Report of the Activities of the Center for Applied Optimization (CAO) for the period: Fall 2012- end of Fall 2017

Director: Panos M. Pardalos

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

http://www.ise.ufl.edu/pardalos/

1. Overview

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, medicine, 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. During the last five years, we have collaborated with other university centers, institutes, and large projects.

- We are part of a larger PRISMA-P (Precision and Intelligent Systems in Medicine) project, funded by NIH, since its inception from 2013.

- We are part of a newly funded NSF IUCRC (Industry and University Cooperative Research Center) program at the University of Florida: Center for Big Learning, whose goal is to push further the research, tech transfer and application of deep learning technologies.

- We have been collaborating with the UF Informatics Institute since 2016. We co-organized the Conference on Computational Biomedicine for the past three years (CBM 2016, CBM 2017 & CBM 2018).

- We are collaborating with the UF Brain Institute & the UF Genetics Institute

- P.M. Pardalos is a permanent member of DIMACS. Next year, we are co-organizing an International Computational Challenge on vehicle routing problems (funded by NSF).

The Center promotes collaboration with researchers at other universities through visitors and student exchange. The Center has an international reputation as reflected by invitations to deliver invited lectures, participate in international award committees (Kyoto Prize Committee, MacArthur award committee), and co-organize international conferences. With the Elizabeth Wood Dunlevie Honors Term Professorship for 2013-2014, Dr. Pardalos created and taught the course Data Mining in Industrial Engineering. Students from this class (under Dr. Pardalos' supervision) initiated the Data Science Informatics student organization (http://www.dsiufl.org/) which is one of the most active student organizations at the University of Florida.

2. Faculty and key personnel associated with the Center

Industrial and Systems Engineering:

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

- Roman Belavkin, Ph.D. (The University of Nottingham), Optimal Decision-making, Estimation, Learning and Control; Geometric Theory of Optimal Learning and Adaptation; Evolution as an Information Dynamic System.

- Vladimir Boginski. Ph.D. (University of Florida, Gainesville). Systems Engineering, Network Robustness, Combinatorial Optimization, Data Mining.

- Oleg P. Burdakov, Ph.D. (Moscow Institute of Physics and Technology), Numerical methods for optimization problems and systems of nonlinear equations, Inverse problems, multilinear least-squares, nonsmooth optimization and equations, monotonic regression, hop-restricted shortest path problems.

- Pando G. Georgiev, Ph.D., D.Sci. (Sofia University), Optimization, Machine Learning, Data Mining, Variational Analysis.

- Joseph P. Geunes. Ph.D. (Pennsylvania State University), Manufacturing and Logistics 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

- Ilias Kotsireas, Ph.D. (University of Paris), Symbolic Computation, Computer Algebra, Computational Algebra, Combinatorial Matrix Theory, Combinatorial Optimization, Commutative Algebra & Algebraic Geometry, Combinatorial Designs, Discrete Mathematics, Combinatorics.

- Guanghui (George) Lan, Ph.D. (Georgia Institute of Technology), Theory, Algorithms and Applications of Convex Programming and Stochastic Optimization; Modeling and Solution Approach of Bio-fuel Engineering.

- Petar Momcilovic, Ph.D. (Columbia University), Applied Probability, Service Engineering.

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

- Jean-Philippe P. Richard, Ph.D. (Georgia Institute of Technology), Operations Research, Linear and Nonlinear Mixed Integer Programming Theory and Applications, Polyhedral Theory, Algorithms.

- 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. Analysis of Integrated Supply Chain Design and Management Models; Design and Analysis of Algorithms.

- Yaroslav D. Sergeyev, D.Sc. (Moscow State University), Ph.D. (Gorky State University), Global Optimization, Infinity Computing and Calculus, Set Theory, Number Theory, Space Filling Curves, Parallel Computing, Interval Analysis, Game Theory.
- Stanislav Uryasev, Ph.D. (Glushkov Institute of Cybernetics, Ukraine), Stochastic Optimization, Equilibrium Theory, Applications in Finance, Energy and Transportation.
- Jun Pei, Ph.D. (Hefei University of Technology), Production scheduling, Healthcare operations, Internet of Things, Coordinated optimization in manufacturing.
- Xiang Zhong, Ph.D. (University of Wisconsin-Madison), Stochastic modeling and control in healthcare and service systems, Data analytics in healthcare.

Mathematics:

- William Hager, Ph.D. (MIT), Numerical Analysis, Optimal Control,
- Bernhard Mair, Ph.D. (McGill), Inverse Analysis
- Athanasios Migdalas. Ph.D. (Linköping Institute of Technology), Combinatorial Optimization, Discrete Mathematics, Numerical Analysis, Network Optimization
- Andrew Vince, Ph.D. (Michigan), Combinatorics, Graph Theory, Polytopes, Combinatorial Algorithms, Discrete Geometry
- David Wilson, Ph.D. (Rutgers), Image Processing
- Panos Nastou, Ph.D., Department of Mathematics, Aegean University

Civil Engineering

- Kirk Hatfield, Ph.D. (Massachusetts), Water Quality Modeling, Optimization in Environmental Modeling
- Lily Elefteriadou, Ph.D. (Polytechnic University, New York), Traffic Operations, Highway Capacity, Traffic Simulation, Signal Control Optimization
- Stamatina Th. Rassia, Ph.D. (University of Cambridge), Sustainable Environmental Design in Architecture, Cities for Smart Environmental and Energy Futures, Spatial Design Modeling and Assessment

Electrical & Computer Engineering:
- Jose C. Principe, Ph.D. (University of Florida), Digital Signal Processing, Brain Dynamics Learning, Brain Machine Interfaces, Information Theoretic Learning, LoFlyte Simulators, Neural Networks
- Xiaolin (Andy) Li, Ph.D. (Rutgers University), Cloud Computing, Intelligent Platforms, Big Data, Deep Learning, Deep Architecture, Computer Vision, Autonomous Systems, Precision Medicine

Mechanical and 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:
- Petraq Papajorgji (CV), Ph.D. (University of Tirana, Albania), Software Engineering, Data Mining, Business Modeling, Information Systems
- Gerhard X. Ritter, Ph.D. (Wisconsin), Computer Vision, Image Processing, Pattern Recognition, Applied Mathematics,
- My T. Thai, Ph.D. (Minnesota), Networks, Combinatorial Optimization, Algorithms, Computational Biology.

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
- Azra Bihorac, M.D., Anesthesiology, Medicine, and Surgery

Research Institutes
- Marco Carvalho, Florida Institute for Human & Machine Cognition. Machine Learning applied to tactical networks and biological-inspired security
- Mario Rosario Guarracino, Consiglio Nazionale delle Ricerche Machine learning methods for computational biology.
- Vitaliy A. Yatsenko, Institute of Space Research, Optimization, bilinear control systems, intelligent sensors, and biomedical application.

Food & Res. Econ.:
- Charles Moss, Ph.D. (Purdue University)
- Georgios Vlontzos, Ph.D. (University of Thessaly)
- Xenophon Markantonatos, Ph.D. (The Pennsylvania State University)
- Ioannis Ampatzidis, Ph.D. (Aristotle University of Thessaloniki), Precision Irrigation, UAV, Smart Systems, Internet of Things, Mechatronics-Robotics, Automation, Precision Farming, Sensors/Sensing, Smart Machinery, Machine Vision, Artificial Intelligence

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.

3. Publications

(the bold-faced references involve joint authorship between associated members of the Center)

PANOS M. PARDALOS

BOOKS AUTHORED:
1. Electrical Power Unit Commitment - Deterministic and Two-Stage Stochastic Programming Models and Algorithms, co-authors: Huang Yuping, Pardalos Panos M., Zheng Qipeng P., Springer, (2017).
2. Non-Convex Multi-Objective Optimization, co-authors: Panos M. Pardalos, Antanas Zilinskas, Julius Zilinskas, Springer, (2017).
3. **Optimization and Management in Manufacturing Engineering, co-authors: Xinbao Liu, Jun Pei, Lin Liu, Hao Cheng, Mi Zhou, Panos M. Pardalos, Springer, (2017).**

PAPERS IN REFEREED JOURNALS:
1. **"Computational risk management techniques for fixed charge network ow problems with uncertain arc failures" (Alexey Sorokin, Vladimir Boginski, Artyom Nahapetyan, Panos M. Pardalos), Journal of Combinatorial Optimization, Vol 25 (2013), pp. 99-122.**
2. "Maximum Lifetime Connected Coverage with Two Active-Phase Sensors" (with Hongwei Du, Weili Wu, and Lidong Wu), Journal of Global Optimization, Volume 56, Issue 2 (2013), pp. 559-568.
3. **"A Python/C library for bound-constrained global optimization with continuous GRASP" (R. M. A. Silva, M. G. C. Resende, P. M. Pardalos, M. J. Hirsch), Optimization Letters, Volume 7, Issue 5 (2013), Page 967-984.**
4. "Quadratic Assignment Problem" (Alla Kammerdiner, Theodoros Gevezes, Eduardo Pasiliao, Leonidas Pitsoulis and Panos M. Pardalos), In Encyclopedia of Operations Research and Management Science (S. Gass, M. Fu (eds.)), Springer (2013), pp. 1193-1207.
5. "Global Optimization" (Huang Tuy, Steffen Rebennack, and Panos M. Pardalos) In Encyclopedia of Operations Research and Management Science (S. Gass, M. Fu (eds.)), Springer (2013), pp. 650-658.
6. "Iterative roots of multidimensional operators and applications to dynamical systems" (Pando Georgiev, Lars Kindermann, and Panos M. Pardalos) Optimization Letters, 7 (2013), pp. 1701 - 1710.
7. "An Improved Adaptive Binary Harmony Search Algorithm" (Y. Xu, Q. Niu, P.M. Pardalos, M. Fei), Information Sciences, 232 (2013), pp. 58-87.
8. "An Adaptive Fuzzy Controller based on Harmony Search and Its Application to Power Plant Control" (Ling Wang, Ruixin Yang, Panos M Pardalos, Lin Qian, Minrui Fei) International Journal of Electrical Power & Energy Systems, Volume 53 (2013), pp. 272-278.
9. "Raman spectroscopy utilizing Fisher-based feature selection combined with support vector machines for the characterization of breast cancer cell lines" (Fenn, M.B., Pappu, V., Georgeiv, P., Pardalos, P.M.) Journal of Raman Spectroscopy 44 (2013), pp. 939-948.

10. "Robust aspects of solutions in deterministic multiple objective linear programming" (Pando Gr. Georgiev, Dinh The Luc, and Panos M. Pardalos) European Journal of Operational Research, Vol 229, Issue 1 (2013), pp. 29-36.

11. "Simple measure of similarity for the market graph construction" (Grigory A. Bautin, Valery A. Kalyagin, Alexander P. Koldanov, Petr A. Koldanov, and Panos M. Pardalos), Computational Management Science, Vol. 10, No 2-3 (2013), pp. 105-124.

12. "Statistical Procedures for the Market Graph Construction" (Alexander P. Koldanov, Petr A. Koldanov, Valeriy A. Kalyagin, and Panos M. Pardalos) Computational Statistics and Data Analysis, Vol 68 (2013), pp. 17-29.

13. "Livestock Evacuation Planning for Natural and Man-made Emergencies" (Chrysafis Vogiatzis, Ruriko Yoshida, Ines Aviles-Spadoni, Shigeki Imamoto, and Panos M. Pardalos) International Journal of Mass Emergencies and Disasters, March 2013, Vol. 31, No. 1, pp. 25-37.

14. "Efficient Computation of Tolerances in the Weighted Independent Set Problem for Trees" (Goldengorin B. I., Malyshev D., Pardalos P. M.) Doklady Akademii Nauk, 2013, volume 450. No 4. pp. 393-396.

15. "Polyhydroxy Fullerenes" (A. Georgieva, V. Pappu, V. Krishna, P. Georgiev, I. Ghiviriga, P. Indeglia, X. Xu, Z. Hugh Fan, B. Koopman, P. Pardalos, B. Moudgil) Journal of Nanoparticle Research, June 2013, 15:1690.

16. "Multistage Transmission Expansion Planning Considering Fixed Series Compensation Allocation" (with Mohsen Rahmani, Guillermo Vinasco, Marcos J. Rider, Ruben Romero, and Panos M. Pardalos) IEEE Transactions on Power Systems, Vol. 28, No. 4 (Nov 2013), pp. 3795-3805.

17. "Prediction of electricity energy consumption of Turkey via artificial bee colony: a case study" (Feyza Gurbuz, Celal Ozturk and Panos Pardalos) Energy Systems, September 2013, Volume 4, Issue 3, pp. 289-300.

18. **"D-optimal matrices via quadratic integer optimization" (I.S. Kotsireas and P.M. Pardalos) J Heuristics, Vol. 19, Issue 43 (2013), pp. 617 - 627.**

19. **"Invexity of the Minimum Error Entropy Criterion" (Mujahid Syed, Jose Principe, and Panos M. Pardalos) IEEE Signal Processing Letters, Vol 20, No 12 (Dec 2013), pp. 1159 - 1162.**

20. "A Decomposition Approach to the Two-Stage Stochastic Unit Commitment Problem" (Qipeng Zheng, Jianhui Wang, Panos M. Pardalos, and Yongpei Guan), Annals of Operations Research, Vol 210 (2013), pp. 387-410.

21. "Efficient Computation of Tolerances in the Weighted Independent Set Problem for Some Classes of Graphs" (Malyshev D., Pardalos P. M.) Doklady Mathematics, Vol. 89, No. 2 (2014), pp. 253 - 256.

22. "A hierarchical approach for sparse source blind signal separation problem" (Mujahid N. Syed, Pando G. Georgiev, Panos M. Pardalos) Computers & Operations Research, 41 (2014) pp. 386-398

23. "Space Pruning Monotonic Search for the Non-unique Probe Selection Problem" (Elisa Pappalardo, Beyza Ahlatcioglu Ozkok, and Panos M. Pardalos) Int. J. of Bioinformatics Research and Applications, Vol. 10, No 1 (2014), pp. 59-74.

24. "Network approach for the Russian stock market" (A. Vizgunov, B. Goldengorin, V. Kalyagin, A. Koldanov, P. Koldanov, and P. M. Pardalos), Computational Management Science, January 2014, Volume 11, Issue 1-2, pp. 45-55.

25. "Improvements to MCS Algorithm for the Maximum Clique Problem" (Mikhail Batsyn, Boris Goldengorin, Evgeny Maslov, and Panos M. Pardalos) Journal of Combinatorial Optimization, Vol. 27 No 2 (2014), pp. 397 - 416.

26. "Application of an effective modified gravitational search algorithm for the coordinated scheduling problem in a two-stage supply chain" (Jun Pei, Xinbao Liu, Panos M. Pardalos, Wenjuan Fan, Shanlin Yang, and Ling Wang) International Journal of Advanced Manufacturing Technology, 70 (2014), pp. 335 - 348.

27. "Routing-efficient CDS construction in Disk-Containment Graphs" (Zaixin Lu, Lidong Wu, Panos M. Pardalos, Eugene Maslov, Wonjun Lee, Ding-Zhu Du) Optimization Letters, Optimization Letters Vol. 8 No. 2 (2014), pp. 425-434.

28. "Integer Programming Models for the Multidimensional Assignment Problem with Star Costs" (Chrysafis Vogiatzis, Edwardo Pasiliao, Jose Walteros, and Panos M Pardalos), European Journal of Operational Research, Vol 235, No. 3 (2014), pp. 553-568.

29. "On the optimization properties of the correntropic loss function in data analysis" (Mujahid N. Syed, Panos M. Pardalos, Jose C. Principe) Optimization Letters, Vol. 8, No. 3 (2014), pp. 823-839.

30. "A Combined Greedy-Walk Heuristic and Simulated Annealing Approach for the Closest String Problem" (Elisa Pappalardo, Domenico Cantonebe, and Panos M. Pardalos) Optimization Methods and Software, Vol 29, No. 4 (2014), pp. 673-702.

31. "Feature selection based on meta-heuristics for biomedicine" (Ling Wang, Haoqi Ni, Ruixin Yang, Vijay Pappu, Michael B. Fenn and Panos M. Pardalos) Optimization Methods and Software, Vol 29, No. 4 (2014), pp. 703-719.

32. "Space pruning monotonic search for the non-unique probe selection problem" (Elisa Pappalardo, Beyza Ahlatcioglu Ozkok, and Panos M. Pardalos) International Journal of Bioinformatics Research and Applications, Vol 10, No. 1 (2014), pp. 59-74.

33. "Generating Properly Efficient Points in Multi-objective Programs by the Nonlinear Weighted Sum Scalarization Method" (M. Zarepisheh, E. Khorram, and Panos M. Pardalos) Optimization Volume 63, Issue 3 (2014), pp. 473-486

34. "Minimum Norm Solution to the Positive Semidefinite Linear Complementarity Problem" (Panos M. Pardalos, Saeed Ketabchi, and Hossein Moosaei) Optimization Volume 63, Issue 3 (2014), pp. 359-369.

35. "Robust Generalized Eigenvalue Classifiers with Ellipsoidal Uncertainty" (P. Xanthopoulos, M. Guarracino, and P.M. Pardalos), Annals of Operations Research, Volume 216, Issue 1 (2014), pp 327-342.

36. "Efficient computation of tolerances in the weighted independent set problem for some graph classes" (Malyshev D., and Pardalos P. M.) Doklady Akademii Nauk, 2014, volume 455, No 5, pp. 1-4 (in Russian).

37. "Graph partitions for the multidimensional assignment problem" (Chrysafis Vogiatzis, Edwardo Pasiliao, and Panos M Pardalos), Computational Optimization and Applications, Volume 58, Issue 1 (2014), pp. 205-224.

38. "Minimum total coloring of planar graph" (H. Wang, L. Wu, W. Wu, P.M. Pardalos, J. Wu) Journal of Global Optimization, Vol. 60, No. 4 (2014), pp. 777 - 791.

39. "Strengthening the resiliency of a coastal transportation system through integrated simulation of storm surge, inundation, and nonrecurrent congestion in Northeast Florida" (J. Davis, V. A. Paramygin, V. Chrysafis, Y. P. Sheng, P.M. Pardalos, Ro J. Figueiredo) Journal of Marine Science and Engineering, J. Mar. Sci. Eng. 2014, 2, pp. 287-305.

40. "Bounds on end-to-end statistical delay and jitter in multiple multicast coded packet networks" (M. A. Raayatpanah, H. Salehi Fathabadi, B. H. Khalaj, S. Khodayifar, and P. M. Pardalos) Journal of Network and Computer Applications, 41 (2014), pp. 217 - 227.

41. "Solving maximum clique in sparse graphs: an O(nm+2d=4) algorithm for d-degenerate graphs" (Austin Buchanan, Jose Walteros, Sergiy Butenko, and Panos M. Pardalos) Optimization Letters, Vol 8, No. 5 (2014), pp. 1611-1617.

42. "Online heuristic for the preemptive single machine scheduling problem of minimizing the total weighted completion time" (Mikhail Batsyn, Boris Goldengorin, Panos M. Pardalos, and Pavel Sukhov) Optimization Methods and Software, Vol 29, No 5 (2014) pp. 955-963.

43. "Measures of uncertainty in market network analysis" (Valery A Kalyagin, Alexander P Koldanov, Petr A Koldanov, Panos M. Pardalos, and Viktor Zamaraev) Physica A: Statistical Mechanics and its Applications, Volume 413, 1 (November 2014), pp. 59 - 70.

44. "Dynamics of cluster structures in financial market analysis" (Anton Kocheturov, Mikhail Batsyn, and Panos M. Pardalos) Physica A: Statistical Mechanics and its Applications, Volume 413, 1 (November 2014), pp. 523 - 533.

45. "Heuristics for Minimum Spanning K-tree Problem" (Roman E. Shangin and Panos M. Pardalos) Procedia Computer Science, (2nd International Conference on Information Technology and Quantitative Management, ITQM 2014) Volume 31 (2014), pp. 1074 - 1083.

