geyer JD, Potts DC, Marsh EE, Carney PR. Neurology for Wards and Mini-Boards: The Complete Medical Student Guide. 1st ed. Lippincott-Williams & Wilkins, Inc., Philadelphia 2008 (under contract).

Peer-Reviewed Publications

1. Sanchez JC, Gunduz A, Carney PR, Principe JC. Extraction and Localization of mesoscopic motor control signals for human ECoG neuroprosthetics. J Neurosci Methods. 2008;167(1):63-81.
2. Wang Q, Liang X, Liu Z, Zhang Q, Carney PR, Jiang H. Visualizing localized dynamic changes during epileptic seizure onset in vivo with diffuse optical tomography. Med. Phys. 2008;1:216-224.

3. Zhang Q, Liu Z, Carney PR, Yuan Z, Chen X, Roper SN, Jiang H. Noninvasive imaging of epileptic seizures in vivo using photoacoustic tomography. *Phys. Med. Biol.* 2008; 53:1921-1931.
4. Talathi SS, Hwang DU, Ditto WL, Spano M, Myers SM, Winters, J, Simonotto J, and Carney PR. Non-parametric early seizure detection in an animal model of temporal lobe epilepsy. *J Neural Eng.* 2008 Mar;5 (1):85-98.
5. Talathi S, Dong-Uk H, Ditto W, Meyers S, Simonotto J, Norman W, Carney P. High frequency oscillations in limbic rat model for temporal lobe epilepsy. *Computational Neuroscience*, 2007, In press.
6. Carney PR, Cadotte A, DeMarse TB, Vemuri B, Mareci T. Functional and Anatomical Connectivity in the Rat Model of Spontaneous Limbic Seizures. 3rd International Seizure Prediction Workshop, Freiburg, in press.
7. Geyer JD, Dillard S, Carney PR. Anti-depressant medications, neuroleptics and prominent eye movements during NREM Sleep. *Sleep*. Under review.
8. Tarquinio D, Smith A, Bennett J, Carney PR, Hunger SP, Saxonhouse MA. A severe case of multi-focal cerebral infarction in a full-term neonate: is anticoagulation necessary? *Ped Neuro.* Under review.
9. Komalapriya C, Romano MC, Thiel M, U. Schwarz U, Kurths J, Ditto WL, Carney PR. Predictability of spontaneous limbic seizures using recurrence measures. *Physica D*. Under review.
10. Glueckauf RL, Fritz SP, Ecklund-Johnson EP, Liss HJ, Dages P, Carney P. Videoconferencingbased family counseling for rural teenagers with epilepsy: Phase 1 findings. *Rehab Psychol.* 2002; 47(1):49-72.
11. Carney PR, Paige P. Neurologic Disorders. In: *Handbook of Neonatal Intensive Care*. Eds. Merenstein, GB, Gardner SL. Pub. Mosby, 5th ed. 2001; 644-678.
12. Carney PR, Korhman, MH. Relation between epilepsy and sleep during infancy and childhood. In: *Sleep and Epilepsy: The Clinical Spectrum*. Eds. Malow BM, Bazil C, Sammaritano M. Pub. Elsevier Science 2002; 359-372.
13. Iasemidis LD, Pardalos PM, Shiau DS, Chaowalitwongse W, Narayanan K, Kumar S, Carney PR, Sackellares JC, Prediction of human epileptic seizures based on optimization and phase changes of brain electrical activity. *Optimization Methods and Software* 2003; 18(1):81-104.
14. Yatsenko V, Carney P, Pardalos P, Sackellares JC, Shiau DS. Control of chaotic systems: a practical application to epilepsy, *Proc. of Second International Conference on Control Problems, Moscow, Institute of Control Problems.* 2003; 205-218.
15. Yatsenko V, Sackellares C, Pardalos P, Carney P. Geometric models, fiber bundles and biomedical applications. *Fifth International Conference: Symmetry in Nonlinear Mathematical Physics, Institute of Mathematics.* Kiev, 2003; 195-217.
16. Iasemidis LD, Shiau DS, Chaovalitwongse W, Sackellares JC, Pardalos PM, Principe JC, Carney PR, Prasad A, Veeramani B, Tsakalis K. Adaptive epileptic seizure prediction system. *IEEE Trans Biomed Eng.* 2003 May; 50(5):616-27
17. Becker DA, Fennell, EB, and Carney PR. Sleep disturbance in children with epilepsy. *Epilepsy Behav.* 2003; 4(6):651-8.
18. Stickler DE, Carney PR, Valenstein ER. Juvenile-onset Leigh syndrome with an acute polyneuropathy.

thy at presentation. *Child Neurol.* 2003; 18(8):574-6.

19. Becker DA, Fennell EB, and Carney PR. Daytime behavior and sleep disturbance in childhood epilepsy. *Epilepsy Behav* 2004; 5: 708-15.

20. Sackellares JC, Iasemidis LD, Shiau LD, Pardalos PM, Carney PR. Spatiotemporal transitions in temporal lobe epilepsy. *Quantitative Neuroscience: Models, Algorithms, Diagnostics, and Therapeutic Applications.* Kluwer Academic Publishers 2004; 223-38.

21. Shiau DS, Chaovalitwongse W, Iasemidis LD, Pardalos PM, Carney PR, Sackellares JC. Nonlinear dynamical and statistical approaches to investigate dynamical transitions before

epileptic seizures. *Quantitative Neuroscience: Models, Algorithms, Diagnostics, and Therapeutic Applications.* Kluwer Academic Publishers 2004; 239-50.

22. Yang MCK, Shiau DS, Sackellares JC, Carney PR. Testing whether a prediction scheme is better than guess, In: Pardalos PM, Sackellares JC, Carney PR, and Iasemidis LD (eds.) *Quantitative*

Neuroscience 2003, Kluwer Academic Publishers 2004; 251-259. 23. Carney PR, Shiau DS, Pardalos PM, Iasemidis LD, Chaovalitwongse W, Sackellares JC. Nonlinear neurodynamical features in an animal model of generalized epilepsy. *Quantitative Neuroscience: Models, Algorithms, Diagnostics, and Therapeutic Applications.* Kluwer Academic Publishers, 2004, 37-52.