46. "MBPOA-based LQR Controller and Its Application to the Double-parallel Inverted Pendulum System" (Ling Wang, Haoqi Ni, Weifeng Zhou, Panos M. Pardalos, Jiating Fang, and Minrui Fei) Engineering Applications of Artificial Intelligence, Volume 36 (November 2014), pp. 262 - 268.

47. **"Finding multiple roots of box-constrained system of nonlinear equations with a biased random-key genetic algorithm" (R. M. A. Silva, M. G. C. Resende, and P. M. Pardalos), Journal of Global Optimization, Vol 60, No. 2 (2014), pp. 289-306.**

48. "Exact Model for the Cell Formation Problem" (Ilya Bychkov, Mikhail Batsyn, and Panos M. Pardalos), Optimization Letters, Vol. 8. No 8 (2014), pp. 2203-2210.

49. "Speeding up branch and bound algorithms for solving the maximum clique problem" (Evgeny Maslov, Mikhail Batsyn, and Panos M. Pardalos), Journal of Global Optimization, Vol. 59 (2014), pp. 1-21.

50. "Characteristics of Spatial Synchronization of Encephalograms in Left and Right-handed Subjects in Resting State and During Cognitive Testing: A Graph-theory

Analysis" (M.V. Lukoyanov, I.S. Grechikhin, V.A. Kalyagin, P.M. Pardalos, and I.V. Mukhina), Modern Technologies in Medicine Vol. 6, No.2 (2014), pp. 6-13.

51. "A Survey of Support Vector Machines with Uncertainties" (Ximing Wang, Panos M. Pardalos) Annals of Data Science, (2014) 1 (3-4), pp. 293 - 309.

52. "Pareto-optimal front of cell formation problem in group technology" (Julius Zilinskas, Boris Goldengorin, and Panos M. Pardalos), Journal of Global Optimization, Vol. 61, No 1 (January 2015), pp. 91-108.

53. "Inverse Max+Sum Spanning Tree Problem by Modifying the Sum-cost Vector under Weighted l1 Norm" (Xiucui Guan, Panos M. Pardalos, Xia Zuo) Journal of Global Optimization, Vol. 61, No 1 (January 2015), pp. 165-182.

54. **"Coordination of production and transportation in supply chain scheduling" (Jun Pei, Panos M. Pardalos, Xinbao Liu, Wenjuan Fan, Shanlin Yang and Ling Wang), Journal of Industrial and Management Optimization, Vol. 11, No 2 (April 2015), pp. 399-419.**

55. **"Single machine serial-batching scheduling with independent setup time and deteriorating job processing times" (Jun Pei, A. Xinbao Liu, Panos M. Pardalos, Wenjuan Fan, and Shanlin Yang), Optimization Letters, Vol. 9, No. 1 (2015), pp. 91-104.**

56. "A tolerance-based heuristic approach for the weighted independent set problem" (B.I. Goldengorin, D.S. Malyshev, P.M. Pardalos, and V.A. Zamaraev), Journal of Combinatorial Optimization, Vol. 29, No. 2 (2015), pp. 433-450.

57. **"Iterated local search embedded adaptive neighborhood selection approach for the multi-depot vehicle routing problem with simultaneous deliveries and pickups" (Jian Li, Panos M. Pardalos, Hao Sun, Jun Pei, Yong Zhang) Expert Systems with Applications, Vol 42 No. 7 (2015), pp. 3551-3561.**

58. "Heuristics for the Design of Reliable Networks with k-Tree Topology" (Roman E. Shangin, Panos M. Pardalos, and Anatoly V. Panyukov) International Journal of Artificial Intelligence, Volume 13, Number 1 (March 2015), pp. 165-183.

59. "Integer Programming Approach for Finding the Most and the Least Central Cliques" (Chrysafis Vogiatzis, Alexander Veremyev, Eduardo L. Pasiliao, and Panos M. Pardalos) Optimization Letters Vol. 9, No. 4 (2015), pp. 615-633.

60. **"Preemptive scheduling in a two-stage supply chain to minimize the makespan" (Jun Pei, Wenjuan Fan, Panos M. Pardalos, Xinbao Liu, Boris Goldengorin, and Shanlin Yang), Optimization Methods and Software, Volume 30, Issue 4 (2015), pp. 727-747.**

61. "The clique problem for graphs with a few eigenvalues of the same sign" (D. S. Malyshev and P. M. Pardalos) Optimization Letters, Vol. 9 no 5 (2015), pp. 839-843.

62. "Reduction of CO2 Emissions in Cumulative Multi-Trip Vehicle Routing Problems with Limited Duration" (Didem Cinar, Konstantinos Gakis, and Panos M. Pardalos) Environmental Modeling and Assessment, Volume 20, Issue 4 (2015), pp. 273-284.

63. "Robust Physiological Mappings: From Non-invasive to Invasive" (M. N. Syed, P. G. Georgiev, and P. M. Pardalos) Cybernetics and Systems Analysis, (January 2015), Volume 51, Issue 1, pp. 96-104.

64. **"Reinforcement Learning in Video Games Using Nearest Neighbor Interpolation and Metric Learning" (Matthew S. Emigh, Evan G. Kriminger, Austin J. Brockmeier, Jose C. Principe and Panos M. Pardalos) IEEE Transactions on Computational Intelligence and AI in Games, 8(1), pp. 56-66 (2016).**

65. **"Serial batching scheduling of deteriorating jobs in a two-stage supply chain to minimize the makespan" (Jun Pei, Panos M. Pardalos, Xinbao Liu, Wenjuan Fan, and Shanlin Yang) European Journal of Operations Research, Volume 244, Issue 1 (2015), pp. 13 - 25.**

66. "Optimal-constrained multicast sub-graph over coded packet networks" (M. A. Raayatpanah, H. Salehi Fathabadi, H. Bahramgiri, P. M. Pardalos), Journal of Combinatorial Optimization, Vol 29, No. 4 (2015), pp. 723-738

67. "Elevator Dispatching Problem: a Mixed Integer Linear Programming Formulation and Polyhedral Results" (Mirko Ruokokoski, Harri Ehtamo, and Panos M. Pardalos), Journal of Combinatorial Optimization, Vol 29 No. 4 (2015), pp. 750-780.

68. "A Combinatorial Assessment Method for the Sequencing Problem and its Application in Waterway Traffic Environments" (Tingrong Qin, Weijiong Chen, Panos M. Pardalos, and Qinyou Hu) Environ. Model. Assess., Volume 20, Issue 2 (April 2015), pp 145-158.

69. "On multivariate network analysis of statistical data sets with different measures of association" (V. A Kalyagin, A. P Koldanov, P. M Pardalos) Annals of Mathematics and Artificial Intelligence, Vol 76, No 1-2 (February 2016), pp. 83-92.

70. "Constrained Subspace Classifier for High Dimensional Datasets" (Orestis Panagopoulos, Vijay Pappu, Petros Xanthopoulos, and Panos M. Pardalos) Omega, The International Journal of Management Science, Volume 59, Part A, (March 2016), pp. 40-46.

71. "Sparse Proximal Support Vector Machines for Feature Selection in High Dimensional Datasets" (Orestis Panagopoulos, Vijay Pappu, Petros Xanthopoulos, and Panos M. Pardalos) Expert Systems with Applications, Volume 42, Issue 23, (December 2015), pp. 9183-9191.

72. "An equivalent transformation of multi-objective optimization problems" (Masoud Zarepisheh and Panos M. Pardalos) Annals of Operations Research, Vol. 249 (Issue 1-2), pp 5-15 (2017)

73. "Stability Analysis in Discrete Optimization Involving Generalized Addition Operations" (Vyacheslav V. Chistyakov and Panos M. Pardalos) Journal of Optimization Theory and Applications, Volume 167, Issue 2 (2015), pp. 585-616.

74. "An Adaptive Simplified Human Learning Optimization Algorithm" (Ling Wang, Haoqi Ni, Ruixin Yang, Panos M. Pardalos, Xin Du, and Minrui Fei) Information Sciences, 320 (2015), pp. 126-139.

75. **"On the minimization of traffic congestion in road networks with tolls" (F. Stefanello, L. S. Buriol, M. J. Hirsch, P. M. Pardalos, T. Querido, M. G. C. Resende, and M. Ritt) Annals of Operations Research, Vol. 249 (Issue 1-2), pp 119-139 (2017).**

76. "A factory crane scheduling problem with task preemption allowed" (Xu Cheng, Lixin Tang, and Panos M. Pardalos), Journal of Global Optimization, (December 2015), Volume 63, Issue 4, pp. 729-755

77. **"Scheduling jobs on a single serial-batching machine with dynamic job arrivals and multiple job types" (Jun Pei, Xinbao Liu, Wenjuan Fan, Panos M. Pardalos, Athanasios Migdalas, and Shanlin Yang), Annals of Mathematics and Artificial Intelligence, Vol 76, No 1-2 (February 2016), pp. 215-228.**

78. **"Scheduling Deteriorating Jobs on a Single Serial-batching Machine with Multiple Job Types and Sequence-dependent Setup Times" (Jun Pei, Xinbao Liu, Panos M. Pardalos, Wenjuan Fan, Shanlin Yang) Annals of Operations Research, Vol. 249 (Issue 1-2), pp 175-195 (2017).**

79. "A fast greedy sequential heuristic for the vertex coloring problem based on bitwise operations" (Larisa Komosko, Mikhail Batsyn, Pablo San Segundo, and Panos M. Pardalos), Journal of Combinatorial Optimization, Volume 31, Issue 4 (2016), pp. 1665-1677.

80. **"Serial-batching Scheduling with Time-dependent Setup Time and Effects of Deterioration and Learning on a Single-machine" (Jun Pei, Xinbao Liu, Panos M. Pardalos, Athanasios Migdalas, and Shanlin Yang), Journal of Global Optimization, Vol 67 (2017), pp 251-262.**

81. "A Human Learning Optimization Algorithm and Its Application to Multi-dimensional Knapsack Problems" (Ling Wang, Ruixin Yang, Haoqi Ni, Wei Ye, Minrui Fei, and Panos M. Pardalos) Applied Soft Computing, Vol. 34 (September 2015), pp. 736-743.

82. "A Priority-Based Genetic Algorithm for a Flexible Job Shop Scheduling Problem" (Didem Cinar, Jose Antonio Oliveira, Y. Ilker Topcu, and Panos M. Pardalos) Journal of Industrial and Management Optimization, Volume 12, Number 4 (2016), pp. 1391 - 1415.

83. **"Optimization for a three-stage production system in the Internet of Things: Procurement, production and product recovery, and acquisition" (C. Fang, X. Liu, P.M. Pardalos, J. Pei) International Journal of Advanced Manufacturing Technology, Volume 83, Issue 5, (2016) pp. 689-710.**

84. "Intelligent virtual reference feedback tuning and its application to heat treatment electric furnace control" (Ling Wang, Haoqi Ni; Ruixin Yang; Panos M. Pardalos; Li Jia; Minrui Fei) Engineering Applications of Artificial Intelligence Vol 46 (2015), pp. 1-9.

85. "Identifying Cognitive States using Regularity Partitions" (Ioannis P. Pappas and Panos M. Pardalos) PLoS ONE PLOS ONE | DOI:10.1371/journal.pone.0137012 (August 28, 20150.

86. **"A Python/C++ library for bound-constrained global optimization using biased random-key genetic algorithm" (R. M. A. Silva, M. G. C. Resende, and P. M. Pardalos), Journal of Combinatorial Optimization, Vol. 30 No. 3 (2015): 710-728.**

87. "Robust Chance-Constrained Support Vector Machines with Second-Order Moment Information" (Ximing Wang and Panos M. Pardalos) Annals of Operations Research, Volume 263, Issue 1-2 (2018), pp. 45-68.

88. **"Solving a supply chain scheduling problem with non-identical job sizes and release times by applying a novel effective heuristic algorithm" (Jun Pei, Xinbao Liu, Panos M. Pardalos, Wenjuan Fan, Ling Wang, and Shanlin Yang) International Journal of Systems Science, Volume 47, Issue 4 (2016), pp. 765-776.**

89. "Information Theory Perspective on Network Robustness" (Tiago A. Schieber, Laura Carpi, Alejandro C. Frery, Osvaldo A Rosso, Panos M. Pardalos, and Martin G. Ravetti) Physics Letters A, Volume 380, Issue 3, (January 2016), pp. 359-364.

90. "A new exact maximum clique algorithm for large and massive sparse graphs" (Pablo San Segundo, Alvaro Lopez, and Panos M. Pardalos) Computers and Operations Research Volume 66, (February 2016), pp. 81 - 94.

91. **"The pattern of longitudinal change in serum creatinine and ninety-day mortality after major surgery" (Korenkevych D., Ozrazgat-Baslanti T., Thottakkara P., Hobson CE., Pardalos P., Momcilovic P., Bihorac A.), Annals of Surgery, 263(6):1219-1227, June 2016.**

92. "A Modified Active Set Algorithm for Transportation Discrete Network Design Bi-Level Problem" (Ximing Wang and Panos M. Pardalos) Journal of Global Optimization, Vol 67 (2017), pp 325-342.

93. **"A Study on Decision Making of Cutting Stock with Frustum of Cone Bars" (Lin Liu, Xinbao Liu, Jun Pei, Wenjuan Fan, Panos M. Pardalos) Operational Research, 17(1): 187-204 (2017).**

94. "Critical hereditary graph classes: a survey" (D. S. Malyshev and P. M. Pardalos) Optimization Letters, Vol 10, No 8(2016), pp 1593-1612.

95. **"Closed-loop supply chain inventory management with recovery information of reusable containers" (Tianji Yang, Chao Fu, Xinbao Liu, Jun Pei, Lin Liu, and Panos M. Pardalos), Journal of Combinatorial Optimization, Vo 35, No. 1 (2018), pp. 266-292.**

96. **"Minimizing the makespan for a serial-batching scheduling problem with arbitrary machine breakdown and dynamic job arrival," (Jun Pei, Xinbao Liu, Wenjuan Fan, Panos Pardalos, Athanasios Migdalas, Boris Goldengorin), International Journal of Advanced Manufacturing Technology, Volume 86, Issue 9 (2016), pp. 3315-3331.**

97. **"Real options approach to explore the effect of organizational change on IoT development project," (Zhiping Zhou, Xinbao Liu, Jun Pei, Panos M. Pardalos, Lin Liu, Chao Fu) Optimization Letters, June 2017, Volume 11, Issue 5, pp. 995-1011.**

98. "Multi-depot vehicle routing problem with time windows under shared depot resources" (Jian Li, Yang Li, and Panos M. Pardalos) Journal of Combinatorial Optimization, Vol. 31, No. 3 (2016), pp. 515-532.

99. "Dynamics of Cluster Structures in Stock Market Networks (A. Kocheturov, M. Batsyn and P. Pardalos) Journal of the New Economic Association, 2015, vol. 28, issue 4, pp. 12-30.

100. "A hybrid multi-objective evolutionary algorithm based on NSGA-II for practical scheduling with release times in steel plants" (Jianyu Long, Zhong Zheng, Xiaoqiang Gao, and Panos M. Pardalos) Journal of the Operational Research Society, (2016) 67(9), pp. 1184-1199.

101. "Tikhonov Regularization for Infeasible Absolute Value Equations" (Hossein Moosaei, Saeed Ketabchi, and Panos M. Pardalos) Optimization, Vol. 65, No. 8 (2016), pp. 1531-1537.

102. "A 2-Phase Constructive Algorithm for Cumulative Vehicle Routing Problems with Limited Duration" (Didem Cinar, Konstantinos Gakis, and Panos M. Pardalos), Expert Systems with Applications, Vol. 56 No. 1 (2016), pp. 48-58.

103. "Pareto-based multi-objective node placement of industrial wireless sensor networks using binary differential evolution harmony search" (L Wang, L An, HQ Ni, W Ye, PM Pardalos, and MR Fei) Advances in Manufacturing, Volume 4, Issue 1 (2016), pp. 66-78.

104. "Stochastic Subgradient Descent Method for Large-Scale Robust Chance-Constrained Support Vector Machines" (Ximing Wang, Neng Fan, and Panos M. Pardalos) Optimization Letters, June 2017, Volume 11, Issue 5, pp. 1013-1024.

105. "On the Deployment of Citizens Privacy Preserving Collective Intelligent eBusiness Models in Smart Cities" (Artemis Avgerou, Panayotis E. Nastou, Dimitra Nastouli, Panos M. Pardalos, and Yannis C. Stamatiou) International Journal of Security and Its Applications, Vol. 10, No. 2 (2016), pp.171-184.

106. "Heuristics for the network design problem with connectivity requirements" (Roman E. Shangin, Panos Pardalos), Journal of Combinatorial Optimization, Volume 31, Issue 4 (2016), pp. 1461-1478.

107. "Mixed-Integer LP Model for Volt/var Control and Energy Losses Minimization in Distribution Systems" (Mariana Resener, Sergio Hanera, Lus A. Pereira, and Panos M. Pardalos) Electric Power Systems Research, Volume 140, November 2016, pp 895-905.

108. "A novel trust inference framework for web-based scenarios harnessed by social network and Web of Trust- a heuristic approach" (Wenjuan Fan, Jun Pei, S. Ding, Panos M. Pardalos, Ming Kong, Shanlin Yang), Informatica Vol. 27, No. 2 (2016), pp. 405-432.

109. "Dynamic-programming based inequalities for the unbounded integer knapsack problem" (Xueqi He, Joseph C. Hartman, Panos M. Pardalos), Informatica Vol. 27, No. 2 (2016), pp. 433-450.

110. "A diverse human learning optimization algorithm" (Ling Wang, Lu An, Jiaxing Pi, Minrui Fei, Panos M. Pardalos), Journal of Global Optimization, Vol 67 (2017), pp 283-323.

111. "Application of Machine Learning Techniques to High-Dimensional Clinical Data to Forecast Postoperative Complications" (Paul Thottakkara, Tezcan Ozrazgat-Baslanti, Bradley B. Hupf, Parisa Rashidi, Panos Pardalos, Petar Momcilovic, Azra Bihorac) PLoS ONE 11(5): e0155705. doi:10.1371/journal.pone.0155705

112. "A branch-and-price algorithm for production routing problems with carbon cap-and-trade" (Yuzhuo Qiu, Jun Qiao, Panos M. Pardalos) Omega, The International Journal of Management Science 68 (2017), pp. 49-61.

113. "Improved Infra-Chromatic Bound for Exact Maximum Clique Search" (Pablo San Segundo, Alexey Nikolaev, Mikhail Batsyn, Panos M. Pardalos), Informatica Vol. 27, No. 2 (2016), pp. 463-487.

114. **"Uniform parallel batch machines scheduling considering transportation using a hybrid DPSO-GA algorithm" (Lu Jiang, Jun Pei, Xinbao Liu, Panos M. Pardalos, Yunjie Yang, Xiaofei Qian), International Journal of Advanced Manufacturing Technology, (March 2017), Volume 89, Issue 58, pp. 1887-1900.**

115. **"On a new edge function on complete weighted graphs and its application for locating Hamiltonian cycles of small weight." (Panayotis E. Nastou, Vasilis Papadinas, Panos M. Pardalos, Yannis C. Stamatiou), Optimization Letters 10(6): 1203-1220 (2016)**

116. **"Single-machine serial-batching scheduling with a machine availability constraint, position-dependent processing time, and time-dependent set-up time" (Jun Pei, Xinbao Liu, Panos M. Pardalos, K. ri , Wenjuan Fan, Athanasios Migdalas), Optimization Letters 11(7):1257-1271 (2017).**

117. "Improved initial vertex ordering for exact maximum clique search" (Pablo San Segundo, Alvaro Lopez, Mikhail Batsyn, Alexey Nikolaev, Panos M. Pardalos), Applied Intelligence, Volume 45, Issue 3, pp 868-880 (2016) doi:10.1007/s10489-016-0796-9.

118. **"A game-theoretic analysis of information security investment for multiple firms in a network" (Xiaofei Qian, Xinbao Liu, Jun Pei, Panos M. Pardalos, Lin Liu), Journal of the Operational Research Society Vol. 68, No. 10 (2017), pp. 1290-1305.**

119. "An Economic Dispatch Algorithm for Congestion Management of Smart Power Networks - An Oblivious Routing Approach" (Kianoosh G. Boroojeni, M. Hadi Amini, S. S. Iyengar, Mohsen Rahmani, Panos M. Pardalos), Energy Systems, Vol 8, No 3 (August 2017), pp. 643-667.

120. "A Probabilistic Model for Multi-Contestant Races" (K. Gakis, P. Pardalos, C.H. Choi, J.H. Park), Athens Journal of Sports, (July 2016).

121. "Scheduling the Truckload Operations in Automated Warehouses with Alternative Aisles for Pallets" (Didem Cinar, Jose Antonio Oliveira, Y. Ilker Topcu, Panos M. Pardalos), Applied Soft Computing, Vol 52 (2017), pp. 566-574.

122. "Uniformly most powerful unbiased test for conditional independence in Gaussian graphical model" (Koldanov Petr, Koldanov Alexander, Kalyagin Valeriy and Pardalos Panos) Statistics and Probability Letters, 122 (2017), pp. 90-95.

123. "The reduction of computation times of upper and lower tolerances for selected combinatorial optimization problems" (Marcel Turkensteen, Dmitry Malyshev, Boris Goldengorin, and Panos M. Pardalos), Journal of Global Optimization (July 2017), Volume 68, Issue 3, pp 601-622.

124. **"Optimal production planning in a hybrid manufacturing and recovering system based on the internet of things with closed loop supply chains" (Chang Fang, Xinbao Liu, Jun Pei, Wenjuan Fan, Panos M. Pardalos), Operational Research, 16(3), pp. 543-557 (2016).**

125. "Quantification of networks structural dissimilarities (Tiago A. Schieber, Laura Carpi, Albert Daz-Guilera, Panos M. Pardalos, Cristina Masoller and Martn G. Ravetti), Nature Communications 8, online, Article number: 13928 (2017).

126. "Traffic congestion and the lifetime of networks with moving nodes" (Xianxia Yang, Jie Li, Cunlai Pu, Meichen Yan, Rajput Ramiz Sharafat, Jian Yang,

Konstantinos Gakis, and Panos M. Pardalos), Physical Review E 95, 012322 (2017).

127. **"Does Economic Crisis Force to Consumption Changes Regarding Fruits and Vegetables?" (George Vlontzos, Marie Noelle Duquenne, Rainer Haas, and Panos M. Pardalos), International Journal of Agricultural and Environmental Information Systems, Volume 8, Issue 1, pp. 41-48, IGI Global Eds, DOI: 10.4018/IJAEIS.2017010104 (2017).**

128. "An enhanced bitstring encoding for exact maximum clique search in sparse graphs" (Pablo San Segundo, Jorge Artieda, Mikhail Batsyn, and Panos M. Pardalos), Optimization Methods and Software, Vol. 32, No. 2 (2017), pp. 312-335.

129. "A robust optimization approach for multicast network coding under uncertain link costs" (H. Ghasvari, M. A. Raayatpanah, P. M. Pardalos), Optimization Letters, Vol 11, No. 2 (2017), pp. 429-444.

130. "A parallel maximum clique algorithm for large and massive sparse graphs" (Pablo San Segundo, Alvaro Lopez, Jorge Artieda, Panos M. Pardalos), Optimization Letters, Vol 11, No. 2 (2017), pp. 343-358.

131. "On positive-influence target-domination" (Guangmo Tong, Weili Wu, Panos M. Pardalos, Ding-Zhu Du), Optimization Letters, Vol 11, No. 2 (2017), pp. 419-427.

132. **"Assess and prognosticate greenhouse gas emissions from agricultural production of EU countries, by implementing DEA Window analysis and artificial neural networks" (G. Vlontzos and P. M. Pardalos) Renewable & Sustainable Energy Reviews, Vol. 76, pp. 155-162, http://dx.doi.org/10.1016/j.rser.2017.03.054 (2017).**

133. "A Convex Model for the Optimization of Distribution Systems with Distributed Generation, (Resener M., Haffner S., Pardalos P.M., Pereira L.A.) Advances in Energy System Optimization. Trends in Mathematics. Birkhauser, Cham (editors: Bertsch V., Fichtner W., Heuveline V., Leibfried T.) (2017)

134. **"A Hybrid-coded Human Learning Optimization for mixed-variable optimization problems" (Ling Wang, Ji Pei, Muhammad Ilyas Menhas, Jiaxing Pi, Minrui Fei, Panos M. Pardalos) Knowledge-Based Systems, Volume 127, (July 2017) , pp. 114-125.**

135. **"Data mining and optimization issues in the food industry, (Vlontzos G., and Pardalos MP.), International Journal of Sustainable Agricultural Management and Informatics, Vol. 3(1), pp. 44-64, (2017).**

136. **"A stochastic production planning problem in hybrid manufacturing and remanufacturing systems with resource capacity planning" (Chang Fang, Xinbao Liu, Panos M. Pardalos, Jianyu Long, Jun Pei, and Chao Zuo) Journal of Global Optimization, Vol. 68, No 4 (August 2017), pp. 851 - 878.**

137. "Inverse Max+Sum Spanning Tree Problem under Hamming Distance by Modifying the Sum-cost Vector" (Xiucui Guan, Xinyan He, Panos M. Pardalos, Binwu Zhang) Journal of Global Optimization, 69:911-925 (2017).

138. "Minimizing average lead time for the coordinated scheduling problem in a two-stage supply chain with multiple customers and multiple manufacturers" (Omer Faruk Ylmaz, Panos M. Pardalos), Computers & Industrial Engineering, Volume 114, December 2017, Pages 244- 257

139. "A new game of information sharing and security investment between two allied firms", (Xiaofei Qian, Xinbao Liu, Jun Pei & Panos M. Pardalos), International Journal of Production Research, published online http://dx.doi.org/10.1080/00207543.2017.1400704

140. "Testing for Environmental Kuznets Curve in EU Agricultural Sector through an Eco-(in)efficiency index", (George Vlontzos, Spyros Niavis and Panos Pardalos), Energies, 10, 1992 (2017).

141. "A Novel Method of Finance Market Regulation Based on Control Overshoot", (Wang, Juan, Pardalos, Panos M., Shen, Yue), Journal of Systems Science and Information, Oct., 2017, Vol. 5, No. 5, pp. 385-394

PAPERS IN REFEREED BOOKS:

1. "Pattern-Based Heuristic for the Cell Formation Problem in Group Technology" (Mikhail Batsyn, Ilya Bychkov, Boris Goldengorin, Panos Pardalos, Pavel Sukhov), In "Models, Algorithms, and Technologies for Network Analysis," Springer Proceedings in Mathematics & Statistics Volume 32, 2013, pp. 11-50

2. "Network-Based Representation of Stock Market Dynamics: An Application to American and Swedish Stock Markets" (David Jallo, Daniel Budai, Vladimir Boginski, Boris Goldengorin, Panos M. Pardalos), In "Models, Algorithms, and Technologies for Network Analysis," Springer Proceedings in Mathematics & Statistics Volume 32, 2013, pp. 93-106.

3. "How Close to Optimal Are Small World Properties of Human Brain Networks?" (Dmytro Korenkevych, Frank Skidmore, Boris Goldengorin, Panos M. Pardalos), In "Models, Algorithms, and Technologies for Network Analysis," Springer Proceedings in Mathematics & Statistics Volume 32, 2013, pp. 117-127.

4. "Evacuation Through Clustering Techniques?" (Chrysafis Vogiatzis, Jose L. Walteros, Panos M. Pardalos), In "Models, Algorithms, and Technologies for Network Analysis," Springer Proceedings in Mathematics & Statistics Volume 32, 2013, pp. 185-198.

5. "Biased random-key genetic algorithm for non-linearly constrained global optimization" (R.M.A. Silva, M.G.C. Resende, P.M. Pardalos, and J.L.D. Faco), Proceedings of the 2013 IEEE Congress on Evolutionary Computation (CEC), pp. 2201-2206, Cancun, June 20-23, 2013

6. "Combinatorial Optimization in Transportation and Logistics Networks" (Chrysafis Vogiatzis, Panos M Pardalos), In "Handbook of Combinatorial Optimization," Springer (2013), pp. 673-722.

7. "Small World Networks in Computational Neuroscience" (Dmytro Korenkevych, Jui-Hong Chien, Jicong Zhang, Deng-Shan Shiau, Chris Sackellares, Panos M. Pardalos), In "Handbook of Combinatorial Optimization," Springer (2013), pp. 3057-3088.

8. "Fuzzy Combinatorial Optimization Problems" (Panos M. Pardalos, Emel Kizilkaya Aydogan, Feyza Gurbuz, Ozgur Demirtas, Birce Boga Bakirl), In "Handbook of Combinatorial Optimization," Springer (2013), pp. 1357-1413.

9. "Neural Network Models in Combinatorial Optimization" (Mujahid N. Syed, Panos M. Pardalos), In "Handbook of Combinatorial Optimization," Springer (2013), pp. 2027-2093.

10. "SEIZURE MANIFOLD OF THE EPILEPTIC BRAIN: A STATE SPACE RECONSTRUCTION APPROACH" (MUJAHID N. SYED, PANDO G. GEORGIEV, PANOS M. PARDALOS), In BIOMAT 2012 International Symposium on Mathematical and Computational Biology (Rubem P Mondaini (Ed), World Scientific (August 2013), ISBN: 978-981-4520-81-2, pp. 86-114.

11. "Comparative Analysis of the BRIC Countries Stock Markets Using Network Approach" (Arsenii Vizgunov, Andrey Glotov, Panos M. Pardalos), In "Models, Algorithms, and Technologies for Network Analysis," Springer Proceedings in Mathematics & Statistics Volume 59 (2013), pp. 191-201.

12. **"On the Design of Agent Agreement Protocol using Linear Error-Correcting Codes" (P.E. Nastou, P. Pardalos, P. Spirakis, and Y.C. Stamatiou), In "Applications of Mathematics and Informatics in Science and Engineering," Springer Optimization and Its Applications Volume 91 (2014), pp. 389-403.**

13. **"Bilinear Markovian Processes of Search for Stationary and Moving Objects" (Panos M. Pardalos, Vitaliy A. Yatsenko, Michael B. Fenn, Arkadii A. Chikrii), In "Volume 37: Examining Robustness and Vulnerability of Networked Systems," NATO Science for Peace and Security Series - D: Information and Communication Security (Sergiy Butenko, Eduardo L. Pasiliao, Volodymyr Shylo, Editos) IOS Press (2014), pp. 209 - 230, [SBN978-1-61499-390-2].**

14. "A General Approach to Network Analysis of Statistical Data Sets" (Valery A. Kalygin, Alexander P. Koldanov, Panos M. Pardalos), In Lecture Notes in Computer Science 8426, Springer 2014, pp. 88-97.

15. **"A Novel Hybrid Dynamic Programming Algorithm for a Two-Stage Supply Chain Scheduling Problem" (Jun Pei, Xinbao Liu, Wenjuan Fan, Panos M. Pardalos), In Lecture Notes in Computer Science 8426, Springer 2014, pp. 242-257.**

16. "Robust Support Vector Machines with Polyhedral Uncertainty of the Input Data" (Neng Fan, Elham Sadeghi, Panos M. Pardalos), In Lecture Notes in Computer Science 8426, Springer 2014, pp. 291-305.

17. **"Raman Spectroscopy Using a Multiclass Extension of Fisher-Based Feature Selection Support Vector Machines (FFS-SVM) for Characterizing In-Vitro Apoptotic Cell Death Induced by Paclitaxel" (Michael B. Fenn, Mario Rosario Guarracino, Jiaxing Pi, Panos M. Pardalos), In Lecture Notes in Computer Science 8426, Springer 2014, pp. 306-323.**

18. "The Theory of Set Tolerances" (Gerold Jare Boris Goldengorin, Panos M. Pardalos), In Lecture Notes in Computer Science 8426, Springer 2014, pp. 362-377.

19. **"A New Existence Condition for Hadamard Matrices with Circulant Core" (Ilias S. Kotsireas, Panos M. Pardalos), In Lecture Notes in Computer Science 8426, Springer 2014, pp. 383-390.**

20. "A Pseudo-Boolean Approach to the Market Graph Analysis by Means of the p-Median Problem" (Boris Goldengorin, Anton Kocheturov, and Panos M. Pardalos), In Clusters, Orders, and Trees: Methods and Application (F. Aleskerov et al. Editors), Springer 2014, pp. 77-89.

21. "Construction of Pairs of Reproducing Kernel Banach Spaces" (Pando G.

Georgiev, Luis Sanchez-Gonzalez and Panos M. Pardalos), in Springer Optimization and Its Applications, Vol. 87, Constructive Nonsmooth Analysis and Related Topics, pp 39-57 (2014).

22. "High Dimensional Data Classification" (Vijay Pappu and Panos M. Pardalos), In Clusters, Orders, and Trees: Methods and Application (F. Aleskerov et al. Editors), Springer 2014, pp. 119-150.

23. "Blind Signal Separation Methods in Computational Neuroscience" (Mujahid N. Syed, Pando G. Georgiev, Panos M. Pardalos), Neuromethods Volume 91 (Springer 2015), pp. 291-322.

24. **"Probabilistic Classifiers in Prognostic Medicine" (Dmytro Korenkevych and Petar Momcilovic and Azra Bihorac and Tezcan Ozrazgat Baslanti and Panos M. Pardalos), Operations Research for Medical Decision Making (Editor, Eva Lee), (Springer 2015).**

25. **"Future Research on Multiobjective Coordinated Scheduling Problems for Discrete Manufacturing Enterprises in Supply Chain Environments" (J. Pei, X. Liu, W Fan, A. Migdalas, and P.M. Pardalos), Supply Chain Management and Logistics: Innovative Startegies and Practical Solutions (Zhe Liang, Wanpracha Art Chaovalitwongse, Leyuan Shi, Eds), (CRC Press 2015), pp. 19-42.**

26. **"A Method for Creating Private and Anonymous Digital Territories Using Attribute-Based Credential Technologies" (PE Nastou, D Nastouli, PM Pardalos, YC Stamatiou), Computation, Cryptography, and Network Security (Edited by Nicholas J. Daras, Michael Th. Rassias), (Springer 2015).**

27. "Step Down and Step Up Statistical Procedures for Stock Selection with Sharp Ratio" (Alexander P. Koldanov, Valeriy A. Kalyagin, Panos M. Pardalos), Lecture Notes in Computer Science 9432, (Springer 2015)

28. "Multidimensional Scaling for Genomic Data" (Audrone Jakaitiene, Mara Sangiovanni, Mario R. Guarracino, Panos M. Pardalos), in Springer Optimization and Its Applications, Volume 107, Advances in Stochastic and Deterministic Global Optimization, Part II, pp 129-139 (2016).

29. **"Assess and Prognosticate Operational and Environmental Efficiency of Primary Sectors of EU Countries: Implementation of DEA Window Analysis and ANNs" (George Vlontzos and Panos M. Pardalos), in Driving Agribusiness With Technology Innovations, pp 1-19 Editors: Tarnanidis, Th., Vlachopoulou, M., and Papathanasiou J., Eds. IGI Global, DOI: 10.4018/978-1-5225-2107-5 (March 2017).**

30. "Deterministic Global Optimization" (S. Butenko and P.M. Pardalos), in Advances and Trends in Optimization with Engineering Applications (T.Terlaky, M. F. Anjos, S. Ahmed, Eds), SIAM 2017, pp. 163-174.

31. "Heuristic for Maximizing Grouping Efficiency in the Cell Formation Problem" (Bychkov, Ilya, Batsyn, Mikhail and Pardalos, Panos M.), Kalyagin V., Nikolaev A., Pardalos P., Prokopyev O. (eds) Models, Algorithms, and Technologies for Network Analysis NET 2016. Springer Proceedings in Mathematics & Statistics, vol 197. Springer, Cham (2017).

32. "Tolerance-Based vs. Cost-Based Branching for the Asymmetric Capacitated Vehicle Routing Problem" (M. Batsyn, B. Goldengorin, A. Kocheturov, P.M.

Pardalos), in Models, Algorithms, and Technologies for Network Analysis, Springer (2013), pp. 1-10.

PANDO G. GEORGIEV

1. **"Robust physiological mappings: from non-invasive to invasive", MN Syed, PG Georgiev, PM Pardalos Cybernetics and Systems Analysis 51 (1), 96-104 (2015).**
2. **"Construction of pairs of reproducing kernel Banach spaces", PG Georgiev, L Sánchez-González, PM Pardalos Constructive Nonsmooth Analysis and Related Topics, 39-57 (2014).**
3. **"A hierarchical approach for sparse source Blind Signal Separation problem", MN Syed, PG Georgiev, PM Pardalos Computers & Operations Research 41, 386-398 (2014).**
4. **"Iterative roots of multidimensional operators and applications to dynamical systems", P Georgiev, L Kindermann, PM Pardalos, Optimization letters 7 (8), 1701-1710 (2013).**
5. **"Robust aspects of solutions in deterministic multiple objective linear programming", PG Georgiev, PM Pardalos, European Journal of Operational Research 229 (1), 29-36 (2013).**
6. **"Polyhydroxy fullerenes", Angelina T Georgieva, Vijay Pappu, Vijay Krishna, Pando G Georgiev, Ion Ghiviriga, Paul Indeglia, Xin Xu, Z Hugh Fan, Ben Koopman, Panos M Pardalos, Brij Moudgil, Journal of nanoparticle research 15 (7), 1690 (2013).**
7. **"Systems analysis tools for better health care delivery", PM Pardalos, PG Georgiev, P Papajorgji, B Neugaard, Springer Science & Business Media (2013)**
8. **"Blind signal separation methods in computational neuroscience", MN Syed, PG Georgiev, PM Pardalos, Modern Electroencephalographic Assessment Techniques, 291-322 (2013)**
9. **"Seizure manifold of the epileptic brain: A state space reconstruction approach", MN SYED, PG GEORGIEV, PM PARDALOS, BIOMAT 2012, 86-114 (2013).**
10. **"Kernel Principal Component Analysis: Applications, Implementation and Comparison", D Olsson, P Georgiev, PM Pardalos, Models, Algorithms, and Technologies for Network Analysis, 127-148 (2013)**
11. **"Nurse scheduling problem: an integer programming model with a practical application", Neng Fan, Syed Mujahid, Jicong Zhang, Pando Georgiev, Petraq Papajorgji, Ingrida Steponavice, Britta Neugaard, Panos M Pardalos, Systems analysis tools for better health care delivery, 65-98 (2013)**
12. "The node placement of large-scale industrial wireless sensor networks based on binary differential evolution harmony search algorithm", L Wang, W Ye, Y Mao, PG Georgiev, H Wang, M Fei, Int. J. Innov. Comput. Inf. Control 9 (3), 955-970

JOSEPH GEUNES

1. **Geunes, J., H.E. Romeijn, W. van den Heuvel. 2016. Improving the Efficiency of Decentralized Supply Chains with Fixed Ordering Costs. European Journal of Operational Research 252(3), 815-828.**
2. Konur, D., J. Geunes. 2016. Supplier Wholesale Pricing for A Retail Chain: Implications of Centralized vs. Decentralized Retailing and Procurement under Quantity Competition. Omega 65, 98-110.
3. Teksan, Z.M., J. Geunes. 2016. An EOQ Model with Price-Dependent Supply and Demand. International Journal of Production Economics 178, 22-33.
4. Teksan, Z.M., J. Geunes. 2016. Production Planning with Price-Dependent Supply Capacity. IIE Transactions 48(10), 938-954.
5. Teksan, Z.M., J. Geunes. 2015. A Polynomial Time Algorithm for Convex Cost Lot Sizing Problems. Operations Research Letters 43(4), 359-364.
6. Feng, T., J. Geunes. 2014. Speculation in a Two-stage Supply Chain. IIE Transactions 46(12), 1315-1328.
7. Palak, G., Ekşioğlu, S.D., J. Geunes. 2014. Analyzing the Impacts of Carbon Regulatory Mechanisms on Supplier and Mode Selection Decisions: An Application to a Biofuel Supply Chain. International Journal of Production Economics 154, 198-216.
8. Pérez, C., J. Geunes. 2014. A (Q, R) Inventory Replenishment Model with Two Delivery Modes. European Journal of Operational Research 237(2), 528-545.
9. **Rainwater, C., J. Geunes, H.E. Romeijn. 2014. Resource Constrained Assignment Problems with Shared Resource Consumption and Flexible Demand. INFORMS Journal on Computing 26(2), 290-302.**
10. **Prince, M., J. Geunes, J.C. Smith. 2013. Procurement Allocation Planning with Multiple Suppliers under Competition. International Journal of Production Research 51(23-24), 6900-6922.**
11. Su, Y., J. Geunes. 2013. Multi-Period Price Promotions in a Single-Supplier, Multi-Retailer Supply Chain under Asymmetric Demand Information. Annals of Operations Research 211(1), 447-472.
12. Chen, S., J. Geunes. 2013. Optimal Allocation of Stock Levels and Stochastic Customer Demands to a Capacitated Resource. Annals of Operations Research 203(1), 33-54.
13. **Prince, M., J.C. Smith, J. Geunes. 2013. A Three-Stage Procurement Optimization Problem under Uncertainty. Naval Research Logistics 60(5), 395-412.**
14. **Prince, M., J.C. Smith, J. Geunes. 2013. Designing Fair 8- and 16-team Knockout Tournaments. IMA Journal of Management Mathematics 24(3), 321-336**

J. COLE SMITH

1. Penuel, J., Smith, J.C., and Shen, S., "Models and Complexity Analysis for the Graph Decontamination Problem with Mobile Agents," Networks, 61(1), 1-19, 2013.