24. Pardalos PM, Chaovalitwongse W, Iasemidis LD, Sackellares JC, Shiau DS, Carney PR, Prokopyev OA, Yatsenko VA. Seizure warning algorithm based on optimization and nonlinear dynamics. *Math. Program Ser B*, 35-50: 2004.

25. Sanchez JC, Principe JC, and Carney PR. Is Neuron Discrimination Preprocessing Necessary for Linear and Nonlinear Brain Machine Interface Models? 11th International Conference on Human- Computer Interaction, 2005; 1100-1115.

26. Iasemidis LD, Shiau DS, Pardalos PM, Chaovalitwongse W, Narayanan K, Prasad A, Tsakalis K, Carney PR, Sackellares JC. Long-term prospective on-line real-time seizure prediction. *Clin Neurophysiol.* 2005 Mar; 116(3):532-44. Epub 2005 Jan 6.

27. Chaovalitwongse W, Iasemidis LD, Pardalos PM, Shiau DS, Sackellares JC, and Carney PR. Performance of a seizure warning algorithm based on the dynamics of intracranial EEG. *Epilepsy Res.* 2005 May; 64(3):93-113. William Pierskalla Best Paper Award, Institute for Operations Research and the Management Sciences

28. Pardalos PM, Boginski VL, Prokopyev OA, Suharitdamrong W, Carney PR, Chaovalitwongse W, Vazacopoulos A. Optimization Techniques in Medicine. In: Eds. Audet C, Hansen P, Savard G. *Essays and Surveys in Global Optimization.* Springer, 2005;151-173.

29. Dharnidharka VR, Carney PR. Isolated idiopathic hypomagnesemia presenting as aphasia and seizures. *Pediatr Neurol.* 2005 Jul; 33(1):61-5.

30. Shiau DS, Nair SP, Iasemidis LD, Norman W, Principe JC, Pardalos PM, Suharitdamrong W, Cho J, Sackellares JC, and Carney PR. Seizure warning and dynamic response to electrical stimulation in a rodent model of chronic limbic epilepsy. *IEEE Engineering in Medicine and Biology.* 2005; 95-100.

31. Iasemidis LD, Shiau DS, Pardalos PM, Chaovalitwongse W, Narayanan K, Prasad A, Tsakalis

K, Sackellares JC, and Carney PR. Long-term prospective on-line real-time seizure prediction. *Clinical Neurophysiol.* 2005; 116 (3): 532-544.

32. Sanchez KC, Principe J, and Carney PR. Is neuron discrimination preprocessing necessary for linear and nonlinear brain machine interface models? In: 11th International Conference on Human- Computer Interaction, 2005.

33. Becker DA, Bongiolatti SR, Carney PR. (2005). Sleep questionnaires. In: Carney PR, Geyer JD, Berry R, eds. *Clinical Sleep Disorders*, 1st ed. Philadelphia: Lippincott Williams & Wilkins 2005; 479-481.

34. Carney PR, Becker DA, Bongiolatti S. (2005) Ontogeny of Sleep. In: Carney PR, Geyer JD, Berry R, eds. *Clinical Sleep Disorders*, 1st ed. Philadelphia: Lippincott Williams & Wilkins 2005; 95-98.

35. Becker D, Carney PR. Pediatric and adolescent presentations. In: Carney PR, Geyer JD, Berry R, eds. *Clinical Sleep Disorders*, 1st ed. Philadelphia: Lippincott Williams & Wilkins 2005; 136-146.

36. Berry R, Geyer JD, Carney PR. Introduction to sleep medicine. In: Carney PR, Geyer JD, Berry R, eds. *Clinical Sleep Disorders*, 1st ed. Philadelphia: Lippincott Williams & Wilkins: 2005; 3-28.

37. Becker D, Bongiolatti S, Carney PR. Sleep questionnaires. In: Carney PR, Geyer JD, Berry R, eds. *Clinical Sleep Disorders*, 1st ed. Philadelphia: Lippincott Williams & Wilkins 2005; 479-481.

38. Ringdahl D, Snively C, Carney PR. Pharmacological treatments. In: Carney PR, Geyer JD, Berry R, eds. *Clinical Sleep Disorders*, 1st ed. Philadelphia: Lippincott Williams & Wilkins 2005; 484- 487.

39. Chaovalitwongse W, Pardalos PM, Iasemidis LD, Carney PR, Shiau DS, Suharitdamrong W, Sackellares JC. A robust method for studying the dynamics of the intracranial EEG: Application to epilepsy. *Epilepsy Res* 2005; 64: 93-113.

40. Nair S, Sackellares JC, Shiau DS, Norman W, Dance L, Pardalos P, Principe JP, Carney PR. Effects of acute hippocampal stimulation on EEG dynamics. *Conf Proc IEEE Med Biol Soc.*2006;1:4382-6.

41. Mishra M, Jones B, Simonotto JD, Furman MD, Norman W, Liu Z, DeMarse TB, Carney PR, Ditto WL. Pre-ictal correlation and entropy analysis of microwire data from an animal model of limbic epilepsy. *Conf Proc IEEE Eng Med Biol Soc.* 2006;1:1605-7.

42. Chaovalitwongse WA, Iasemidis LD, Pardalos PM, Carney PR, Shiau DS, Sackellares JC. Reply to comments on Performance of a seizure warning algorithm based on the dynamics of intracranial EEG by Mormann, F., Elger, C.E., and Lehnertz, K, *Epilepsy Res.* 2006 Oct;71(2-3):241-2.

43. Simonotto JD, Myers SM, Furman MD, Norman WM, Liu Z, DeMarse TB, Ditto WL, Carney PR. Coherence Analysis Over the latent Period of Epileptogenesis Reveal that High-Frequency Communication is Increased Across Hemispheres in an Animal Model of Limbic Epilepsy. *Conf Proc IEEE Eng Med Biol Soc.* 2006;1:1154-6.

44. Nelson R, Myers S, Simonotto J, Furman M, Spano M, Norman W, Liu Z, DeMarse T, Ditto W, and Carney PR. Detection of high frequency oscillations with Teager energy in an animal model of limbic epilepsy. *Conf Proc IEEE Eng Med Biol Soc.* 2006;1:2578-80.

45. Sanchez JC, Carney PR, Principe JC. Analysis of Amplitude Modulated Control Features for ECoG Neuroprosthetics. *Conf Proc IEEE Eng Med Biol Soc.* 2006;1:5468-71.

46. Qizhi Z, Liu Z, Carney PR, Jiang H. Imaging Epilepsy Using Finite Element-based photoacoustic tomography: initial in vivo results. *Biomedical Optics Technical Digest ME18*; 2006
47. Geyer JD, Carney PR, Gilliam F. Focal Epileptiform Spikes in Conjunction With K-Complexes. *J Clin Neurophysiol.* 2006 Oct;23(5):437-440.
48. Sanchez JC, Mareci T, Norman W, Principe J, Ditto W, and Carney PR. Evolving into epilepsy: multiscale electrophysiological analysis and imaging in an animal model. *Exp Neurol.* 2006 Mar; 198(1): 31-47.
49. Nair SP, Shiau DS, Iasemidis LD, Norman WM, Pardalos PM, Sackellares CS, and Carney PR. Seizure predictability in an experimental model of epilepsy. *Proceedings, Quantitative Neuroscience Conferenc.* 2006; 213-220.
50. Stickler DE, Valenstein E, Neiberger RE, Perkins LA, Carney PR, Shuster JJ, Theriaque DW, Stacpoole PW. Peripheral neuropathy in genetic mitochondrial diseases. *Pediatr Neurol.* 2006 Feb; 34(2):127-31.
51. Miller J, Carney P. Central hypothyroidism with oxcarbazepine therapy. *Pediatr Neurol.* 2006 Mar; 34(3): 242-4.
52. Stacpoole PW, Kerr DS, Barnes C, Bunch ST, Carney PR, Fennell E, Felitsyn NM, Gilmore R, Greer M, Henderson G, Hutson AD, Neiberger R, OBrien R, Perkins LA, Quisling R, Shroads AL, Shuster JJ, Silverstein JH, Theriaque DW, Valenstein E. A controlled clinical trial of dichloroacetate for treatment of congenital lactic acidosis in children. *Pediatrics* 2006 May; 117(5):1519-1531.
53. Sanchez JC, Alba N, Nishida T, Batich C, and Carney PR. Structural modifications in chronic microwire electrodes for cortical neuroprosthetics. *IEEE Transactions on Neural Systems and Rehabilitation Engineering* 2006 June; 14(2).
54. Chaovaitwongse WA, Iasemidis LD, Pardalos PM, Carney PR, Shiau DS, Sackellares JC. Reply to comments on "Performance of a seizure warning algorithm based on the dynamics of intracranial EEG" by Mormann, F., Elger, C.E., and Lehnertz, K. *Epilepsy Res.* 2006 Nov;72(1):85- 7. Epub 2006 Jul
55. Chaovaitwongse W, Pardalos PM, Iasemidis LD, Suharitdamrong DS, Dance LK, Prokopyev OA, Boginski VL, Carney PR, Sackellares JC. Data mining in EEG: applications to epileptic brain disorders. In: *Data Mining in Biomedicine. Series: Springer Optimization and its Applications, Vol. 7* Pardalos , Panos M. Boginski, Vladimir L; Vazacopoulos, Alkis (Eds.), 459: 2007.
56. Shaiu DS, Iasemidis LD, Yang MCK, Pardalos PM, Carney PR, Dance LD, Chaovaitwongse W, Sackellares JC. Automated seizure prediction algorithm and its statistical assessment: a report from ten patients. In: *Data Mining in Biomedicine. Series: Springer Optimization and its Applications, Vol. 7* Pardalos, Panos M. Boginski, Vladimir L; Vazacopoulos, Alkis (Eds.), 517:2007.
57. Nair SP, Shiau DS, Iasemidis LD, Norman WM, Pardalos PM, Sackellares JC, Carney PR. Seizure predictability in an experimental model of epilepsy. In: *Data Mining in Biomedicine. Series: Springer Optimization and its Applications, Vol. 7* Pardalos , Panos M. Boginski, Vladimir L; Vazacopoulos, Alkis (Eds.), 535:2007.
58. Prokopyev OA, Boginski VL, Chaovalitsongse W, Pardalos PM, Sackellares JC, Carney PR. Network-based techniques in EEG data analysis and epileptic modeling. In: *Data Mining in Biomedicine. Series:*

Springer Optimization and its Applications, Vol. 7 Pardalos, Panos M. Boginski, Vladimir L; Vazacopoulos, Alkis (Eds.), 559:2007.

59. Hwang Dong-UK, Talathi S, Carney PR, Ditto W, Myers S, Norman W, Simonotto J. High frequency oscillations in the limbic rat model of temporal lobe epilepsy. *Computational Neuroscience*, 2007.

60. Talathi S, Hwang-DU, Ditto W, and Carney PR. Early seizure detection in an animal model of temporal lobe epilepsy. *Data Mining, Systems Analysis, and Optimization in Biomedicine*, edited by O. Seref, O. E. Kundakcioglu, P. M. Pardalos 2007 American Institute of Physics, pages 292-307.

61. Martynyuk AE, Ucar DA, Yang DD, Norman WM, Carney PR, Dennis DM, Laipis PJ. Epilepsy in phenylketonuria: A complex dependence on serum phenylalanine levels. *Epilepsia*. 2007 Jun; 48(6):1143-50. Epub 2007 May 1.

62. Jian B, Vemuri BC, Ozarslan E, Carney P, Mareci T. A novel tensor distribution model for the diffusion weighted MR signal. *Neuroimage*. 2007 Aug 1;37(1):164-76.

63. Ramirez-Manzanares A, Rivera M, Vemuri BC, Carney P, Mareci T. Diffusion basis functions decomposition for estimating white matter intra-voxel fiber geometry. *IEEE Transactions on Medical Imaging*, 2007; 26:1091-1102.

Peer Reviewed Abstracts and Conference Proceedings

1. Geyer JD and Carney PR. The association between acute cerebral infarction and restless legs. *American Academy of Neurology 60th Annual Meeting, Chicago, 2008.*

2. Bing J, Vermuri BC, Ozarslan E, Carney P, Mareci T A novel tensor distribution for the diffusion weighted MR signal. *IEEE International Symposium on Biomedical Imaging: From Nano to Macro*. April 12-17, 2007.