2. Shen, S. and Smith, J.C., "A Decomposition Approach for Solving a Broadcast Domination Network Design Problem," Annals of Operations Research, 210(1), 333-360, 2013.

3. Prince, M., Smith, J.C., and Geunes, J., "Designing Fair 8- and 16-team Knockout Tournaments," IMA Journal of Management Mathematics, 24(3), 321-336, 2013.

4. Yun, Y., Xia, Y., Behdani, B., and Smith, J.C., "Distributed Algorithm for Lifetime Maximization in Delay-Tolerant Wireless Sensor Network with Mobile Sink," IEEE Transactions on Mobile Computing, 12(10), 1920-1930, 2013.

5. Behdani, B., Smith, J.C., and Xia, Y., "The Lifetime Maximization Problem in Wireless Sensor Networks with a Mobile Sink: MIP Formulations and Algorithms, IIE Transactions, 45(10), 1094-1113, 2013.

6. Prince, M., Smith, J.C., and Geunes, J., "A Three-Stage Procurement Optimization Problem Under Uncertainty," Naval Research Logistics, 60(5), 395-412, 2013.

7. Prince, M., Geunes, J., and Smith, J.C., "Procurement Allocation Planning with Multiple Suppliers under Competition," International Journal of Production Research, 51(23-24), 6900-6922, 2013.

8. Sullivan, K.M., Smith, J.C., and Morton, D.P., "Convex Hull Representation of the Deterministic Bipartite Network Interdiction Problem," Mathematical Programming, 145(1-2), 349-376, 2014.

9. Sullivan, K.M., Morton, D.P., Pan, F., and Smith, J.C., "Securing a Border under Asymmetric Information," Naval Research Logistics, 61(2), 91-100, 2014.

10. Tadayon, B. and Smith, J.C., "Algorithms for an Integer Multicommodity Network Flow Problem with Node Reliability Considerations," Journal of Optimization Theory and Applications, 161(2), 506-532, 2014.

11. Hemmati, M., Smith, J.C., and Thai, M.T., "A Cutting-plane Algorithm for Solving a Weighted Influence Interdiction Problem," Computational Optimization and Applications, 57(1), 71-104, 2014.

12. Buyuktahtakin, I.E., Smith, J.C., Hartman, J.C., and Luo, S., "Parallel Asset Replacement Problem under Economies of Scale with Multiple Challengers," The Engineering Economist, 59(4), 237-258, 2014.

13. Behdani, B. and Smith, J.C., "An Integer-Programming-Based Approach to the Close-Enough Traveling Salesman Problem," INFORMS Journal on Computing, 26(3), 415-432, 2014.

14. Sullivan, K.M. and Smith, J.C., "Exact Algorithms for Solving a Euclidean Maximum Flow Network Interdiction Problem," Networks, 64(2), 109-124, 2014.

15. Romich, A., Lan, G., and Smith, J.C., "Optimizing Placement of Stationary Monitors," IIE Transactions, 47(6), 556-576, 2015.

16. Tadayon, B. and Smith, J.C., "Algorithms and Complexity Analysis for Robust Single-Machine Scheduling Problems," Journal of Scheduling, 18(6), 575-592, 2015.

17. Buke, B., Smith, J.C., and Thomas, S.A., "On a Random Walk Reliability Problem with Arc Memory," Networks, 66(1), 67-86, 2015.

18. Acevedo, M.A., Sefair, J.A., Smith, J.C., and Fletcher, Jr., R. J., "Conservation with uncertainty: Identifying Protection Strategies under Worst-Case Disturbance Events", Journal of Applied Ecology, 52(6), 1588-1597, 2015.
19. Sonuc, S.B., Smith, J.C., and Hicks, I.V., "A Branch-and-Price-and-Cut Method for Computing an Optimal Bramble," Discrete Optimization, 18, 168-188, 2015.
20. **Romich, A., Lan, G., and Smith, J.C., "A Robust Sensor Covering and Communication Problem," Naval Research Logistics, 62(7), 582-594, 2015.**
21. Hemmati, M. and Smith, J.C., "A Mixed-Integer Bilevel Programming Approach for a Competitive Prioritized Set Covering Problem," Discrete Optimization, 20, 105-134, 2016.
22. **Tang, Y., Richard, J.-P.P., and Smith, J.C., "A Class of Algorithms for Mixed Integer Bilevel Min-Max Optimization," Journal of Global Optimization, 66(2), 225-262, 2016.**
23. Sefair, J. and Smith, J.C., "Dynamic Shortest-Path Interdiction", Networks, 68(4), 315-330, 2016.
24. Curry, R.M. and Smith, J.C., "A Survey of Optimization Algorithms for Wireless Sensor Network Lifetime Maximization," Computers and Industrial Engineering, 101, 145-166, 2016.
25. Lozano, L. and Smith, J.C., "A Backward Sampling Framework for Interdiction Problems with Fortification," INFORMS Journal on Computing, 29(1), 123-139, 2017.
26. Lozano, L., Smith, J.C. and Kurz, M.E., "Solving the Traveling Salesman Problem with Interdiction and Fortification," Operations Research Letters, 45(3), 210-216, 2017.

VLADIMIR BOGINSKI

1. V. Stozhkov, G. Pastukhov, V. Boginski, and E.L. Pasiliao. New analytical lower bounds on the clique number of a graph. Optimization Methods and Software, 32: 336–338, 2017.
2. V. Stozhkov, V. Boginski, O.A. Prokopyev, and E.L. Pasiliao. A simple greedy heuristic for linear assignment interdiction. Annals of Operations Research, 249(1-2): 39–53, 2017.
3. O. Yezerska, S. Butenko, and V. Boginski. Detecting robust cliques in graphs subject to uncertain edge failures. Annals of Operations Research, 2016 (accepted). DOI: 10.1007/s10479-016-2161-0.
4. J. Ma, F. Mahdavi Pajouh, B. Balasundaram, and V. Boginski. The minimum spanning k-core problem with bounded CVaR under probabilistic edge failures. INFORMS Journal on Computing, 28(2): 295–307, 2016.
5. A. Veremyev, V. Boginski, and E.L. Pasiliao. Potential energy principles in networked systems and their connections to optimization problems on graphs. Optimization Letters, 9: 585–600, 2015.
6. A. Veremyev, V. Boginski, and E.L. Pasiliao. Analytical characterizations of some classes of optimal strongly attack-tolerant networks and their Laplacian spectra. Journal of Global Optimization, 61: 109–138, 2015.

7. F. Mahdavi Pajouh, J. Walteros, V. Boginski, and E.L. Pasiliao. Minimum edge blocker dominating set problem. European Journal of Operational Research, 247: 16–26, 2015.

8. A. Veremyev, O.A. Prokopyev, V. Boginski, and E.L. Pasiliao. Finding maximum subgraphs with relatively large vertex connectivity. European Journal of Operational Research, 239: 349–362, 2014.

9. F. Mahdavi Pajouh, V. Boginski, and E.L. Pasiliao. Minimum vertex blocker clique problem. Networks, 64: 48–64, 2014.

10. A. Veremyev, A. Sorokin, V. Boginski, and E.L. Pasiliao. Minimum vertex cover problem for coupled interdependent networks with cascading failures. European Journal of Operational Research, 232: 499–511, 2014.

11. A. Buchanan, J.S. Sung, V. Boginski, and S. Butenko. On connected dominating sets of restricted diameter. European Journal of Operational Research, 236: 410–418, 2014.

12. A. Veremyev, V. Boginski, and E.L. Pasiliao. Exact identification of critical nodes in sparse networks via new compact formulations. Optimization Letters, 8:1245–1259, 2014.

13. V. Boginski, S. Butenko, O. Shirokikh, S. Trukhanov, and J. Gil-Lafuente. A network-based data mining approach to portfolio selection via weighted clique relaxations. Annals of Operations Research, 216: 23–34, 2014.

14. G. Pastukhov, A. Veremyev, V. Boginski, and E.L. Pasiliao. Optimal design and augmentation of strongly attack-tolerant two-hop clusters in directed networks. Journal of Combinatorial Optimization, 27: 462–486, 2014.

15. A. Kammerdiner, A. Sprintson, E.L. Pasiliao, and V. Boginski. Optimization of discrete broadcast under uncertainty using conditional value-at-risk. Optimization Letters, 8: 45–59, 2014.

16. O. Shirokikh, A. Sorokin, and V. Boginski. A note on transmission switching in electric grids with uncertain line failures. Energy Systems, 4: 419–430, 2013.

17. J. Pattillo, A. Veremyev, S. Butenko, and V. Boginski. On the maximum quasi-clique problem. Discrete Applied Mathematics, 161: 244–257, 2013.

18. O. Shirokikh, G. Pastukhov, V. Boginski, and S. Butenko. Computational study of the U.S. stock market evolution: A rank correlation-based network model. Computational Management Science, 10: 81–103, 2013.

19. M. Carvalho, A. Sorokin, V. Boginski, and B. Balasundaram. Topology design for on-demand dual-path routing in wireless networks. Optimization Letters, 7: 695–707, 2013.

20. **A. Sorokin, V. Boginski, A. Nahapetyan, and P.M. Pardalos. Computational risk management techniques for fixed charge network flow problems with uncertain arc failures. Journal of Combinatorial Optimization, 25: 99–122, 2013.**

GUANGHUI LAN

1. S. Ghadimi and G. Lan, "Accelerated Gradient Methods for Nonconvex Nonlinear and Stochastic Programming", technical report, Department of Industrial and Systems Engineering, University of Florida, October 10, 2013,

Mathematical Programming, accepted for publication, February 2015, DOI: 10.1007/s10107-015-0871-8, Volume 156, Issue 1, pp 59–99, 2016.

2. C. D. Dang and G. Lan, "Stochastic Block Mirror Descent Methods for Nonsmooth and Stochastic Optimization", technical report, Department of Industrial and Systems Engineering, University of Florida, September 6, 2013, SIAM Journal on Optimization, v. 25, n. 2m pp, 856-881,2015.

3. Y. Ouyang, Y. Chen, G. Lan, and E. Pasiliao, "An Accelerated Linearized Alternating Direction Method of Multipliers", SIAM Journal on Imaging Sciences, accepted for publication, December 2014, Vol. 8, No. 1, pp. 644–681, 2015.

4. G. Lan and R.D.C. Monteiro, "Iteration-complexity of first-order augmented Lagrangian methods for convex programming", May 2009, Mathematical Programming, accepted for publication, December, 2014, DOI 10.1007/s10107-015-0861-x, Volume 155, Issue 1, pp 511-547, 2016.

5. S. Ghadimi, G. Lan, and H. Zhang, "Mini-batch Stochastic Approximation Methods for Nonconvex Stochastic Composite Optimization", Mathematical Programming, accepted for publication, November 2014, DOI: 10.1007/s10107-014-0846-1, Volume 155, Issue 1, pp 267-305, 2016.

6. C. D. Dang and G. Lan, "On the Convergence Properties of Non-Euclidean Extragradient Methods for Variational Inequalities with Generalized Monotone Operators", Computational Optimization and Applications, accepted for publication, June 3, 2014, DOI: 10.1007/s10589-014-9673-9, v. 60 (2), 277-310, 2015.

7. A. Romich, G. Lan, and J.C. Smith, "Algorithms for optimizing Placement of Stationary Monitors", IIE Transactions, accepted for publication, July 8, 2014, DOI: 0.1080/0740817X.2014, v.47, 1-21, 2015.

8. G. Lan, "Bundle-level type methods uniformly optimal for smooth and nonsmooth convex optimization", Mathematical Programming, accepted for publication, Oct. 4, 2013, DOI: 10.1007/s10107-013-0737-x, v149 (1):1–45, 2015.

9. Y. Chen, G. Lan, and Y. Ouyang, "Optimal Primal-Dual Methods for a Class of Saddle Point Problems", SIAM Journal on Optimization, v 24 (4), 1779-1814, 2014.

10. C.D. Dang, K. Dai, and G. Lan, "A Linearly Convergent First-order Algorithm for Total Variation Minimization in Image Processing", International Journal of Bioinformatics Research and Applications, 10 (1), 4-26, 2014. (A special issue for the International Conference on Computational Biomedicine in Gainesville, Florida, February 29 – March 2, 2012.)

11. S. Ghadimi and G. Lan, "Stochastic First- and Zeroth-order Methods for Nonconvex Stochastic Programming", SIAM Journal on Optimization, 23(4), 2341–2368, 2013. (Extended report.)

12. G. Lan and R.D.C. Monteiro, "Iteration complexity of first-order penalty methods for convex programming", Mathematical Programming, 138 (1), 2013, 115-139.

13. S. Ghadimi and G. Lan, "Optimal stochastic approximation algorithms for strongly convex stochastic composite optimization, II: shrinking procedures and optimal algorithms", SIAM Journal on Optimization, 23(4), 2013, 2061–2089.

PETAR MOMCILOVIC

1. A particle process underlying SSD storage structures. E. Coffman and P. Momcilovic. Proc. of ACM MAMA, Pittsburgh, PA, June 2013.
2. Performance-based routing. A. Mandelbaum and P. Momcilovic. Operations Research Letters, 42(6-7): 418-423, 2014.
3. On the departure process of the linear loss network. Y. Choi and P. Momcilovic. Queueing Systems, 78(2): 155-187, 2014.

JEAN-PHILIPPE P. RICHARD

1. A. N. Arslan, J.-P. P. Richard, and Y. Guan. "On the polyhedral structure of two-level lot-sizing problems with supplier selection," Naval Research Logistics, 8, 647-666, 2016
2. I. E. Içyüz-Ay, J-P P. Richard, E. Eskigun, and D. Acharya. "A Two-Model Solution Approach for the Monthly Coal Train Reservations Planning Problem," Transportation Science, 50, 926-946, 2016.
3. **Y. Tang, J.-P. P. Richard and J. C. Smith. "A class of algorithms for mixed integer bilevel min-max optimization," Journal on Global Optimization, 66, 225-262, 2016.**
4. D.L. Burchett and J.-P.P. Richard. "Multi-commodity variable upper bound flow models," Discrete Optimization, 17, 89-122, 2015.
5. A. Diabat and J.-P. P. Richard. "An integrated supply chain problem: a nested lagrangian relaxation approach," Annals of Operations Research, 229, 303-323,2015.
6. K. H. Chung, J.-P P. Richard and M. Tawarmalani. "Lifted inequalities for 0-1 mixed-integer bilinear covering sets," Mathematical Programming, 145, 403-450, 2014.
7. T. Le, A. Diabat, J.-P. P. Richard, and Y. Yih. "A column generation-based heuristic algorithm for an inventory routing problem with perishable product," Optimization Letters, 7, 1481-1502, 2013.
8. M. Tawarmalani, J.-P P. Richard and C. X. Xiong, "Explicit convex and concave envelopes through polyhedral subdivisions," Mathematical Programming, 138,531-577, 2013.
9. A. Diabat, J.-P. P. Richard and C. W. Codrington "A Lagrangian relaxation approach to simultaneous strategic and tactical planning in supply chain design," Annals of Operations Research, 203, 55-80, 2013.

STAN URYASEV

1. Mafusalov, A., Shapiro, A., and S. Uryasev. Estimation and Asymptotics for Buffered Probability of Exceedance. European Journal of Operational Research, 2018, https://doi.org/10.1016/j.ejor.2018.01.021.