3. Singh T, Little LE, Nathoo S, Snively C, Ringdahl D, Winger K, Jackson C, Carney PR, Liu Z, Borum P. Evaluating potential growth abnormalities in a patient population. *Annual Meetings of the American Epilepsy Society and Canadian League Against Epilepsy, 2006.*

4. Snively C, Carney PR, Liu Z, Ringdahl D, Winger K, Jackson, C, Singh T, Little LE, Borum PR. Developing an Evidence-Based Ketogenic Therapy Program for Treatment of Epilepsy. *Annual Meetings of the American Epilepsy Society and Canadian League Against Epilepsy, 2006.*

5. Sepulveda H, Hoang-Minh L, Parekh MB, Hadlock A, Norman W, Sanchez JC,. Ditto WL, Carney PR, Mareci T. Evolution of Temporal Lobe Epilepsy Observed with 11.1 Tesla MRI In Vivo. *60th Annual Meeting of the American Epilepsy Society, San Diego, CA, 2006.*

6. Parekh M, Hoang-Minh LB, Sepulveda H, Handlock A, Norman W, Sanchez JC, Ditto WL, Carney PR, Mareci TH. Diffusion Tensor MR Imaging of the Rat Model of Mesial Temporal Lobe Epilepsy. *60th Annual Meeting of the American Epilepsy Society, San Diego, CA, 2006.*

7. Nair SP, Norman WM, Dance L, Pardalos PM, Principe J, and Carney PR. Development of Spatiotemporal Dynamical Transitions during Epileptogenesis. *60th Annual Meeting of the American Epilepsy Society, San Diego, CA, 2006.*

8. Zhang Q, Zhao Z, Liu, Carney PR, Jiang H. Imaging of Seizure-Onset Zone with Non-Invasive

Photoacoustic Tomography in a Rat Model of Focal Seizures. 60th Annual Meeting of the American Epilepsy Society, San Diego, CA, 2006.

9. Hoang-Minh L, Sepulveda H, Parekh M, Hadlock A, Norman W, Sanchez JC, Ditto WL, King MA, Carney PR, Liu Z, Mareci T. MRI Measurements at 17.6 Tesla in an Animal Model of Mesial Temporal Lobe Epilepsy Correlated with Histological Analysis. 60th Annual Meeting of the American Epilepsy Society, San Diego, CA, 2006.

10. Zhang Q, Liu L, Carney PR, Jiang H. Imaging of Seizure-Onset Zone with Non-Invasive Photoacoustic Tomography in a Rat Model of Focal Seizures. 60th Annual Meeting of the American Epilepsy Society, San Diego, CA, 2006.

11. Parekh MB, Hoang-Minh L, Sepulveda H, Handlock A, Norman W, Sanchez, JC Ditto WL, Carney PR, Mareci TH. Diffusion Tensor MR Imaging of the Rat Model of Mesial Temporal Lobe Epilepsy. 60th Annual Meeting of the American Epilepsy Society, San Diego, CA, 2006.

12. Geyer JD, Carney PR, Dillard SC. Epilepsy and Restless Legs Syndrome. 60th Annual Meeting of the American Epilepsy Society, San Diego, CA, 2006.

13. Martynyuk, AE, Carney PR, Dennis DM, Laipis PJ. Mechanisms of Epileptic Activity in Phenylketonuria: Decreasing Levels of Phenylalanine Trigger Seizures. 60th Annual Meeting of the American Epilepsy Society, San Diego, CA, 2006.

14. Loomis-Roux AR, Smith-Bonahue T, Carney PR. School Adjustment in Children with Epilepsy: Examining Parent Perceptions. 60th Annual Meeting of the American Epilepsy Society, San Diego, CA, 2006.

15. Zhang Q, Liu Z, Jiang H, Carney PR. Imaging of Epilepsy Using Photoacoustic Tomography. 60th Annual Meeting of the American Epilepsy Society, San Diego, CA, 2006.

16. Sanchez JC, Liu Z, Carney PR. Identifying the Seizure Onset Zone using Amplitude Modulated Slow Potentials, Gamma, Fast Gamma, and Neural Ensemble Activity. 60th Annual Meeting of the American Epilepsy Society, San Diego, CA, 2006.

17. Geyer JD, Carney PR, Dillard SC, Parrish P. Anti-depressant Medications, Neuroleptics and Prominent Eye Movements During Sleep, Vol 29 Abstract Suppl 2006 p.A34.

18. Zhang QZ, Liu Z, Carney PR, Jiang HB, Imaging epilepsy using finite-based photoacoustic tomography: Initial in vivo results. Optical Society America Annual Meeting, Lauderdale, FL 2006.

19. Singh, T, Little, LE, Nathoo S, Carney PR, Borum PB. Evaluating potential growth abnormalities in a patient population at Shands/UF on ketogenic therapy for seizures. Experimental Biology Meeting, 2006.

20. Sanchez JC, Gunduz A, Carney PR, Principe JC. Extraction and localization of mesoscopic motor control signals for human ECoG neuroprosthetics. Neuroplasticity Conference, 2006.

21. Sanchez JC, Principe JC, Carney PR. Choosing the Appropriate Level of Abstraction for Brain Machine Interfaces: Data Collection and Analysis Insights. DIMACS Workshop on Data Mining, Systems Analysis, and Optimization in Neuroscience, Feb 15-17, 2006.

22. Carney PR. Dynamical EEG Properties in the Limbic Epilepsy Rat Model. DIMACS Workshop on

Data Mining, Systems Analysis, and Optimization in Neuroscience, Feb 15-17, 2006.

23. Bongiolatti SR, Fennell EB, Carney PR. Sleep Fragmentation and Disruptive Behaviors in Children with Epilepsy and Co-morbid Sleep Disordered Breathing, International Neuropsychological Society, Boston, MA, Feb. 3-6, 2006. International Neuropsychological Society, 12(S1):109, 2006.

24. Shiau DS, Sackellares JC, Iasemidis LD, Nair SP, Norman W, Carney PR. Automated Seizure Warning in an Epileptic Rat Model. 57th Annual Meeting of the American Academy of Neurology, Miami FL, April, 2005. Neurology 64 Suppl. 1 (Abst. A:266), 2005.

25. Stickler DE, Valenstein E, Neiberger RE, Perkins LA, Carney PR, Shuster JJ, Theriaque DW, Stacpoole PW. Peripheral neuropathy in genetic mitochondrial diseases. Muscle and Nerve, 57th Annual Meeting of the American Academy of Neurology, April, 2005.

26. Shiau DS, Iasemidis LD, Sackellares JC, Suharitdamrong W, Shenk D, Carney PR. Quantitative methods for distinguishing neonates at risk for seizures from normal newborns. PAS 2005: 57: 2655.

27. Furman M, Ditto W, Simmonoto J, Carney PR. High-Resolution Phase Tracking of Moving Epileptic Foci with Phase-Dynamic Quantification Analysis. Epilepsia 46 Suppl. 8 :314 (Abst. 3.113) , 2005.

28. Liu Z, Norman W, Shenk D, Carney PR, Similarity of electroencephalographic changes in a rat model of human temporal lobe epilepsy. Epilepsia 2005; 46 (8): 292.

29. Bongiolatti S, Fennell E, Carney PR. Sleepiness as a Factor in Varying Degrees of Behavior Problems in Children with Epilepsy. Epilepsia 46 Suppl. 8:75 (Abst. 1.176) 2005.

30. Simmonoto J, Furman, Norman W, Sanchez J, Ditto W, Carney PR. Nonlinear Analysis of High-Resolution Microwire Electrode Data from a Chronic Limbic Epilepsy Model over the Latent Period. Epilepsia 46 Suppl. 8:124(Abst.2.098), 2005.

31. Nair S, Shiau D, Pardalos PD, Iasemidis L, Sackellares JC, Carney PR. Dynamical Responses to Hippocampal Stimulation in a Rodent Model of Chronic Limbic Epilepsy. Epilepsia 46 Suppl. 8:332 (Abst. 3.163, 2005.

32. Sanchez J, Norman W, Mareci T, Carney PR. Multiscale Electrophysiological Analysis and Imaging in an Animal Model of Limbic Epilepsy. Epilepsia 46 Suppl. 8:10, 2005.

33. Geyer JD, Carney PR, Gilliam F. Focal Dysormia: Focal epileptiform spikes in conjunction with K-complexes. Epilepsia 46 Suppl. 8:27 (Abst. 1.041), 2005.

34. Bongiolatti SR, Fennell EB, Carney PR. Sleep Fragmentation and Disruptive Behaviors in Children with Epilepsy and Co-morbid Sleep Disordered Breathing. Journal of the International Neuropsychological Society 2006; 12(S1): 109.

35. Shiau DS, Liu C, Suharitdamrong W. Pardalos PM, Carney PR, Sackellares JC. Distinguishing independent bitemporal form unilateral onset in epileptic patients by the analysis of nonlinear characteristics of EEG signals. Epilepsia 46 Suppl. 8 :321 (Abst. 3.131) , 2005.

36. Shiau DS, Nair SP, Iasemidis LD, Carney PR , Norman W+, Principe JC, Pardalos PM, Suharitdamrong W1, Cho J+, Sackellares JC. Seizure warning and dynamic response to electrical stimulation in a rodent model of chronic limbic epilepsy. 2005; IEEE EMBC.

37. Carney PR, Nair SP, Iasemidis LD, Shiau DS, Pardalos PM, Shenk D, Norman WM+, Sackellares JC. Quantitative analysis of EEG in the rat limbic epilepsy model. American Academy of Neurology 56th Annual Meeting, San Francisco, April 24-May 1, Poster P04.016, 2004.
38. Sackellares JC, Iasemidis LD, Shiau DS, Yang CK, Dance LD, Pardalos PM, Carney PR. Automated seizure warning system performance in temporal lobe epilepsy. American Academy of Neurology, 56th Annual Meeting, San Francisco, April 24-May 1, Poster P02.033, 2004.
39. Nair SP, Shiau DS+, Norman WN, Shenk D, Suharitdamrong W, Iasemidis LD, Pardalos PM, Sackellares JC, Carney PR. Dynamical changes in the rat chronic limbic epilepsy model. *Epilepsia* 45 Suppl. 7:211 (Abst. 2.060) , 2004.
40. Shiau DS, Iasemidis LD, Yang MCK, Carney PR, Pardalos PM, Suharitdamrong W1, Nair SP, Sackellares JC. Pattern-match regularity statistics-a measure quantifying the characteristics of epileptic seizures. *Epilepsia* 45 Suppl. 7 :85 (Abst. 1.213) , 2004.
41. Shiau DS, Iasemidis LD, Sackellares JC, Pardalos PM, Carney PR, Chaovalitwongse W1. Nonlinear Dynamics and Global Optimization Approaches to Investigate Dynamical Transitions Before and After Epileptic Seizures. Quantitative Neurosciences Conference at University of Florida, February 5-7, 2003.
42. Sackellares JC, Iasemidis LD, Shiau DS, Carney PR, Pardalos PM, Chaowalitwongse W1. Preictal Transition in Temporal Lobe Epilepsy. Quantitative Neurosciences Conference at University of Florida, February 5-7, 2003.
43. Carney PR, Iasemidis LD, Sackellares JC, Srivastava A, Shiau DS, Maze MF., Zhang L, MacLennan AJ, Pardalos PM. Seizure Prediction by Nonlinear Times Series Analyses of Brain Electrical Activity in the H218 Animal Model. Quantitative Neurosciences Conference at University of Florida, February 5-7, 2003.
44. Iasemidis LD, Sackellares JC, Pardalos PM, Shiau DS, Chaovalitwongse W1, and Carney PR. Epileptic Seizure Prediction. Quantitative Neurosciences Conference at University of Florida, February 5-7, 2003.
45. Chaovalitwongse W, Pardalos PM, Sackellares JC, Iasemidis LD, Shiau DS, and Carney PR. Non-linear Dynamics and Global Optimization in EEG with Applications for Prediction of Epileptic Seizures. Quantitative Neurosciences Conference at University of Florida, February 5-7, 2003.
46. Sackellares JC, Shiau DS, Pardalos PM, Carney PR, Chaowalitwongse W. Time Irreversibility of Brain Spatio-Temporal Dynamics at Epileptic Seizure Transitions. International Nonlinear Sciences Conference, Vienna, Austria, February 7-9, 2003.
47. Sackellares JC, Yang MCK, Iasemidis LD, Shiau DS, Pardalos PM, Carney PR. Real Time Prospective Seizure Prediction and Statistical Assessment. NIH Biomedical Information Science Technology Initiative Consortium BISTIC, Bethesda, MD, Nov 6-7, 2003.
48. Shiau DS, Sackellares JC, Iasemidis LD, Carney PR, Pardalos PM, Chaovalitwongse W1,: Dynamical Entrainment Among Epileptic Brain Areas, *Ann Neurol.* 2003; 54 (S7: S55).
49. Sackellares JC, Iasemidis LD, Shiau DS, Suharitdamrong W, Dance LK, Chaovalitwongse W1, Pardalos PM, Carney PR. An Automated Seizure Warning Algorithm for Scalp EEG. *Epilepsia* 2003; 44 (9), 228.