2. Pavlikov, K., and S. Uryasev. CVaR distance between univariate probability distributions and approximation problems. Annals of Operations Research, 2018, DOI 10.1007/s10479-017-2732-8, 1-22.
3. Norton, M., Mafusalov, A., and S. Uryasev. Soft Margin Support Vector Classification as Buffered Probability Minimization. Journal of Machine Learning Research, 18, 2017, 1-43.
4. Fidan Kececi N., Kuzmenko, V., and S. Uryasev. Portfolios Dominating Indices: Optimization with Second-Order Stochastic Dominance Constraints vs. Minimum and Mean Variance Portfolios. Journal of Risk and Financial Management 9 (4), October 2016, 1-14.
5. Shang, D., Kuzmenko, V., and S. Uryasev. Cash Flow Matching with Risks Controlled by Buffered Probability of Exceedance and Conditional Value-at-risk. Annals of Operations Research. Published Online. November 2016, 1-14.
6. Gotoh J. and S. Uryasev. Support Vector Machines Based on Convex Risk Functions and General Norms. Annals of Operations Research. Published Online. September 2016, 1-28.
7. Ergashev, B., Pavlikov, K., Uryasev, S., and E. Sekeris. Estimation of Truncated Data Samples in Operational Risk Modeling. Journal of Risk and Insurance, 83(3), 2016, 613–640.
8. Huang W.-Q., Zhuang X.-T., Yao, S. and S. Uryasev. A financial network perspective of financial institutions' systemic risk contributions. Physica A: Statistical Mechanics and its Applications. Vol. 456, 2016, 183–196.
9. Davis J.R. and S. Uryasev. Analysis of Tropical Storm Damage using Buffered Probability of Exceedance. Natural Hazards, 2016.
10. Mafusalov A. and S. Uryasev. CVaR (Superquantile) Norm: Stochastic Case. European Journal of Operational Research, 249, 2016, 200–208.
11. Gotoh J. and S. Uryasev. Two Pairs of Families of Polyhedral Norms Versus Lp-Norms: Proximity and Applications in Optimization. Mathematical Programming, 2015, April 08, 1-41.
12. Tsyurmasto, P., Zabarankin, M. and S. Uryasev. Value-at-risk Support Vector Machine: Stability to Outliers. Journal of Combinatorial Optimization, 28(1), 2014, 218–232.
13. Zabarankin M., Pavlikov K. and S. Uryasev. Capital Asset Pricing Model (CAPM) with Drawdown Measure. European Journal of Operational Research, 234(2), 2014, 508–517.
14. Pavlikov, K. and S. Uryasev. CVaR Norm and Applications in Optimization. Optimization Letters, 8(7), 2014, 1999–2020.
15. **Veremyev A., Tsyurmasto P., Uryasev S. and R.T. Rockafellar. Calibrating Probability Distributions with Convex-Concave-Convex Functions: Application to CDO Pricing. Computational Management Science, 2013, 1-24.**
16. **Rockafellar R.T. and S. Uryasev. The Fundamental Risk Quadrangle in Risk Management, Optimization, and Statistical Estimation. Surveys in Operations Research and Management Science, 18, 2013.**

R. TYRELL ROCKAFELLAR

1. Solving stochastic programming problems with risk measures by progressive hedging, Set-Valued and Variational Analysis, published online 2017. (by R. T. Rockafellar).
2. Convexity and reliability in engineering optimization, Proceedings of Conference on Nonlinear Analysis and Convex Analysis (Chiang Rai, Thailand, 2015), 1--10. (by R. T. Rockafellar).
3. Importance sampling in the evaluation and optimization of buffered failure probability, Proceedings 12th International Conference on Applications of Statistics and Probability in Civil Engineering (ICASP), Vancouver (2015) (by M. M. Harajli, R. T. Rockafellar and J. O. Royset).
4. Measures of residual risk with connections to regression, risk tracking, surrogate models and ambiguity, SIAM Journal on Optimization (by R. T. Rockafellar and J. O. Royset).
5. Risk measures in engineering design under uncertainty, Proceedings 12th International Conference on Applications of Statistics and Probability in Civil Engineering (ICASP), Vancouver (2015) (by R. T. Rockafellar and J. O. Royset).
6. IMPLICIT FUNCTIONS AND SOLUTION MAPPINGS, second edition. Springer Series in Operations Research and Financial Engineering, 2014 [466 pages] (by A. L. Dontchev and R. T. Rockafellar).
7. Second-order variational analysis and its role in optimization, Proceedings of NACA2013 (by R. T. Rockafellar).
8. The convex analysis of random variables, Proceedings of the Third Asian Conference on Nonlinear Analysis and Optimization (Matsue, Japan, 2012): Yokohama Publishers, 2014: 277--286 (by R. T. Rockafellar).
9. Engineering decisions under risk-averseness, Journal of Risk and Uncertainty in Engineering Systems (by R. T. Rockafellar and J. O. Royset).
10. Superquantiles and their applications to risk random variables and regression, Tutorials in Operations Research INFORMS 2013, 151-167 (by R. T. Rockafellar and J. O. Royset).
11. Full stability in finite-dimensional optimization, Math. of Operations Research, accepted (by B. S. Mordukhovich, T. T. A. Nghia and R. T. Rockafellar).
12. Convex analysis and financial equilibrium, Mathematical Programming B 148 (2014), 223-240 (by A. Jofre, R. T. Rockafellar and R. J-B Wets).
13. Superquantile regression with applications to buffered reliability, uncertainty quantification and conditional value-at-risk, European J. Operations Research 234 (2014), 140-154 (by R. T. Rockafellar, J. O. Royset and S. I. Miranda).
14. Random variables, monotone relations and convex analysis, Mathematical Programming B 148 (2014), 297-331 (by R. T. Rockafellar and J. O. Royset).
15. Characterizations of full stability in constrained optimization, SIAM J. Optimization 23 (2013), 1810--1849. (by B. S. Mordukhovich, R. T. Rockafellar, and M. E. Sarabi).
16. **Convex-concave-convex distributions in application to CDO pricing, Computational Management Science (2013), 1-24 (by V. Veremyev, P. Tsyurmasto, S. Uryasev, R. T. Rockafellar).**

17. An Euler-Newton continuation method for tracking solution trajectories of parametric variational inequalities, SIAM J. Control and Optimization 51 (2013), 1823-1840 (by A. D. Dontchev, M. Krastanov, R. T. Rockafellar and V. Veliov).
18. **The fundamental risk quadrangle in risk management, optimization and statistical estimation, Surveys in Operations Research and Management Science 18 (2013), 33-53 (by S. Uryasev and R. T. Rockafellar).**
19. Convergence of inexact Newton methods for generalized equations, Mathematical Programming B 139 (2013), 115-137 (by A. L. Dontchev and R. T. Rockafellar).

DONALD HEARN

1. "The Golf Director Problem: Forming Teams for Club Golf Competitions", K Pavlikov, D Hearn, S Uryasev, Social Networks and the Economics of Sports, 157-170 (2014).
2. "Large scale optimization: state of the art", WW Hager, DW Hearn, PM Pardalos, Springer Science & Business Media

ILIAS S. KOTSIREAS

1. **I. S. Kotsireas, P. M. Pardalos, D-optimal Matrices via Quadratic Integer Optimization, Journal of Heuristics 19 (2013) pp. 617-627.**
2. Dragomir Z. Djokovic, Oleg Golubitsky, Ilias S. Kotsireas, Some new orders of Hadamard and skew Hadamard matrices, Journal of Combinatorial Designs 22 (2014), no. 6, pp. 270-277.
3. Dragomir Z. Djokovic, Ilias S. Kotsireas, Compression of Periodic Complementary Sequences and Applications, Designs Codes and Cryptography 74 (2015), no. 2, pp. 365-377.
4. Dragomir Z. Djokovic, Ilias S. Kotsireas, Daniel Recoskie, Joe Sawada, Charm bracelets and their application to the construction of periodic Golay pairs, Discrete Applied Mathematics 188 (2015), pp. 32-40.
5. Dragomir Z. Djokovic, Ilias S. Kotsireas, Some new periodic Golay pairs, Numerical Algorithms 69 (2015), no. 3, pp. 523-530.
6. Ioannis Haranas, Ioannis Gkigkitzis, Omiros Ragos, Ilias Kotsireas, Quantum and Post-Newtonian Effects in the Anomalistic Period and the Mean Motion of Celestial Bodies, Astrophysics and Space Science (2015), 358:12
7. Olivia Di Matteo, Dragomir Z. Djokovic, Ilias S. Kotsireas, Symmetric Hadamard matrices of order 116 and 172 exist, Special Matrices 3 (2015), pp. 227–234.
8. Ioannis Haranas, Ioannis Gkigkitzis, Ilias Kotsireas, Maria K. Haranas, Ioannis Rekkas, The effect of gravitational acceleration in the streaming potential on the surface of a planetary body and in orbit around it, Advances in Space Research 56 (2015), pp. 1714-1725.
9. Circulant Weighing Matrices: A Demanding Challenge for Parallel Optimization Metaheuristics, D. Souravlias, K.E. Parsopoulos, I.S. Kotsireas, Optimization Letters 10 (2016), no. 6, pp. 1303-1314.

10. Yukawa effects on the mean motion of an orbiting body, Haranas, Ioannis; Kotsireas, Ilias; Gomez, Guillem; Fullana, Marius J.; Gkigkitzis, Ioannis; Astrophys. Space Sci. 361 (2016), no. 11, 361:365.
11. A class of cyclic (v; k1; k2; k3; λ) difference families with v = 3 (mod 4) a prime. Dragomir Z. Djokovic, Ilias S. Kotsireas, Special Matrices 4 (2016), Art. 29.
12. Hard satisfiable 3-SAT instances via autocorrelation. Srinivasan Arunachalam, Ilias Kotsireas. Journal of Satisfiability 10 (2016) pp. 11–22.
13. Combining SAT Solvers with Computer Algebra Systems to Verify Combinatorial Conjectures Edward Zulkoski Curtis Bright Albert Heinle Ilias Kotsireas Krzysztof Czarnecki Vijay Ganesh Journal of Automated Reasoning 58 (2017), Issue 3, pp. 313–339.
14. Space time geometry in the atomic hydrogenoid system. Approach to a dust relativistic model from Causal Quantum Mechanics. G. Gomez, I. Kotsireas, I. Gkigkitzis, I. Haranas, M. J. Fullana. Revista Mexicana de Fısica 64 (2018) pp. 18-29

H. EDWIN ROMEIJN

1. Simplex algorithm for countable-state discounted Markov decision processes, I Lee, MA Epelman, HE Romeijn, RL Smith, Operations Research 65 (4), 1029-1042 (2017).
2. Optimizing global liver function in radiation therapy treatment planning, Victor W Wu, Marina A Epelman, Hesheng Wang, H Edwin Romeijn, Mary Feng, Yue Cao, Randall K Ten Haken, Martha M Matuszak, Physics in Medicine & Biology 61 (17), 6465 (2016).
3. Capacity expansion and cost efficiency improvement in the warehouse problem, M Al-Gwaiz, X Chao, HE Romeijn, Naval Research Logistics (NRL) 63 (5), 367-373 (2016).
4. **Improving the efficiency of decentralized supply chains with fixed ordering costs, J Geunes, HE Romeijn, W van den Heuvel, European Journal of Operational Research 252 (3), 815-828 (2016).**
5. Treatment Plan Optimization for Volumetric-Modulated Arc Therapy (VMAT), F Peng, Z Tian, H Romeijn, C Men, Graphics Processing Unit-Based High Performance Computing in Radiation Therapy. Series: Series in Medical Physics and Biomedical Engineering (2015).
6. The economic lot-sizing problem with perishable items and consumption order preference, M Önal, HE Romeijn, A Sapra, W Van den Heuvel, European Journal of Operational Research 244 (3), 881-891 (2015).
7. VMATc: VMAT with constant gantry speed and dose rate, F Peng, SB Jiang, HE Romeijn, MA Epelman, Physics in Medicine & Biology 60 (7), 2955 (2015).
8. Computational complexity of finding Pareto efficient outcomes for biobjective lot-sizing models, HE Romeijn, DR Morales, W Heuvel, Naval Research Logistics (NRL) 61 (5), 386-402 (2014)
9. Bounded harmonic mappings related to star-like functions, D Varol, M Aydoğan, Y Polatoğlu, AIP Conference Proceedings 1602 (1), 644-649   (2014)

10. A DVH-guided IMRT optimization algorithm for automatic treatment planning and adaptive radiotherapy replanning, M Zarepisheh, T Long, N Li, Z Tian, HE Romeijn, X Jia, SB Jiang, Medical physics 41 (6Part1) (2014)
11. Extreme point characterization of constrained nonstationary infinite-horizon Markov decision processes with finite state space, I Lee, MA Epelman, HE Romeijn, RL Smith, Operations Research Letters 42 (3), 238-245 (2014).
12. A fluence map optimization model for restoring traditional fractionation in IMRT treatment planning, DM Aleman, J Wallgren, HE Romeijn, JF Dempsey, Optimization Letters 8 (4), 1453-1473 (2014)
13. **Resource-constrained assignment problems with shared resource consumption and flexible demand, C Rainwater, J Geunes, HE Romeijn, INFORMS Journal on Computing 26 (2), 290-302 (2013)**
14. FusionArc optimization: a hybrid volumetric modulated arc therapy (VMAT) and intensity modulated radiation therapy (IMRT) planning strategy, Martha M Matuszak, Jennifer M Steers, Troy Long, Daniel L McShan, Benedick A Fraass, H Edwin Romeijn, Randall K Ten Haken, Medical physics 40 (7) (2013)
15. Exact and heuristic methods for a class of selective newsvendor problems with normally distributed demands ZMA, Strinka, HE Romeijn, J Wu, Omega 41 (2), 250-258 (2013)
16. A linear programming approach to constrained nonstationary infinite-horizon Markov decision processes, I Lee, MA Epelman, HE Romeijn, RL Smith.

WILLIAM HAGER

1. (with H. Zhang), The Limited Memory Conjugate Gradient Method, SIAM Journal on Optimization 23 (2013), 2150–2168.
2. (with Y. Chen, M. Yashtini, X. Ye, and H. Zhang), Bregman Operator Splitting with Variable Stepsize (BOSVS) for Total Variation Image Reconstruction, Computational Optimization and Applications 54 (2012), 317–342.
3. (with R. G. Sonnenfeld, W. Feng, T. Kanmae, H C. Stenbaek-Nielsen, M. G. McHarg, R. K. Haaland, S. A. Cummer, G. Lu, and J. L. Lapierre), Charge Transport Associated with Sprites over a North Texas Mesoscale Convective System, Journal of Geophysical Research 117 (2012), 18 (doi: 10.1029/2012JD018309).
4. (with M. Yashtini, Y. Chen, and X. Ye), Partially parallel MR image reconstruction using sensitivity encoding, 2012 IEEE International Conference on Image Processing (2012), 2077–2080.
5. (with J. T. Hungerford), Optimality conditions for maximizing a function over a polyhedron, Mathematical Programming 145 (2014), 179–198.
6. (with H. Zhang), An Affine Scaling Method for Optimization Problems with Polyhedral Constraints, Computational Optimization and Applications 59 (2014), 163–183.
7. (with R. G. Sonnenfeld), Electric Field Reversal in Sprite Electric Field Signature, Monthly Weather Review 141 (2013), 1731–1735.

8. (with W. Feng), Charge Rearrangement Deduced from Nearby Electric Field Measurements of an Intracloud Flash with K-Changes, Journal of Geophysical Research 118 (2013), 19 (doi: 10.1002/jgrd.50782).

9. (with J. T. Hungerford), Continuous quadratic programming formulations of optimization problems on graphs, European Journal of Operational Research 240 (2015), 328–337.

10. (with T. A. Davis and J. T. Hungerford), An efficient algorithm for the separable convex quadratic knapsack problem, ACM Transactions on Mathematical Software 42 (2016), 1–25.

11. (with M. Yashtini and H. Zhang), An O(1/k) convergence rate for the variable stepsize Bregman operator splitting algorithm, SIAM Journal on Numerical Analysis 54 (2016), 1535–1556.

12. (with D. Mico-Umutesi), Error estimation in nonlinear optimization, Journal of Global Optimization 59 (2014), 327–341.

13. (with C. C. Francolin, D. A. Benson and A. V. Rao), Costate approximation in optimal control using integral Gaussian quadrature orthogonal collocation methods, Optimal Control Applications and Methods 36 (2015), 381–397.

14. (with M. A. Patterson and A. V. Rao), A ph mesh refinement method for optimal control, Optimal Control Applications and Methods 36 (2015), 398–421.

15. (with D. T. Phan and J. Zhu), Projection Algorithms for Nonconvex Minimization with Application to Sparse Principal Component Analysis, Journal of Global Optimization 65 (2016), 657-676.

16. (with C. Ngo, M. Yashtini, and H. Zhang), Alternating direction approximate Newton algorithm for ill-conditioned inverse problems with application to parallel MRI, Journal of the Operations Research Society of China, Special Issue on Sparse and Low-rank Optimization 3 (2015), 139–162.

17. (with F. Liu and A. Rao), Adaptive Mesh Refinement Method for Optimal Control Using Nonsmoothness Detection and Mesh Size Reduction, Journal of the Franklin Institute 352 (2015), 4081–4106.

18. (with H. Zhang), Projection onto a Polyhedron that Exploits Sparsity, SIAM Journal on Optimization 29 (2016), 1773-1798.

19. (with J. T. Hungerford and I. Safro), A Multilevel Bilinear Programming Algorithm for the Vertex Separator Problem (2017, submitted).

20. (with H. Hou and A. Rao), Lebesgue Constants Arising in a Class of Collocation Methods, IMA Journal of Numerical Analysis, doi: 10.1093/imanum/drw060 (2016).

21. (with H. Hou and A. Rao), Convergence Rate for a Gauss Collocation Method Applied to Unconstrained Optimal Control, Journal of Optimization Theory and Applications 169 (2016), 801-824.

22. (with F. Liu and A. Rao), Adaptive Mesh Refinement Method for Optimal Control Using Legendre Polynomial Coefficient Decay Rate and Mesh Re-Initialization, Transactions on Control Systems Technology (DOI: 10.1109/TCST.2017.2702122, 2017).

23. (with H. Zhang), An Active Set Algorithm for Nonlinear Optimization with Polyhedral Constraints, Science China Mathematics, ICIAM special issue 59 (2016), 1525-1542.

ATHANASIOS MIGDALAS

1. **City Networks: Collaboration and Planning for Health and Sustainability, A Karakitsiou, A Migdalas, ST Rassia, PM Pardalos, Springer Publishing Company, Incorporated (2017)**
2. Non-dominated sorting differential evolution algorithm for the minimization of route based fuel consumption multiobjective vehicle routing problems, ID Psychas, M Marinaki, Y Marinakis, A Migdalas, Energy Systems 8 (4), 785-814 (2017)
3. **Single-machine serial-batching scheduling with a machine availability constraint, position-dependent processing time, and time-dependent set-up time, J Pei, X Liu, PM Pardalos, K Li, W Fan, A Migdalas, Optimization Letters 11 (7), 1257-1271 (2017)**
4. A hybrid Particle Swarm Optimization–Variable Neighborhood Search algorithm for Constrained Shortest Path problems, Y Marinakis, A Migdalas, A Sifaleras, European Journal of Operational Research 261 (3), 819-834 (2017)
5. An adaptive bumble bees mating optimization algorithm, Y Marinakis, M Marinaki, A Migdalas, Applied Soft Computing 55, 13-30 (2017)
6. Locating facilities in a competitive environment, A Karakitsiou, A Migdalas, Optimization Letters 11 (5), 929-945   10 (2017)
7. Parallel Multi-Start Non-dominated Sorting Particle Swarm Optimization Algorithms for the Minimization of the Route-Based Fuel Consumption of Multiobjective Vehicle Routing Problems, ID Psychas, M Marinaki, Y Marinakis, A Migdalas, Optimization Methods and Applications, 425-456 (2017)
8. Particle Swarm Optimization for the Vehicle Routing Problem: A Survey and a Comparative Analysis, Y Marinakis, M Marinaki, A Migdalas, Handbook of Heuristics, 1-34 (2017)
9. An Island Memetic Algorithm for Real World Vehicle Routing Problems, I Rogdakis, M Marinaki, Y Marinakis, A Migdalas, Operational Research in Business and Economics, 205-223 (2017)
10. **Serial-batching scheduling with time-dependent setup time and effects of deterioration and learning on a single-machine, J Pei, X Liu, PM Pardalos, A Migdalas, S Yang, Journal of Global Optimization 67 (1-2), 251-262 (2017)**
11. **Minimizing the makespan for a serial-batching scheduling problem with arbitrary machine breakdown and dynamic job arrival, J Pei, X Liu, W Fan, PM Pardalos, A Migdalas, B Goldengorin, S Yang, The International Journal of Advanced Manufacturing Technology Vol. 86, Issue 9-12, pp 3315-3331 (2016)**
12. Convex optimization problems in supply chain planning and their solution by a column generation method based on the Frank Wolfe method, A Karakitsiou, A Migdalas, Operational Research 16 (3), 401-421 (2016)
13. A hybrid discrete artificial bee colony algorithm for the multicast routing problem, Y Marinakis, M Marinaki, A Migdalas, European Conference on the Applications of Evolutionary Computation, 203-218   8 (2016)
14. **Scheduling jobs on a single serial-batching machine with dynamic job arrivals and multiple job types, J Pei, X Liu, W Fan, PM Pardalos, A**

Migdalas, S Yang, Annals of Mathematics and Artificial Intelligence 76 (1-2), 215-228 (2016)