50. Carney PR, Sackellares JC, Shiau DS, Iasemidis LD, Chaovalitwongse W, Suharitdamrong W, Pardalos PM. Detection of Seizures in Newborns by Quantitative EEG Signal Analyses. *Epilepsia* 2003; 44 (9) 54-55.
51. Sackellares JC, Yang MCK, Shiau DS, Iasemidis LD, Pardalos PM, Carney PR. Prospective controlled trial of an automatic seizure prediction algorithm. . American Academy of Neurology 55th Annual Meeting, 2003. *Neurology* 60 Suppl. 1, Number 5, 2003
52. Saxonhouse MA, Bhatti MT, Driebe WT, Freeman BE, Maria BL, Carney PR. Primary antiphospholipid syndrome presenting with a branch retinal artery occlusion in a 15-year-old boy. *J Child Neurol.* 2002; 17(5):392-4.
53. Sackellares JC, Shiau DS, Iasemidis L, Pardalos P, Chaovalitwongse W, Carney PR. Can knowledge of cortical site dynamics in a preceding seizure be used to improve prediction of the next seizure? *Annals Neurol.* 2002; 52 (3S), S65-S66.
54. Carney PR, Maze MF, Shiau DS, Srivastava A, Iasemidis LD, Pardalos PM, Sackellares, JC. State-specific nonlinear neurodynamic features in an animal model of generalized epilepsy. *Epilepsia* 43 Suppl. 7 :270 (Abst. 3.063) , 2002.
55. Shiau DS, Sackellares JC, Iasemidis LD, Maze MF, Carney PR. Nonlinear Approximate Entropy Analysis of Brain Electrical Activity in a Generalized Epilepsy Animal Model. *Epilepsia* 2002; 443 (7): 273.
56. Sackellares JC, Iasemidis LD, Shiau DS, Chaovalitwongse W1, Pardalos, P, Carney PR. Dynamical Dependence of Seizure Prediction on Preceding Seizures. *Epilepsia* 43 Suppl. 7 :50 (Abst. 1.136) , 2002
57. Iasemidis LD, Shiau, DS, Chaovalitwongse W, Pardalos PM, Carney PR, Sackellares JC. Adaptive Seizure Prediction System. *Epilepsia* 43 Suppl. 7:264 (Abst. 3.048), 2002.
58. Chaovalitwongse W, Iasemidis LD, Prasad A, Shiau, DS, Pardalos PM, Carney PR, Sackellares JC. Seizure Prediction by Dynamical Phase Information from the EEG. *Epilepsia* 43 Suppl. 7 :45 (Abst. 1.121) , 2002.
59. Snively C, McClernan CS, Maze MF, Carney PR. Efficacy and tolerability of the ketogenic diet in the very young. *Epilepsia* 43 Suppl. 7:225 (Abst. 2.281), 2002.
60. Sackellares JC, Shiau DS, Iasemidis LD, Pardalos PM, Chaovalitwongse W, Carney PR, Can Knowledge of Cortical Site Dynamics in a Preceding Seizure Be Used to Improve Prediction of the Next Seizure? *Ann Neurol.* 2002; 52, (3S), S65-S66.
61. Chaovalitwongse W, Iasemidis LD, Prasad A, Shiau DS, Pardalos, PM, Carney PR, Sackellares JC. Seizure prediction by dynamic phase information from the EEG. *Epilepsia* 2002; 443(7):45.
62. Sackellares JC, Iasemidis LD, Shiau D-S, Chaovalitwongse W, Pardalos PM, and Carney PR. Dynamic dependence of seizure prediction on preceding seizures. *Epilepsia* 43 Suppl. 7:50 (Abst. 1.136) , 2002.
63. Iasemidis LD, Shiau D-S, Chaovalitwongse W, Pardalos PM, Carney PR, Sackellares JC. Adaptive seizure-prediction system. *Epilepsia* 2002, 443(7): 264.
64. Carney PR, Maze MF, Shiau DS, Srivastava A, Iasemidis LD, Pardalos PM, and Sackellares, J.C. State-specific nonlinear neurodynamic features in an animal model of generalized epilepsy. *Epilepsia* 2002;

443(7):270.

65. Shiau DS, Sackellares JC, Iasemidis LD, Maze MF, and Carney PR. Nonlinear approximate entropy analysis of brain electrical activity in a generalized epilepsy animal model. *Epilepsia* 2002; 443(7):273.

Press Releases

Recreating Epilepsy. feature University of Florida College of Engineering feature story, 2006

Mathematical Analysis of EEG May Lead To Quicker Diagnosis. *Epilepsy Action* feature story, 2005

New Brain Monitoring Method Would Pinpoint Babies at Risk for Seizure. *Medgadgets* feature Story, 2005

Sleep Disorders in Children with Epilepsy: More Common than You Think. Feature Story *Epilepsy.com*, 2005

Epilepsy - New brain monitoring method would pinpoint babies at risk for seizures. *Epilepsy News* today feature story, 2005

Solving sleep problems helps epileptic children. University of Florida feature story, March 30, 2005.

UF researchers explore epilepsy, sleep problems. Feature story *Gainesville Sun*, April 18, 2005

Confusion and speech problems are frequent signs of seizures, but babies offer few such clues as to what ails them. UF feature story Tuesday, 17-May-2005 *AZoMed.com*, 2005

Childrens Miracle Network feature story on Epilepsy Surgery, 2005

Hannah Beths Story, Channel 20 TV (Sarasota, FL) news interview on mitochondrial disorders in children, 7/2004

University of Florida College of Journalism interview on Childhood Sleep Disorders, 2/2004

*Curriculum Vitae***Dr. Vladimir L. Boginski**

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Professional Preparation

- ◇ **Ph.D. in Industrial and Systems Engineering**, August 2005
Department of Industrial and Systems Engineering, University of Florida, Gainesville, FL
Dissertation Advisor: Distinguished Prof. Panos M. Pardalos
GPA 4.0/4.0
- ◇ **M.S. in Industrial and Systems Engineering**, May 2003
Department of Industrial and Systems Engineering, University of Florida, Gainesville, FL
GPA 4.0/4.0
- ◇ **B.S. in Applied Mathematics**, June 2000
Moscow Institute of Physics and Technology, Moscow, Russia
Honor of Excellence Diploma

Appointments

- ◇ Visiting Assistant Professor & Graduate Faculty, Research and Engineering Education Facility & Department of Industrial and Systems Engineering, University of Florida, Shalimar, FL, August 2007 – present
- ◇ Assistant Professor, Department of Industrial Engineering, Florida State University/Florida A&M University, Tallahassee, FL, 2005 – 2007
- ◇ Instructor, Department of Industrial & Systems Engineering, University of Florida, Gainesville, FL, 2004 – 2005
- ◇ Research/Teaching Assistant, Department of Industrial and Systems Engineering, University of Florida, Gainesville, FL, 2001 – 2005
- ◇ Intern, Dash Optimization, Inc., Englewood Cliffs, NJ, June–August 2003

Funded Grants

- ◇ *Design of Sensor Networks Under Uncertainty* (PI), 45,000, Air Force Research Laboratory, 05/03/2008 - 07/31/2008.
- ◇ *Conference “Sensors 2008: Theory, Algorithms and Applications”* (PI), 8,000 (estimated), Air Force Research Laboratory, 04/24/2008 - 04/26/2008.
- ◇ *Differentiating Oligosaccharide Isomers via Infrared Spectra of Gaseous Ions* (co-PI, PI: John R. Eycler, UF Chemistry Dept.), 404,320, National Science Foundation, 09/01/07 - 08/31/09.
- ◇ *Studying the Impact of Social Factors on Stock Market Behavior Using Data Mining Techniques* (PI), 15,000, Florida State University Council on Research and Creativity, 05/09/06–08/07/06.

Current Research Interests

- ◇ Operations research and optimization techniques for data mining with military, chemical, medical, and financial applications
- ◇ Network-based modeling of complex systems and massive datasets
- ◇ Combinatorial and network optimization problems
- ◇ Optimization techniques for quantifying uncertainties and risk
- ◇ Random graph models
- ◇ Applications of simulation techniques

Publications

• Edited Books

- ◇ *Data Mining in Biomedicine*, P.M. Pardalos, V. Boginski and A. Vazacopoulos (eds.) Springer, ISBN-10: 0-387-69318-1, February 2007.

• Refereed Journal Articles and Book Chapters

- ◇ V. Boginski and C.W. Commander. Identifying Critical Nodes in Protein-Protein Interaction Networks. To appear in: S.I. Butenko, W.A. Chaovilitwongse, and P.M. Pardalos (eds.), *Clustering Challenges in Biological Networks*, World Scientific, 2008.
- ◇ V. Boginski and P.M. Pardalos. Network Techniques in Financial Markets. To appear in: C. Zopounidis, M. Doumpos, and P.M. Pardalos (Eds.), *Handbook of Financial Engineering*, Springer, 2008.
- ◇ A. Arulselvan, G. Baourakis, V. Boginski, E. Korchina, P.M. Pardalos. Analysis of Food Industry Market using Network Approaches. *British Food Journal*, 2008 (to appear).
- ◇ O. A. Prokopyev, V. Boginski, W. Chaovilitwongse, P.M. Pardalos, J.C. Sackellares, P.R. Carney. Network-based Techniques in EEG Data Analysis and Epileptic Brain Modeling, In: *Data Mining in Biomedicine*, P.M. Pardalos, V. Boginski and A. Vazacopoulos (eds.), pp. 559–573, Springer, 2007.
- ◇ W. Chaovilitwongse, L.D. Iasemidis, P.R. Carney, J.C. Sackellares, D.-S. Shiau, L.K. Dance, O. A. Prokopyev, V. Boginski and P.M. Pardalos. Data Mining in EEG: Application to Epileptic Brain Disorders. In: *Data Mining in Biomedicine*, P.M. Pardalos, V. Boginski and A. Vazacopoulos (eds.), pp. 459–481, Springer, 2007.
- ◇ V. Boginski, S. Butenko, and P.M. Pardalos. Mining Market Data: A Network Approach. *Computers and Operations Research*, Special Issue on Operations Research in Data Mining, 33: 3171-3184, 2006.
- ◇ A. Arulselvan, V. Boginski, A. Kammerdiner, and P.M. Pardalos. Analysis of Stock Market Structure by Identifying Connected Components in the Market Graph. *Journal of Financial Decision Making*, 1(1): 27–37, 2005.
- ◇ V. Boginski, S. Butenko, and P. M. Pardalos. Statistical Analysis of Financial Networks. *Computational Statistics and Data Analysis*, 48(2): 431–443, 2005.
- ◇ V. Boginski, S. Butenko, and P. M. Pardalos. Analytic approaches to college football rankings. *Research Quarterly for Exercise and Sport*, Suppl. S, 76(1): A13-A13, 2005.