15. A hybrid clonal selection algorithm for the location routing problem with stochastic demands, Y Marinakis, M Marinaki, A Migdalas ,Annals of Mathematics and Artificial Intelligence 76 (1-2), 121-142 (2016)
16. Nash type games in competitive facilities location, A Karakitsiou, A Migdalas, International Journal of Decision Support Systems 2 (1-3), 4-12 (2016)
17. Combinatorial Optimization, Y Marinakis, A Migdalas, New Tech Pub. (2016)
18. Supply Chain Management and Logistics: Innovative Strategies and Practical Solutions, Z Liang, WA Chaovalitwongse, L Shi, CRC Press (2015)
19. **Future Research on Multiobjective Coordinated Scheduling Problems for Discrete Manufacturing Enterprises in Supply Chain Environments, J Pei, X Liu, W Fan, A Migdalas, PM Pardalos, Supply Chain Management and Logistics: Innovative Strategies and Practical Solutions (2015)**
20. Optimization, Control, and Applications in the Information Age, A Migdalas, A Karakitsiou, Springer International Publishing: Imprint: Springer, (2015)
21. A generic column generation principle: derivation and convergence analysis, T Larsson, A Migdalas, M Patriksson, Operational Research 15 (2), 163-198 (2015)
22. A Tree Neighborhood Topology Particle Swarm Optimization Algorithm for the Vehicle Routing Problem with Stochastic Travel and Service Times, Y Marinakis, M Marinaki, A Migdalas, World Congress on Global Optimization: 22/02/2015-25/03/2015 (2015)
23. Discrete bi-level facility models with competing customers, A Karakitsiou, A Migdalas, World Congress on Global Optimization: 22/02/2015-25/03/2015 (2015)
24. **Multi-Objective Optimization and Multi-Attribute Decision Making for a Novel Batch Scheduling Problem Based on Mould Capabilities, J Pei, A Migdalas, W Fan, X Liu, Optimization, Control, and Applications in the Information Age, 275-297 (2015)**
25. Adaptive Tunning of All Parameters in a Multi-Swarm Particle Swarm Optimization Algorithm: An Application to the Probabilistic Traveling Salesman Problem, Y Marinakis, M Marinaki, A Migdalas, Optimization, Control, and Applications in the Information Age, 187-207 (2015)
26. Multiobjective Particle Swarm Optimization for a Multicast Routing Problem. Y Marinakis, A Migdalas, Examining Robustness and Vulnerability of Networked Systems, 161-175 (2014)
27. Minimizing the Fuel Consumption of a Multiobjective Vehicle Routing Problem Using the Parallel Multi-Start NSGA II Algorithm, ID Psychas, M Marinaki, Y Marinakis, A Migdalas, International Conference on Network Analysis, 69-88 (2014)
28. A hybrid clonal selection algorithm for the vehicle routing problem with stochastic demands, Y Marinakis, M Marinaki, A Migdalas, International Conference on Learning and Intelligent Optimization, 258-273 (2014)
29. Adaptive Tunning of All Parameters in a Multi-Swarm Particle Swarm Optimization Algorithm: An Application to the Probabilistic Traveling Salesman Problem, Y Marinakis, M Marinaki, A Migdalas, Conference on Optimization

Control and Applications in the Information Age: Organized in honor of the 60th birthday of Professor Panos M. Pardalos 15/06/2014-20/06/2014 (2014)

30. An Adaptive Particle Swarm Optimization Algorithm for the Vehicle Routing Problem with Time Window, Y Marinakis, M Marinaki, A Migdalas, Conference LOT 2014: Logistics, optimization and transportation 01/09/2014-02/09/2014 (2014)

31. A particle swarm optimization algorithm for the multicast routing problem, Y Marinakis, A Migdalas, Models, Algorithms and Technologies for Network Analysis, 69-91 (2014)

32. "KURT JORNSTEN", A MIGDALAS, Minimax and Applications 4, 109 (2013)

33. Parallel computing in optimization, A Migdalas, PM Pardalos, S Storøy, Springer Science & Business Media (2013)

34. Multilevel optimization: algorithms and applications, A Migdalas, PM Pardalos, P Värbrand, Springer Science & Business Media (2013)

35. Quantitative Inventory Modeling and Future Trends in Supply Chain Management, A Karakitsiou, A Migdalas, Financial Engineering, E-commerce and Supply Chain 70, 271 (2013)

36. Greedy randomized adaptive search for a location, K Holmqvist, A Migdalas, PM Pardalos, Developments in Global Optimization, 301-313 (2013)

37. From local to global optimization, A Migdalas, PM Pardalos, P Värbrand, Springer Science & Business Media (2013)

38. Convex Cost Multicommodity Flow Problems: Applications and Algorithms, A Migdalas (2013)

39. Optimization Theory, A Migdalas, Springer New York (2013)

MARCO CARVALHO

1. Formal Assurance for Cooperative Intelligent Autonomous Agents, S Bhattacharyya, TC Eskridge, NA Neogi, M Carvalho, M Stafford, NASA Formal Methods Symposium, 20-36, 2018

2. Optimal Trajectory and Schedule Planning for Autonomous Guided Vehicles in Flexible Manufacturing System, A Mahdavi, M Carvalho, 2018 Second IEEE International Conference on Robotic Computing (IRC), 167-172, 2018

3. Effect of luting agent on the load to failure and accelerated-fatigue resistance of lithium disilicate laminate veneers, MMM Gresnigt, M Özcan, M Carvalho, P Lazari, MS Cune, P Razavi et al, Dental Materials 33 (12), 1392-1401, 2017

4. High fidelity adaptive cyber emulation, S Mammadov, D Mehta, E Stoner, MM Carvalho, Computational Intelligence (SSCI), 2017 IEEE Symposium Series on, 1-8, 2017

5. A hybrid approach to improving program security, F Nembhard, M Carvalho, T Eskridge, Computational Intelligence (SSCI), 2017 IEEE Symposium Series on, 1-8, 2017

6. Malware classification using static analysis based features, M Hassen, MM Carvalho, PK Chan, Computational Intelligence (SSCI), 2017 IEEE Symposium Series on, 1-7, 2017

7. Recommended practices for the specification of multi-agent systems requirements, K Slhoub, M Carvalho, W Bond, Ubiquitous Computing, Electronics and Mobile Communication Conference (UEMCON), 2017 IEEE 8th Annual, 2017

8. Adaptive Resource Management Enabling Deception (ARMED), P Pal, N Soule, N Lageman, SS Clark, M Carvalho, A Granados, A Alves, Proceedings of the 12th International Conference on Availability, Reliability and Security, 2017

9. Formal Assurance for Cognitive Architecture Based Autonomous Agent, S Bhattacharyya, T Eskridge, N Neogi, M Carvalho, 2017

10. An autonomous resiliency toolkit-needs, challenges, and concepts for next generation cyber defense platforms, M Atighetchi, F Yaman, B Simidchieva, M Carvalho, Military Communications Conference, MILCOM 2016-2016 IEEE, 1-6, 2016

11. Semi-automated wrapping of defenses (SAWD) for cyber command and control, M Carvalho, TC Eskridge, M Atighetchi, CN Paltzer, Military Communications Conference, MILCOM 2016-2016 IEEE, 19-24, 2016

12. RF-based Monitoring, Sensing and Localization of Mobile Wireless Nodes, MM Carvalho, BM Hambebo, A Granados, International Conference on Mobile Networks and Management, 61-71, 2016

13. Deep neural networks under stress, M Carvalho, M Cord, S Avila, N Thome, E Valle, Image Processing (ICIP), 2016 IEEE International Conference on, 4443-4447, 2016

14. Towards automated melanoma screening: Proper computer vision & reliable results, M Fornaciali, M Carvalho, FV Bittencourt, S Avila, E Valle, arXiv preprint arXiv:1604.04024 ,2016

15. Experimentation support for cyber security evaluations, M Atighetchi, B Simidchieva, M Carvalho, D Last, Proceedings of the 11th Annual Cyber and Information Security Research Conference, 2016

16. Character Mapping for Cross-Language, M Al-Shuaili, M Carvalho, International Journal of Future Computer and Communication 5 (1), 18, 2016

17. Personal identity matching, MH Al-Shuaili, Florida Institute of Technology, 2016

18. Building Up Conceptual Spaces: An ESOM Supported Strategy, SM de Paula, MC Carvalho, RR Gudwin, Intelligent Systems (BRACIS), 2015 Brazilian Conference on, 122-127, 2015

19. VINE: a cyber emulation environment for MTD experimentation, TC Eskridge, MM Carvalho, E Stoner, T Toggweiler, A Granados, Proceedings of the Second ACM Workshop on Moving Target Defense, 43-47 7, 2015

20. Interactive visualization of netflow traffic, TC Eskridge, M Carvalho, F Nembhard, H Thotempudi, PJ Polack, Intelligence and Security Informatics Conference (EISIC), 2015 European, 188-188, 2015

21. Attack Surface Reasoning (ASR), Mr Nathaniel Soule, Borislava Simidchieva, Fusun Yaman, Ronald Watro, Joseph Loyall, Mr Michael Atighetchi, Marco Carvalho, Thomas Eskridge, David Last, David Myers, Capt Bridget Flatley, 2015

22. MIRA: a support infrastructure for cyber command and control operations, M Carvalho, TC Eskridge, K Ferguson-Walter, N Paltzer, Resilience Week (RWS), 2015, 1-6, 2015

23. Quantifying & minimizing attack surfaces containing moving target defenses, Nathaniel Soule, Borislava Simidchieva, Fusun Yaman, Ronald Watro, Joseph Loyall, Michael Atighetchi, Marco Carvalho, David Last, David Myers, Bridget Flatley, Resilience Week (RWS), 2015, 1-6, 2015

24. Resilient command and control infrastructures for cyber operations, M Carvalho, Software Engineering for Adaptive and Self-Managing Systems (SEAMS), 2015 IEEE/ACM 10th International Symposium

25. Transfer schemes for deep learning in image classification= Esquemas de transferência para aprendizado profundo em classificação de imagens, MC Carvalho, 2015

26. A significant improvement for anti-malware tests, R Ford, M Carvalho, Anti-malware Testing Research (WATeR), 2014 Second Workshop on, 1-4, 2014

27. Statistical learning approach for robust melanoma screening, M Fornaciali, S Avila, M Carvalho, E Valle, Graphics, Patterns and Images (SIBGRAPI), 2014 27th SIBGRAPI Conference, 2014

28. Empirical Models for Complex Network Dynamics: A Preliminary Study, D Oliveira, M Carvalho, International Computing and Combinatorics Conference, 637-646, 2014

29. Heartbleed 101, M Carvalho, J DeMott, R Ford, DA Wheeler, IEEE security & privacy 12 (4), 63-67 21, 2014

30. Exploring Netfow data using Hadoop, X Zhou, M Petrovic, T Eskridge, M Carvalho, X Tao, Proceedings of the Second ASE International Conference on Big Data Science and Computing 2014

31. Performance evaluation of static frequency reuse techniques for OFDMA cellular networks, BM Hambebo, MM Carvalho, FM Ham, Networking, Sensing and Control (ICNSC), 2014 IEEE 11th International Conference, 2014

32. Efficient spectrum allocation in multiband CSMA networks, S Subramanian, JM Shea, EL Pasiliao, MM Carvalho, WE Dixon, Wireless Communications and Networking Conference (WCNC), 2014 IEEE, 1591-1596 1, 2014

33. Moving-target defenses for computer networks, M Carvalho, R Ford, IEEE Security & Privacy 12 (2), 73-76, 2014

34. A Gaming Environment for Resilient Network Design and Adversarial Co-Evolution Modeling, M Carvalho, A Granados, J McLane, E Stoner, Lecture Notes on Information Theory Vol 2 (1), 2014

35. Strategies for Spectrum Allocation in OFDMA Cellular Networks, BM Hambebo, M Carvalho, F Ham, International Conference on Learning and Intelligent Optimization, 378-382, 2014

36. 88 Last Word, Lee Garber, Susan Landau, George Candea, Prabir Bhattacharya, Li Yang, Minzhe Guo, Kai Qian, Ming Yang, Vehicular Networking, David Eckhoff, Christoph Sommer, Protecting Me, Richard Ford, Marco Carvalho, Sergey Bratus, Trey Darley, Michael Locasto, Meredith L Patterson, Daniel E Geer Jr, 2014

37. Protecting Me, R Ford, M Carvalho, IEEE Security & Privacy 12 (1), 80-82, 2014

38. A comparison of community identication algorithms for regulatory network motifs, D Oliveira, M Carvalho, Bioinformatics and Bioengineering (BIBE), 2013 IEEE 13th International Conference, 2013

39. Optimization and security challenges in smart power grids, V Pappu, M Carvalho, P Pardalos, Springer, 2013

40. Antimalware software: Do we measure resilience?, R Ford, M Carvalho, L Mayron, M Bishop, Anti-Malware Testing Research (WATeR), 2013 Workshop on, 1-74, 2013

41. A combined discriminative and generative behavior model for cyber physical system defense, McCusker, S Brunza, M Carvalho, D Dasgupta, S Vora, Resilient Control Systems (ISRCS), 2013 6th International Symposium on, 144-149, 2013

42. MTC2: A command and control framework for moving target defense and cyber resilience, Marco Carvalho, Thomas C Eskridge, Larry Bunch, Adam Dalton, Robert Hoffman, Jeffrey M Bradshaw, Paul J Feltovich, Daniel Kidwell, Teresa Shanklin, Resilient Control Systems (ISRCS), 2013 6th International Symposium, 175-180, 2013

43. The language of behavior: Exploring a new formalism for resilient response, GA Fink, M Carvalho, Resilient Control Systems (ISRCS), 2013 6th International Symposium on, 210-217, 2013

44. Cooperation models between humans and artificial self-organizing systems: Motivations, issues and perspectives, GZ Rey, M Carvalho, D Trentesaux, Resilient Control Systems (ISRCS), 2013 6th International Symposium on, 156-161, 2013

45. Domain and location specific modeling of mobile users online Interests, S Moghaddam, M Carvalho, A Helmy, Wireless Communications and Mobile Computing Conference (IWCMC), 2013

46. Using network sciences to evaluate the brazilian airline network, D Oliveira, M Carvalho, R Menezes, International Computing and Combinatorics Conference, 849-858, 2013

47. A Scalable Approach to Network Traffic Classification for Computer Network Defense using Parallel Neural Network Classifier Architectures, BM Hambebo, M Carvalho, FM Ham, Efficiency and Scalability Methods for Computational Intellect, 181-196, 2013

48. Topology design for on-demand dual-path routing in wireless networks, M Carvalho, A Sorokin, V Boginski, B Balasundaram, Optimization Letters 7 (4), 695-707, 2013

49. A layered approach to understanding network dependencies on moving target defense mechanisms, S Crosby, M Carvalho, D Kidwell, Proceedings of the Eighth Annual Cyber Security and Information Intelligence Research Workshop, 2013

50. A human-agent teamwork command and control framework for moving target defense (MTC2), Marco M Carvalho, Thomas C Eskridge, Larry Bunch, Jeffrey M Bradshaw, Adam Dalton, Paul Feltovich, James Lott, Daniel Kidwell, Proceedings of the Eighth Annual Cyber Security and Information Intelligence Research Workshop, 2013

51. Visualizing multi-agent systems, PJ Polack Jr, M Carvalho, TC Eskridge, 2013 IEEE/WIC/ACM International Conference on Web Intelligence, 2013

52. Infrastructure security for smart electric grids: A survey, NM Pindoriya, D Dasgupta, D Srinivasan, M Carvalho, Optimization and Security Challenges in Smart Power Grids, 161-180, 2013

MARIO ROSARIO GUARRACINO

1. M. Vacca, K. P. Tripathi, L. Speranza, R. A. Cigliano, F. Scalabra, F. Marracino, M. Madonna, W. Sanseverino, C. Perrone Capano, M. R. Guarracino and Maurizio Dâe Esposito. Effects of Mecp2 loss of function in embryonic cortical neurons: a bioinformatics strategy to sort out non-neuronal cells variability from transcriptome profiling. BMC Bioinformatics, 17 (2), 189, 2016.
2. K. P. Tripathi, D. Evangelista, A. Zuccaro, M.R. Guarracino. Transcriptator: an automated computational pipeline to annotate assembled reads and identify non coding RNA. PlosOne, 10 (11), e0140268, 2015.
3. M. Viola, M. Sangiovanni, G. Toraldo, M. R. Guarracino. A Generalized Eigenvalues Classifier with Embedded Feature Selection. Optimization Letters, Springer, pp 1--15 2015.
4. **P. Xanthopoulos, M.R. Guarracino, and P.M. Pardalos. Robust Generalized Eigenvalue Classifiers with Ellipsoidal Uncertainty. Annals of Operation Research, vol. 216, n. 1, 327-342, 2014**
5. C.M. Williams, M. Watanabe, M.R. Guarracino, M.B. Ferraro, A. Edison, T.J. Morgan, A.F.B. Boroujerdi, D.A. Hahn. Cold adaptation shapes the robustness of metabolic networks in Drosophila melanogaster. Evolution, vol. 68, Issue 12, pages 3505â€"3523, 2014.
6. J. Zilinskas, A. Lancinskas, M.R. Guarracino. Application of Multi-objective Optimization to Pooled Experiments of Next Generation Sequencing for Detection of Rare Mutations. Plos One, 9 (9), e104992, 2014.
7. M.B. Ferraro and M. R. Guarracino. Prediction of rare single-nucleotide causative mutations for muscular diseases in pooled NGS experiments. Journal of Computational Biology, 21 (9), 665-675, 2014.
8. M.R. Guarracino, A. Irpino, R. Jasinevicius, R. Verde. Fuzzy Regularized Generalized Eigenvalue Classier with a Novel Membership Function. Information Science, in print 2013.
9. **P. Xanthopoulos, M.R. Guarracino, and P.M. Pardalos, Robust Generalized Eigenvalue Classifiers with Ellipsoidal Uncertainty, Annals of Operation Research, 2013.**
10. L. Brunese, B. Greco, F.R. Setola, F. Lassandro, M.R. Guarracino, M. De Rimini, S. Piccolo, N. De Rosa, R. Muto, A. Bianco, P. Muto, R. Grassi, and A. Rotondo. Non-small cell lung cancer evaluated with quantitative contrast-enhanced CT and PET-CT: net enhancement and standardized uptake values are related to tumour size and histology. Medical Science Monitor 2013 Feb 7;19:95-101.

MAURICIO G.C. RESENDE

1. "A biased random key genetic algorithm for the field technician scheduling problem," (with R.B. Damm and D.P. Ronconi), Computers & Operations Research, vol. 75, pp. 49–63, 2016.
2. "Heuristics for a hub location-routing problem," (with M.C. Lopes, C.E. Andrade, T.A. Queiroz, and F.K. Miyazawa), Networks, vol. 68, pp. 54–90, 2016.
3. "A biased random-key genetic algorithm for the tree of hubs location problem," (with L.S. Pessoa and A.C. Santos), Optimization Letters, published online, 20 September 2016.
4. "Hybrid method with CS and BRKGA applied to the minimization of tool switches problem," (with A.A. Chaves, L.A.N. Lorena, and E.L.F. Senne), Computers & Operations Research, vol. 67, pp. 174–183, 2016.
5. "A biased random-key genetic algorithm for the minimization of open stacks problem," (with J.F. Goncalves and M.D. Costa), International Transactions in Operational Research, vol. 23, pp. 25–46, 2016.
6. "Hybridizations of GRASP with path-relinking for the far from most problem," (with D. Ferone and P. Festa), International Transactions in Operational Research, vol. 23, pp. 481–506, 2016.
7. "A biased random-key genetic algorithm for single-round divisible load scheduling," (with J.S. Brandao, T.F. Noronha, and C.C. Ribeiro), International Transactions in Operational Research, vol. 22, pp. 823–839, 2015.
8. "A biased random-key genetic algorithm for wireless backhaul network design," (with C.E. Andrade, W. Zhang, R.K. Sinha, K.C. Reichmann, R.D. Doverspike, and F.K. Miyazawa), Applied Soft Computing, vol. 33, pp. 150–169, 2015.
9. "A biased random-key genetic algorithm for the capacitated minimum spanning tree problem," (with E. Ruiz, M. Albareda-Sambola, and E. Fernandez), Computers & Operations Research, vol. 57, pp. 95-108, 2015.
10. **"On the minimization of traffic congestion in road networks with tolls," (with F. Stefanello, L.S. Buriol, M.J. Hirsch, P.M. Pardalos, T. Querido, and M. Ritt), Annals of Operations Research, published online 15 February 2015.**
11. "A biased random-key genetic algorithm for the unequal area facility layout problem," (with J.F. Goncalves), European J. of Operational Research, vol. 246, pp. 86–107, 2015.
12. "Greedy randomized adaptive search procedure with exterior path relinking for differential dispersion minimization," (with A. Duarte, J. Sanchez-Oro, M.G.C. Resende, F. Glover, and R. Martı), Information Systems, vol. 296, pp. 40–60, 2015.
13. "Biased random-key genetic algorithms for the winner determination problem in combinatorial auctions," (with C.E. de Andrade, R.F. Toso, and F.K. Miyazawa), Evolutionary Computation, vol. 23, pp. 279–307, 2015.
14. "Multiobjective GRASP with path relinking," (with R. Martı, V. Campos, and A. Duarte), European J. of Operational Research, vol. 240, pp. 54–71, 2015.
15. "A C++ application programming interface for biased random-key genetic algorithms," (with R.F. Toso), Optimization Methods and Software, vol. 30, pp. 81-93, 2015.

16. **"A Python/C++ library for bound-constrained global optimization using biased random-key genetic algorithm," (with R.M.A. Silva, and P.M. Pardalos), J. of Combinatorial Optimization, vol. 30, pp. 710–728, 2015.**

17. "An experimental comparison of biased and unbiased random-key genetic algorithms," (with J.F. Goncalves and R.F. Toso), Pesquisa Operacional, vol. 34., pp. 143–164, 2014.

18. "Improved heuristics for the regenerator location problem," (with A. Duarte, R. Martı, and R.M.A. Silva), International Transactions in Operational Research, vol. 21, pp. 541–558, 2014.

19. "An edge-swap heuristic for generating spanning trees with minimum number of branch vertices," (with R.M.A. Silva, D.M. Silva, G.R. Mateus, J.F. Goncalves, and P. Festa), Optimization Letters, vol. 8., pp. 1225–1243, 2014.

20. "An extended Akers graphical method with a biased random-key genetic algorithm for job-shop scheduling," (with J.F. Goncalves), International Transactions in Operational Research, vol. 21, pp. 215–246, 2014.

21. "On the improvement of blood sample collection at clinical laboratories," (with H.R. Lourenco, L.S. Pessoa, A. Grasas, I. Caballe, and N. Barba), BMC Health Services Research, vol.14, article 12, 2014.

22. "Randomized heuristics for the family traveling salesperson problem," (with L.F. Moran-Mirabal and J.L. Gonzalez-Velarde), International Transactions in Operational Research, vol. 21, pp. 41–57, 2014.

23. "GRASP: Greedy Randomized Adaptive Search Procedures," (with C.C. Ribeiro), in Search Methodologies, 2nd edition, E. Burke and G. Kendall (Eds.), Chapter 11, pp. 287-312, Springer, 2014.

24. **"Finding multiple roots of box-constrained system of nonlinear equations with a biased random-key genetic algorithm," (with R.M.A. Silva and P.M. Pardalos), J. of Global Optimization, vol. 60, pp. 289–306, 2014.**

25. "A hybrid Lagrangean heuristic with GRASP and path-relinking for set k-covering," (with L.S. Pessoa and C.C. Ribeiro), Computers & Operations Research, vol. 40, pp. 3132–3146, 2013.

26. **"A Python/C library for bound-constrained global optimization with continuous GRASP," (with R.M.A. Silva, P.M. Pardalos, and M.J. Hirsch), Optimization Letters, vol. 7, pp. 967–984, 2013.**

27. "Design and optimization of fiber-optic small-cell backhaul based on an existing fiber-to-the-node residential access network," (with C. Ranaweera, K.C. Reichmann, P.P. Iannone, P.S. Henry, B-J. Kim, P.D. Magill, K.N. Oikonomou, R.K. Sinha, and S.L. Woodward), IEEE Communications Magazine, vol. 51(9), pp. 62–69, 2013.

28. **"GRASP with path-relinking for facility layout," (with R.M.A. Silva, P.M. Pardalos, G.R. Mateus, and G. de Tomi), in Models, Algorithms, and Technologies for Network Analysis, B.I. Goldengorin, V.A. Kalyagin, and P.M. Pardalos (Eds.), Springer Proceedings in Mathematics & Statistics, vol. 59, pp. 175–190, Springer, 2013.**

29. "A biased random-key genetic algorithm for a 2D and 3D bin packing problem," (with J.F. Goncalves), International J. of Production Economics, vol. 145, pp. 500-510, 2013.

30. "Randomized heuristics for handover minimization in mobility networks," (with L.F. Moran-Mirabal, J.L. Gonzalez-Velarde, and R.M.A. Silva), J. of Heuristics, vol. 19, pp. 845–880, 2013.

31. "Hybrid metaheuristics for the far from most string problem," (with D. Ferone and P. Festa), in Hybrid Metaheuristics (HM 2013), Ischia, M.J. Blesa et al., (Eds.), Lecture Notes in Computer Science, vol. 7919, pp. 174–188, 2013.

32. "Automatic tuning of GRASP with evolutionary path-relinking," (with L.F. Moran-Mirabal and J.L. Gonzalez-Velarde), in Hybrid Metaheuristics (HM 2013), Ischia, M.J. Blesa et al., (Eds.), Lecture Notes in Computer Science, vol. 7919, pp. 62–77, 2013.

33. "A survey of multi-start methods for combinatorial optimization," (with R. Martı and C.C. Ribeiro), European J. of Operational Research, vol. 226, pp. 1–8, 2013.

34. "Hybridizations of GRASP with path-relinking," (with P. Festa), in Hybrid Metaheuristics, E-G. Talbi, Editor, Studies in Computational Intelligence, vol. 434, pp. 135-155, Springer, 2013.

35. "Parallel hybrid heuristics for the permutation flow shop problem," (with M.G. Ravetti, C. Riveros, A. Mendes, and P.M. Pardalos), Annals of Operations Research, vol. 199, pp. 269-284, 2013.

MY T. THAI

1. M. T. Thai, W. Wu, and H. Xiong (eds), Big Data in Complex and Social Networks, Chapman and Hall/CRC, 2016, ISBN: 978-1498726849

2. H. T. Nguyen, M. T. Thai, and T. N. Dinh, A Billion-scale Approximation Algorithm for Maximizing Benefit in Viral Marketing, IEEE/ACM Transactions on Networking, 2017

3. T. Pan, S. Mishra, L. Nguyen, G. Lee, J. Kang, J. Seo, and M. T. Thai, Threat From Being Social: Vulnerability Analysis of Social Network Coupled Smart Grid, IEEE Access, vol. 5, DOI: 10.1109/ACCESS.2017.2738565, 2017

4. A. Kuhnle, X. Li, J. D. Smith, and M. T. Thai, Online set multicover algorithms for dynamic D2D communications, Journal of Combinatorial Optimization, doi:10.1007/s10878-017-0144-y, 2017

5. A. Kuhnle, T. N. Dinh, N. P. Nguyen, and M. T. Thai, Vulnerability of Clustering under Node Failure in Complex Networks, Social Network Analysis and Mining (SNAM), 2017

6. M. A. Alim, T. Pan, M. T. Thai, and W. Saad, Leveraging Social Communities for Optimizing Cellular Device-to-Device Communications, IEEE Transactions on Wireless Communications (TWC), DOI:10.1109/TWC.2016.2626280, 2016

7. M. Alim, X. Li, N. Nguyen, M. T. Thai, and S. Helal, Structural Vulnerability Assessment of Community-based Routing in Opportunistic Networks, IEEE Transactions on Mobile Computing (TMC), DOI:10.1109/TMC.2016.2524571, 2016

8. H. Zhang, M. Alim, X. Li, M. T. Thai, and H. Nguyen, Misinformation in Online Social Networks: Catch Them All with Limited Budget, ACM Transactions on Information Systems (TOIS) 2016

9. M. A. Alim, A. Ay, M. M. Hasan, M. T. Thai, and T. Kahveci, Construction of Signaling Pathways with RNAi Data and Multiple Reference Networks, IEEE/ACM Transactions on Computational Biology and Bioinformatics, 2016

10. S. Mishra-X.Li, T. Pan, A. Kuhnle, M. T. Thai, J. Seo, Price Modification Attack and Protection Scheme in Smart Grid, IEEE Transactions on Smart Grid DOI: 10.1109/TSG.2015.2509945, 2016.

11. S. Mishra-J. Seo, X. Li, and M. T. Thai, Catastrophic Cascading Failures in Power Networks, Theoretical Computer Science 607, pp. 306—319, 2015.

12. H Zhang, Y Shen, and M. T. Thai, Robustness of Power-Law Networks: Its Assessment and Optimization, Journal of Combinatorial Optimization, 2015, DOI 10.1007/s10878-015-9893-7.

13. S. Mishra, T. N. Dinh, M. T. Thai, J. Seo, I. Shin, Optimal Packet Scan Against Malicious Attacks in Smart Grids, Theoretical Computer Science, doi: 10.1016/j.tcs.2015.07.054, 2015.

14. H. Zhang, D. T. Nguyen, S. Das, H. Zhang, and M. T. Thai, Least Cost Influence Maximization Across Multiple Social Networks, IEEE Transactions on Networking (ToN), 2015 DOI:10.1109/TNET.2015.2394793.

15. T. N. Dinh and M. T. Thai, Network under Joint Node and Link Attacks: Vulnerability Assessment Methods and Analysis, IEEE Transactions on Networking (ToN), DOI: 10.1109/TNET.2014.2317486, 2014.

16. N. P. Nguyen, M. A. Alim, T. N. Dinh, and M. T. Thai, A Method to Detect Communities with Stability in Social Networks Social Network Analysis and Mining, Vol. 4, Issue 1, DOI: 10.1007/s13278-014-0224-2, 2014.

17. N. P. Nguyen, T. N. Dinh, Y. Shen, and M. T. Thai, Dynamic Social Community Detection and its Applications PLoS ONE 9(4): e91431. doi:10.1371/journal.pone.0091431, 2014.

18. T. N. Dinh, M. T. Thai, and H. Nguyen, Bound and Exact Methods for Assessing Link Vulnerability in Complex Networks, Journal of Combinatorial Optimization (JOCO), DOI: 10.1007/s10878-014-9742-0, 2014.

19. T. N. Dinh and M. T. Thai, Community Detection in Scale-free Networks: Approximation Algorithms for Maximizing Modularity, IEEE Journal on Selected Areas in Communications: Special Issue on Network Science (JSAC), vol. 31, no. 6, pp. 997--1006, June 2013.

20. M. Hemmati*, J.C. Smith, and M. T. Thai, A Cutting-plane Algorithm for Solving a Weighted Influence Interdiction Problem, Computational Optimization and Applications, vol. 57, no. 1, pp 71--104, 2014.

21. Y. Shen and M. T. Thai, The Robustness of Power-Law Networks: Its Assessment and Optimization, IEEE Transactions on Reliability, accepted with revision, 2013

22. Y. Shen, M. T. Thai, and H. Nguyen, Staying Safe and Visible via Message Sharing in Online Social Networks, Journal of Combinatorial Optimization (JOCO), DOI: 10.1007/s10878-013-9667-z, 2013.

23. T. N. Dinh, H. Zhang, D. T. Nguyen, and M. T. Thai, Cost-effective Viral Marketing for Time-critical Campaigns in Large-scale Social Networks, IEEE/ACM Transactions on Networking (ToN), DOI: 10.1109/TNET.2013.2290714, 2013

24. T. N. Dinh, N. P. Nguyen, M. A. Alim, and M. T. Thai, A Near-optimal Adaptive Algorithm for Maximizing Modularity in Dynamic Scale-free Networks, Journal of Combinatorial Optimization (JOCO), Oct 2013.
25. N. P. Nguyen, G. Yan, and M. T. Thai, Analysis of Misinformation Containment in Online Social Networks, Elsevier Computer Networks-Towards a Science of Cyber Security (COMNETS), vol. 57, no. 10, pp. 2133--2146, July 2013
26. T. N. Dinh and M. T. Thai, Towards Optimal Community Detection: From Trees to General Weighted Networks, Internet Mathematics, accepted with revision, 2013.
27. N. P. Nguyen, Y. Shen, T. N. Dinh, and M. T. Thai, Evolution of Overlapping Communities in Dynamic Mobile Networks, IEEE Transaction on Mobile Computing (TMC), accepted with revision, 2013.
28. D. T. Nguyen - Y. Shen, and M. T. Thai, Detecting Critical Nodes in Interdependent Power Networks for Vulnerability Assessment, IEEE Transactions on Smart Grid (ToSG), special Issues on "Smart Grid Communication Systems: Reliability, Dependability & Performance", vol. 4, no. 1, pp. 151--159, March 2013

AZRA BIHORAC

1. Acute Kidney Injury Following Exploratory Laparotomy and Temporary Abdominal Closure, Shock, 2017
2. Acute Kidney Disease and Renal Recovery: Consensus Report of the Acute Disease Quality Initiative (Adqi) 16 Workgroup, Nature Reviews Nephrology, 2017
3. Perioperative Acute Kidney Injury Risk Factors and Predictive Strategies, Critical Care Clinics, 2017
4. Recovery After Acute Kidney Injury, American Journal of Respiratory and Critical Care Medicine, 2017
5. Acute and Chronic Kidney Disease and Cardiovascular Mortality After Major Surgery, Annals of Surgery, 2016
6. Preoperative Assessment of the Risk for Multiple Complications After Surgery, Surgery, 2016
7. The Pattern of Longitudinal Change in Serum Creatinine and 90-Day Mortality After Major Surgery, Annals of Surgery, 2016
8. Application of Machine Learning Techniques to High-Dimensional Clinical Data to Forecast Postoperative Complications, PLoS One, 2016
9. Long-Term Outcomes for Different Forms of Stress Cardiomyopathy After Surgical Treatment for Subarachnoid Hemorrhage, Anesthesia and Analgesia, 2016
10. Cardiovascular-Specific Mortality and Kidney Disease in Patients Undergoing Vascular Surgery, Jama Surgery, 2016
11. Mortality and Cost of Acute and Chronic Kidney Disease After Vascular Surgery, Annals of Vascular Surgery, 2016
12. Acute Kidney Injury in the Surgical Patient, Critical Care Clinics, 2015

13. A Detailed Characterization of the Dysfunctional Immunity and Abnormal Myelopoiesis Induced By Severe Shock and Trauma in the Aged, Journal of Immunology, 2015
14. Clostridium Difficile Infections After Blunt Trauma: a Different Patient Population?, Surgical Infections, 2015
15. Tissue Inhibitor Metalloproteinase-2 (Timp-2)Igf-Binding Protein-7 (Igfbp7) Levels Are Associated With Adverse Long-Term Outcomes in Patients With Aki, Journal of the American Society of Nephrology, 2015
16. Early Angiogenic Balance and Adverse Long-Term Outcomes in Sepsis, Shock, 2015
17. Human Myeloid Derived Suppressor Cells Induce Immune Suppression After Severe Sepsis, Shock, 2015
18. Cost and Mortality Associated With Postoperative Acute Kidney Injury, Annals of Surgery, 2015
19. Advanced Age Is Associated With Worsened Outcomes and a Unique Genomic Response in Severely Injured Patients With Hemorrhagic Shock, Critical Care, 2015
20. Acute Kidney Injury in 2014 a Step Towards Understanding Mechanisms of Renal Repair, Nature Reviews Neurology, 2015
21. The Lung Neutrophil Transcriptome After Trauma Influences the Worse Outcomes of the Old To Pneumonia, Critical Care Medicine, 2014
22. Gram Stain Can Be Used To Safely Discontinue Vancomycin Therapy for Early Pneumonia in the Trauma Intensive Care Unit, American Surgeon, 2014
23. Insurance Status Is Associated With Treatment Allocation and Outcomes After Subarachnoid Hemorrhage, Plos One, 2014
24. Genomic Analysis of Individual Leukocyte Populations After Severe Trauma, Shock, 2014
25. Advanced Age Is An Independent Predictor of Complicated Outcomes and Mortality Among Severely Injured Pateints in Hemorrhagic Shock, Shock, 2014
26. National Surgical Quality Improvement Program Underestimates the Risk Associated With Mild and Moderate Postoperative Acute Kidney Injury, Critical Care Medicine, 2013
27. Acute Kidney Injury Is Surprisingly Common and a Powerful Predictor of Mortality in Surgical Sepsis, Journal of Trauma and Acute Care Surgery, 2013
28. Development of a Genomic Metric That Can Be Rapidly Used To Predict Clinical Outcome in Severely Injured Trauma Patients, Critical Care Medicine, 2013
29. Acute Kidney Injury Is Associated With Early Cytokine Changes After Trauma, Journal of Trauma and Acute Care Surgery, 2013
30. Discovery and Validation of Cell Cycle Arrest Biomarkers in Human Acute Kidney Injury, Critical Care, 2013
31. A Genomic Analysis of Clostridium Difficile Infections in Blunt Trauma Patients, Journal of Trauma and Acute Care Surgery, 2013

GEORGE VLONTZOS

1. **Testing for Environmental Kuznets Curve in the EU Agricultural Sector through an Eco-(in) Efficiency Index, G Vlontzos, S Niavis, P Pardalos, Energies 10 (12), 1992, 2017**
2. **Assess and prognosticate greenhouse gas emissions from agricultural production of EU countries, by implementing, DEA Window analysis and artificial neural networks, G Vlontzos, PM Pardalos, Renewable and Sustainable Energy Reviews 76, 155-162, 2017**
3. **Assess and Prognosticate Operational and Environmental Efficiency of Primary Sectors of EU Countries, G Vlontzos, PM Pardalos, Driving Agribusiness With Technology Innovations, 1, 2017**
4. Is Binge Drinking Prevalent in Greece after the Emergence of the Economic Crisis? Assessment of This Idea Using the Theory of Planned Behavior, G Vlontzos, MN Duquenne, S Niavis, Beverages 3 (1), 3, 2017
5. Assessing the drivers of traditional and local products 2 consumption in Europe. Are there any contradictions? 3, G Vlontzos, L Kyrgiakos, MN Duquenne, tradition 8, 59, 2017
6. A DEA Model toward Efficiency Assessment of Olive Oil Cultivation, S Niavis, N Tamvakis, B Manos, G Vlontzos, 2017
7. **Data mining and optimisation issues in the food industry, G Vlontzos, PM Pardalos, International Journal of Sustainable Agricultural Management and Informatics, 2017**
8. **Does Economic Crisis Force to Consumption Changes Regarding Fruits and Vegetables?, G Vlontzos, MN Duquenne, R Haas, PM Pardalos, International Journal of Agricultural and Environmental Information Systems, 2017**
9. Assess cotton growers' willingness to use coated cotton seeds with insecticides. A field research in the Region of Thessaly, Greece, G Vlontzos, C Athanassiou, MN Duquenne, New medit: Mediterranean journal of economics, agriculture and environment, 2016
10. To eat or not to eat? The case of genetically modified (GM) food, G Vlontzos, MN Duquenne
11. Nutrition & Food Science 46 (5), 647-658, 2016
12. Evaluating consumer beliefs for traditional and localised foodstuff under economic stress, G Vlontzos, MN Duquenne, S Niavis, International Journal of Sustainable Agricultural Management and Informatics, 2016
13. Using a lethality index to assess susceptibility of Tribolium confusum and Oryzaephilus surinamensis to insecticides, P Agrafioti, CG Athanassiou, TN Vassilakos, G Vlontzos, FH Arthur, PloS one 10 (11), e0142044, 2015
14. Assess the impact of traditional and localized food under economic recession, G Vlontzos, MN Duquenne, S Niavis, Know your food: Food ethics and innovation, 420-427, 2015
15. Investigation and Evaluation of the Applicable European Environmental Policy in Rural Area from the Urban Population (Greece). E Kokkinou, G Vlontzos, HAICTA, 957-966, 2015

16. Measuring efficiency of the Greek flourmill firms using data envelopment analysis, G Vlontzos, International Journal of Sustainable Agricultural Management and Informatics, 2015

17. A DEA approach for estimating the agricultural energy and environmental efficiency of EU countries, G Vlontzos, S Niavis, B Manos, Renewable and Sustainable Energy Reviews 40, 91-96, 2014

18. Assessing the efficiency of switchgrass different cultural practices for pellet production, KD Giannoulis, G Vlontzos, T Karyotis, D Bartzialis, NG Danalatos, Land Use Policy 41, 506-513, 2014

19. The impact of the Greek crisis on the consumers' behaviour: some initial evidences?, MN Duquenne, G Vlontzos, British Food Journal 116 (6), 890-903, 2014

20. Assess the impact of subjective norms of consumers' behaviour in the Greek olive oil market, G Vlontzos, MN Duquenne, Journal of Retailing and Consumer Services 21 (2), 148-157, 2014

21. Investigation of the relative efficiency of LEADER+ in rural areas of Northern Greece, G Vlontzos, G Arabatzis, B Manos, International Journal of Green Economics 9 8 (1), 37-48, 2014

22. Assessing the Evolution of Technical Efficiency of Agriculture in EU Countries: Is There a Role for the Agenda 2000?, G Vlontzos, S Niavis, Agricultural Cooperative Management and Policy, 339-351, 2014

23. Economic crisis and food selection: the financial, social and spatial dimension, G Vlontzos, MN Duquenne, International Journal of Agricultural Resources, Governance and Ecology 6 10(2), 2014

24. Introduction on the Market of Tsipouro, a Greek Traditional Liquor, Precursor of Ouzo, G Vlontzos, S Niavis, MN Duquenne, International Journal of Euro-Mediterranean Studies 7 (2), 175-188, 2014

25. Economic Efficiency of Different Agricultural Practices of "Panicum virgatum L.(switchgrass)" for Fodder Production, KD Giannoulis, G Vlontzos, T Karyotis, D Bartzialis, NG Danalatos, Journal of Agricultural Science 5 (12), 132, 2013

26. Efficiency and productivity change in the Greek dairy industry, G Vlontzos, A Theodoridis, Agricultural Economics Review 14 (2), 14, 2013

27. Identification of decision making for food under economic crisis: The case of Greece, G Vlontzos, MN Duquenne, Procedia Technology 8, 306-314, 2013

VITALIY YATSENKO

1. S. Ivanov, V. Yatsenko. Prediction of the geomagnetic Kp index by a discrete bilinear model. Journal "Bulletin of Taras Shevchenko National University of Kyiv,"Series Physics&Mathematics, Kiev, Ukraine, 2017.-11.