- ◇ V. Boginski, P.M. Pardalos, and A. Vazacopoulos. Network-based Models and Algorithms in Data Mining and Knowledge Discovery, In: *Handbook of Combinatorial Optimization*, D.-Z. Du and P.M. Pardalos (eds.), Supplementary Volume B, pp. 217–258, 2005.
- ◇ P.M. Pardalos, V. Boginski, O. Prokopyev, W. Suharitdamrong, P.R. Carney, W. Chaowalitwongse, A. Vazacopoulos. Optimization in Medicine. In: *Essays and Surveys on Global Optimization*, C. Audet and P. Hansen (eds.), pp. 211–232, 2005.
- ◇ V. Boginski, S. Butenko, and P. M. Pardalos. Network Models of Massive Datasets. *Computer Science and Information Systems*, 1: 75–89, 2004.
- ◇ V. Boginski, S. Butenko, and P.M. Pardalos. Network-based Techniques in the Analysis of the Stock Market. In: *Supply Chain and Finance*, P. M. Pardalos, A. Migdalas, G. Baourakis (eds.), World Scientific, pp. 1–14, 2004.
- ◇ V. Boginski, S. Butenko and P. M. Pardalos. Matrix-based Methods for College Football Rankings. In: *Economics, Management and Optimization in Sports*, S. Butenko, J. Gil-Lafuente, P. Pardalos (eds.), Springer, pp. 1-14, 2004.
- ◇ V. Boginski, S. Butenko, P. M. Pardalos and O. Prokopyev. Collaboration Networks in Sports. In: *Economics, Management and Optimization in Sports*, S. Butenko, J. Gil-Lafuente, P. Pardalos (eds.), Springer, pp. 265-277, 2004.
- ◇ V. Boginski, S. Butenko and P. M. Pardalos. On Structural Properties of the Market Graph. In: *Innovations in Financial and Economic Networks*, A. Nagurney (ed.), Edward Elgar Publishers, pp. 28-45, 2003.
- ◇ V. Boginski, S. Butenko and P. M. Pardalos. Modeling and Optimization in Massive Graphs. In: *Novel Approaches to Hard Discrete Optimization*, P.M. Pardalos and H. Wolkowitz (eds.), AMS, pp. 17-39, 2003.
- **Refereed Conference Proceedings**
 - ◇ V. Boginski, I. Mun, Y. Wu, K. Mason, and C. Zhang. Simulation and Analysis of Hospital Operations and Resource Utilization Using RFID Data. *IEEE International Conference on RFID*, pp. 199-204, Grapevine, TX, March 2007.
- **Submitted**
 - ◇ V. Boginski and C.W. Commander. A note on polynomial-time techniques for solving network flow problems under uncertainty. Submitted, 2008.
 - ◇ V. Boginski and C.W. Commander. Formulations of network flow problems under uncertainty. Submitted: C.W. Commander, M.J. Hirsch, R.A. Murphey, and P.M. Pardalos (editors), *Optimization and Cooperative Control Strategies*, Lecture Notes in Control and Information Sciences, Springer, 2008.

Invited Presentations

- ◇ *Solving Network Flow Problems Under Uncertainty*, Conference “Sensors 2008: Theory, Algorithms and Applications”, April 2008, Shalimar, FL.
- ◇ *Distinguishing Disaccharides Using Dissociation Spectra via Predictive Modeling Techniques*, Conference on Data Mining, Systems Analysis, and Optimization in Biomedicine, March 2007, Gainesville, FL.
- ◇ *Simulation and Analysis of Hospital Operations and Resource Utilization Using RFID Data*, IEEE International Conference on RFID, March 2007, Grapevine, TX.
- ◇ *Network-Based Approaches for Mining Financial Data*, International Conference on Financial Engineering, March 2006, Gainesville, FL.
- ◇ *Clustering Stocks Using Network Models*, INFORMS meeting, November 2005, San Francisco, CA.
- ◇ *Analysis of Stock Market Data Using Network-Based Approaches*, INFORMS meeting, October 2004, Denver, CO.
- ◇ *Network-based Techniques in EEG Data Analysis and Epileptic Brain Modeling*, INFORMS meeting, October 2004, Denver, CO.
- ◇ *Network-based Approaches to the Analysis of Financial Data*, SIAM Student Workshop (sponsored by NSF), March 2004, Gainesville, FL.
- ◇ *On Structural Properties of the Market Graph*, INFORMS meeting, October 2003, Atlanta, GA.
- ◇ *Optimization in Data Mining*, Dash Optimization, Inc. Users Meeting, October 2003, San Francisco, CA.
- ◇ *Collaboration Networks in Sports*, Congreso Mundial de Optimizacion Social y Gestion Economica del Deporte, May 2003, Barcelona, Spain.

Professional Service Activities

- ◇ Panelist, NSF (February 2008, *Cyber-enabled Discovery and Innovation* program)
- ◇ Associate Editor, *Optimization Letters*.
- ◇ Reviewer for *Journal of Heuristics*, *Journal of Combinatorial Optimization*, *Journal of Global Optimization*, *Computational Management Science*, *Optimization Letters*, *Quantitative Finance*.
- ◇ Co-Organizer, Conference “Sensors 2008: Theory, Algorithms, and Applications”, April 24–26, 2008, Shalimar, FL.
- ◇ Session Chair, “Data Mining Applications”, INFORMS meeting, November 4–7, 2007, Seattle, WA.
- ◇ Advisory Committee member, Conference on Systems Analysis, Data Mining and Optimization in Biomedicine, March 28–30, 2007, Gainesville, FL.
- ◇ Organizing Committee member, International Conference on Applied Optimization and Meta-heuristic Innovations, July 19–21, 2006, Yalta, Ukraine.
- ◇ Advisory Board member, International Conference on Computational Management Science, May 17–19, 2006, Amsterdam, the Netherlands.
- ◇ Advisory Board member, International Conference on Computational Management Science, March 31–April 3, 2005, Gainesville, FL.

- ◇ Organizing Committee member, Conference on Systems Analysis, Data Mining and Optimization in Biomedicine, February 2–4, 2005, Gainesville, FL.
- ◇ Organizer of the invited session “Data Mining in Biomedicine”, INFORMS meeting, October 2004, Denver, CO.
- ◇ Organizing Committee member, Conference on Data Mining in Biomedicine, February 16–18, 2004, Gainesville, FL.

Miscellaneous Awards and Honors

- ◇ Nomination for the Future Academician Colloquium at INFORMS meeting, October 2004, Denver, CO.
- ◇ Supplemental Scholarship Award for Excellent Record of Academic Performance, Industrial and Systems Engineering Dept., University of Florida, Spring 2004.
- ◇ Outstanding Teaching Assistant Award, Industrial and Systems Engineering Dept., University of Florida, Fall 2003.
- ◇ Certificate of Achievement for Outstanding Academic Accomplishments, University of Florida, Spring 2004, Spring 2003, Spring 2002.