2. Yatsenko V.A., Modeling and investigation of superlight-weight thermal protection system for space application. Thesis of International XVIII Conference "Dynamical Systems Modelling and stability Investigation" (DSMI'17), Abstracts, May 24 - 26, 2017, Kyiv.

3. A. Mulko, M. V. Makarychev, V. O. Yatsenko. Identification of NARMAX Models and Geomagnetic Indices Prediction. TAAC'2015 | Kyiv, Ukraine.

JUN PEI

1. Xinbao Liu, Jun Pei, Lin Liu, Hao Cheng, Mi Zhou, Panos M. Pardalos, Optimization and Management in Manufacturing Engineering, Springer Optimization and Its Applications, 2017, ISBN: 978-3-319-64567-4

2. Jun Pei, Xinbao Liu, Wenjuan Fan, Panos M. Pardalos, Shaojun Lu. A hybrid BA-VNS algorithm for coordinated serial-batching scheduling with deteriorating jobs, financial budget, and resource constraint in multiple manufacturers. Omega, 2017, DOI 10.1016/j.omega.2017.12.003.

3. Jun Pei, Baiyi Cheng, Xinbao Liu, Panos M. Pardalos, Min Kong. Single-machine and parallel-machine serial-batching scheduling problems with position-based learning effect and linear setup time. Annals of Operations Research, 2017, DOI 10.1007/s10479-017-2481-8.

4. Jun Pei, Xinbao Liu, Panos M. Pardalos, Wenjuan Fan, Shanlin Yang. Scheduling deteriorating jobs on a single serial-batching machine with multiple job types and sequence-dependent setup times. Annals of Operations Research, 2017, 249:175–195.

5. Jun Pei, Xinbao Liu, Panos M. Pardalos, Athanasios Migdalas, Shanlin Yang. Serial-batching Scheduling with Time-dependent Setup Time and Effects of Deterioration and Learning on a Single-machine. Journal of Global Optimization, 2017, 67(1):251–262.

6. Jun Pei, Xinbao Liu, Baoyu Liao, Panos M. Pardalos, Min Kong. Single-machine scheduling with learning effect and resource-dependent processing times in the serial-batching production. Applied Mathematical Modelling, 2017, DOI:10.1016/j.apm.2017.07.028.

7. Wenjuan Fan, Jun Pei, Xinbao Liu, Panos M. Pardalos, Min Kong. Serial-batching group scheduling with release times and the combined effects of deterioration and truncated job-dependent learning. Journal of Global Optimization,2017, DOI: 10.1007/s10898-017-0536-7.

8. Li Yu, Jun Pei, Xinbao Liu, Wenjuan Fan, Panos M. Pardalos. The effect of yield rate in a general price-setting newsvendor model with a yield dependent secondary market. International Transactions in Operational Research, 2017, DOI: 10.1111/itor.12413.

9. Xinbao Liu, Xiaofei Qian, Jun Pei, Panos M. Pardalos. Security investment and information sharing in the market of complementary firms: impact of complementarity degree and industry size. Journal of Global Optimization, 2017, Accepted.

10. Xinbao Liu, Shaojun Lu, Jun Pei, Panos M. Pardalos. A Hybrid VNS-HS Algorithm for a Supply Chain Scheduling Problem with Deteriorating Jobs. International Journal of Production Research, 2017, Accepted.

11. Li Yu, Wenjuan Fan, Jun Pei, Panos M. Pardalos. A study on the effect of yield uncertainty in price-setting newsvendor models with additive-multiplicative demand. Optimization Letters, 2017, DOI:10.1007/s11590-017-1215-9.

12. Zhiping Zhou, Xinbao Liu, Jun Pei, Panos M. Pardalos, & Hao Cheng.

Competition of pricing and service investment between IoT-based and traditional manufacturers. Journal of Industrial and Management Optimization,2017, accepted.

13. Xiaofei Qian, Xinbao Liu, Jun Pei, Panos M. Pardalos. A new game of information sharing and security investment between two allied firms. International Journal of Production Research, 2017,Accepted

14. Bayi Cheng, Jun Pei, Kai Li, and Panos M. Pardalos. Integrated scheduling of production and distribution for manufacturers with parallel batching facilities. Optimization Letters, 2017.

15. Chang Fang, Xinbao Liu, P.M. Pardalos, Jun Pei. A stochastic production planning problem in hybrid manufacturing and remanufacturing systems with resource capacity planning. Journal of Global Optimization,2017, DOI:10.1007/s10898-017-0500-6.

16. Jun Pei, Xinbao Liu, Panos M. Pardalos, Wenjuan Fan, Ling Wang, and Shanlin Yang. Solving a supply chain scheduling problem with non-identical job sizes and release times by applying a novel effective heuristic algorithm. International Journal of Systems Science,2016, 47(4): 765-776.

17. Jun Pei, Xinbao Liu, Wenjuan Fan, Panos M. Pardalos, Athanasios Migdalas, Shanlin Yang. Scheduling jobs on a single serial-batching machine with dynamic job arrivals and multiple job types. Annals of Mathematics and Artificial Intelligence,2016, 76(1-2):215-228.

18. Jun Pei, Xinbao Liu, Wenjuan Fan, Panos M. Pardalos, Athanasios Migdalas, Boris Goldengorin, Shanlin Yang. Minimizing the makespan for a serial-batching scheduling problem with arbitrary machine breakdown and dynamic job arrival. International Journal of Advanced Manufacturing Technology, 2016, 86(9): 3315-3331.

19. Jun Pei, Xinbao Liu, Panos M. Pardalos, Kai Li, Wenjuan Fan, Athanasios Migdalas. Single-machine serial-batching scheduling with a machine availability constraint, position-dependent processing time, and time-dependent set-up time. Optimization Letters, 2016. DOI: 10.1007/s11590-016-1074-9.

20. Wenjuan Fan, Jun Pei, S. Ding, Panos M. Pardalos, Ming Kong, Shanlin Yang. A novel trust inference framework for web-based scenarios harnessed by social network and Web of Trust- a heuristic approach. Informatica, 2016, 27(2): 405-432.

21. Xiaofei Qian, Xinbao Liu, Jun Pei, Panos M. Pardalos, Lin Liu. A game-theoretic analysis of information security investment for multiple firms in a network. Journal of the Operational Research Society, 2016, DOI: 10.1057/s41274-016-0134-y.

22. Lu Jiang, Jun Pei, Xinbao Liu, Panos M. Pardalos, Xiaofei Qian. Uniform parallel batch machines scheduling considering transportation using a hybrid DPSO-GA algorithm. International Journal of Advanced Manufacturing Technology,2016, DOI: 10.1007/s00170-016-9156-5.

23. Chang Fang, Xinbao Liu, Jun Pei, Panos M. Pardalos. Optimization for a three-stage production system in the Internet of Things: Procurement, production and product recovery, and acquisition. International Journal of

Advanced Manufacturing Technology,2016, 83(5): 689-710.

24. **C. Fang, X. Liu, J. Pei, W. Fan, P.M. Pardalos. Optimal production planning in a hybrid manufacturing and recovering system based on the internet of things with closed loop supply chains. International Journal of Operational Research, 2016, 16: 543–577.**

25. **Z. Zhou, Xinbao Liu, Jun Pei, P.M. Pardalos. Real options approach to explore the effect of organizational change on IoT development. Optimization Letters, 2016. DOI: 10.1007/s11590-016-1006-8.**

26. **Jun Pei, Panos M. Pardalos, Xinbao Liu, Wenjuan Fan, Shanlin Yang. Serial batching scheduling of deteriorating jobs in a two-stage supply chain to minimize the makespan. European Journal of Operational Research, 2015, 244(1):13-25.**

27. **Jun Pei, Panos M. Pardalos, Xinbao Liu, Wenjuan Fan, Shanlin Yang, Ling Wang. Coordination of production and transportation in supply chain scheduling. Journal of Industrial and Management Optimization,2015, 11(2): 399-419.**

28. **Jun Pei, Wenjuan Fan, Panos M. Pardalos, Xinbao Liu, Boris Goldengorin, Shanlin Yang. Preemptive scheduling in a two-stage supply chain to minimize the makespan. Optimization Methods and Software,2015, 30(4): 727-747.**

29. **Jun Pei, Athanasios Migdalas, Wenjuan Fan, Xinbao Liu. Multi-objective optimization and multi-attribute decision making for a novel batch scheduling problem based on mould capabilities. Springer Proceedings in Mathematics & Statistics, 2015, 130: 275-297.**

30. **Jun Pei, Xinbao Liu, Panos M. Pardalos, Wenjuan Fan, Shanlin Yang. Single machine serial-batching scheduling with independent setup time and deteriorating job processing times. Optimization Letters, 2015, 9(1): 91-104.**

31. **Jian Li, P.M. Pardalos, Jun Pei, Yong Zhang. Iterated local search embedded adaptive neighborhood selection approach for the multi-depot vehicle routing problem with simultaneous deliveries and pickups. Expert Systems With Applications, 2015, 42(7): 3551-3561.**

32. **L. Liu, X. Liu, J. Pei, W. Fan, P.M. Pardalos. A Study on Decision Making of Cutting Stock with Frustum of Cone Bars. International Journal of Operational Research, 2015. DOI 10.1007/s12351-015-0221-x.**

33. **Tianji Yang, Chao Fu, Xinbao Liu, Jun Pei, P.M. Pardalos. Closed-loop Supply Chain Inventory Management with Recovery Information of Reusable Containers. Journal of Combinatorial Optimization, 2015. DOI: 10.1007/s10878-015-9987-2.**

34. Wenjuan Fan, Shanlin Yang, Harry Perros, Jun Pei. A Multi-dimensional trustaware cloud service selection mechanism based on Evidential Reasoning Approach. International Journal of Automation and Computing,2015, 12(2): 208-219.

35. **Jun Pei, Xinbao Liu, Panos M. Pardalos, Wenjuan Fan, Shanlin Yang, Ling Wang. Application of an effective modified gravitational search algorithm for the coordinated scheduling problem in a two-stage supply chain. International Journal of Advanced Manufacturing Technology,2014, 70(1-4): 335-348.**

36. Wenjuan Fan, Shanlin Yang, Jun Pei. A novel two-stage model for cloud service trustworthiness evaluation. Expert Systems, 2014, 31(2): 136-153.

37. Jun Pei, Xinbao Liu, Wenjuan Fan, Panos M. Pardalos, Lin Liu. A Novel Hybrid Dynamic Programming Algorithm for A Two-Stage Supply Chain Scheduling Problem. Lecture Notes in Computer Science, 2014, 8426: 242-257

XIANG ZHONG

1. X. Zhong, S. Lee, H. Lee, C. Zhao, P. Bain, T. Kundinger, C. Sommers, C. Baker and J. Li, "Reducing COPD Readmissions through Predictive Modeling and Incentive-based Interventions," Health Care Management Science, DOI: 10.1007/s10729-017-9426-2, 2017.

2. X. Zhong, J. Zhang, and X. Zhang, "A Two-Stage Heuristic Algorithm for Nurse Scheduling Problem with Fairness Objective on Weekend Workload under Different Shift Designs," IISE Transactions on Healthcare Systems Engineering, DOI: 10.1080/24725579.2017.1356891, 2017.

3. X. Zhong, P. Hoonakker, P. Bain, A. Musa, and J. Li, "The Impact of E-Visits on Patient Access to Primary Care," Health Care Management Science, DOI: 10.1007/s10729-017-9404-8, 2017.

4. X. Zhong, H. Lee, and J. Li, "From Production Systems to Healthcare Delivery Systems: A Retrospective Look on Similarities, Difficulties and Opportunities," International Journal of Production Research, DOI: 10.1080/00207543.2016.1277276, vol.55, no.14, pp.4212-4227, 2017.

5. X. Zhong, J. Li, P. Bain, and A. Musa, "Electronic Visits in Primary Care: Modeling, Analysis and Scheduling Policies," IEEE Transactions on Automation Science and Engineering, DOI: 10.1109/TASE.2016.2555854, vol.14, no.3, pp.1451-1466, 2017. (IEEE CASE Best Student Paper Award Finalist)

6. X. Zhong, H. Lee, M. Williams, S. Kraft, J. Sleeth, R. Welnick, L. Hoschild, and J. Li, "Workload Balancing – Staffing Ratio Analysis for Primary Care Redesign," Flexible Service and Manufacturing, DOI: 10.1007/s10696-016-9258-2, 2016.

7. X. Zhong, J. Li, S.M. Ertl, C. Hassemer, and L. Fiedler, "A System-Theoretic Approach to Modeling and Analysis of Mammography Testing Process," IEEE Systems, Man, and Cybernetics Society, DOI: 10.1109/TSMC.2015.2429643, vol.46, no.1, pp.126-138, 2016.

8. X. Zhong, J. Song, J. Li, S.M. Ertl, and L. Fiedler, "Design and Analysis of Gastroenterology (GI) Clinic in Digestive Health Center of University of Wisconsin Health," Flexible Services and Manufacturing, DOI:10.1007/s10696-015-9215-5, vol.28, no.1, pp. 90-119, 2016.

9. X. Shao, X. Zhong, J. Li, B. Grewertz, K. Catchpole, E. Ley, J. Blaha, and D. Wiegmann, "Bottleneck Analysis to Reduce Surgical Flow Disruptions: Theory and Application," IEEE Transactions on Automation Science and Engineering, DOI: 10.1109/TASE.2014.2329833, vol.12, no.1, pp.127-139, 2015.

10. J. Wang, X. Zhong, J. Li, and P.K. Howard, "Modeling and Analysis of Care Delivery Services Within Patient Rooms: A System-Theoretic Approach," IEEE

Transactions on Automation Science and Engineering, DOI: 10.1109/TASE.2013.2242326, vol.11, no.2, pp.379-393, 2014.

11. X. Zhong, J. Li, G. Rao, and K.P. Unnikrishnan, "Growth Curves of American Children Differ Significantly from CDC Reference Standards," Stochastic Modeling and Analytics in Healthcare Systems, pp.281 – 305, J. Li, N. Kong and X. Xie Ed., World Scientific Publishing, 2017.

12. Z. Zeng, X. Xie, X. Zhong, B. Liegel, S. Sanford-Ring, and J. Li, "Computer Simulation Modeling of Hospital Discharge Process," Stochastic Modeling and Analytics in Healthcare Systems, pp.113 – 134, J. Li, N. Kong and X. Xie Ed., World Scientific Publishing, 2017.

13. X. Zhong, M. Williams, J. Li, S.A. Kraft, and J.S. Sleeth, "Discrete-Event Simulation for Primary Care Redesign: Review and a Case Study," in Healthcare Analytics: From Data to Knowledge to Healthcare Improvement, pp.399-426, H. Yang and E.K. Lee Ed., John Wiley & Sons, 2016.

14. J. Li, S.M. Meerkov, and X. Zhong, "Lean Buffer Design in Production Systems," in Formal Methods in Manufacturing, pp.477-502, J. Campos, C. Seatzu and X. Xie Ed., CRC Press, 2013.

4. Awards and other indicators of national/international recognition of the Center's activities.

Panos M. Pardalos

- **2017** University of Florida Chapter Sigma Xi Senior Faculty Research Award
- **2016** Fellow of the American Institute for Medical and Biological Engineering (AIMBE): The College of Fellows is comprised of the top two percent of medical and biological engineers in the country. The most accomplished and distinguished engineering and medical school chairs, research directors, professors, innovators, and successful entrepreneurs, comprise the College of Fellows.
- **2015** Elected EUROPT Fellow July 2015
- **2014** Distinguished International Professor by the Chinese Minister of Education
- **2014** Paul and Heidi Brown Preeminent Professor in Industrial and Systems Engineering: First Engineering Chair from Preeminence Initiative Awarded to ISE Professor
- **2013** Constantin Carathéodory Prize, (July 2013): The Carathéodory Prize is awarded biannually to an individual (or a group) for fundamental contributions to theory, algorithms, and applications of global optimization. The prize is awarded for outstanding work that reflects contributions that have stood the test of time. The criteria include scientific excellence, innovation, significance, depth, and impact.
- **2013** EURO Gold Medal (EGM) (July 1, 2013): The EURO Gold Medal (EGM) is the highest distinction within OR in Europe. The award is conferred on a prominent person or team or institution, for an outstanding contribution to the OR science.
- **2013** Honorary Professor of Anhui University of Sciences and Technology, China (July 2013).
- **2013** Award from the International Conference "Numerical Computations: Theory and Algorithms" for outstanding scientific achievements in the field of Optimization, Italy
- **2013** Elizabeth Wood Dunlevie Honors Term Professor for 2013-2014, University of Florida.
- **2013** Medal (in recognition of broad contributions in science and engineering) of the University of Catania, Italy.

5. Graduate students supported by the Center

PhD Students

- Seonho Park, Summer 2021 (expected).
- George Adosoglou, Summer 2021 (expected).
- Farnaz Babaie Sarijaloo, Fall 2020 (expected).
- Arsenios Tsokas, Summer 2019 (expected).
- Anton Kocheturov, Summer 2018 (expected).
- Jiaxing Pi, Summer 2016, Big Data Scientist at Siemens Corporate Technology, Princeton, NJ.
- Xueqi He, Summer 2016, Senior Systems Engineer at Optym, Gainesville, FL.
- Ximing Wang, Summer 2015, Senior Data Scientist at Conviva, Foster City, CA.
- Chrysafis Vogiatzis, Summer 2014, Assistant Professor at North Carolina A&T State University.
- Jose L. Walteros, Summer 2014, Assistant Professor at University at Buffalo.
- Vijay Pappu, Fall 2013, Lead Data Scientist at JP Morgan Chase, New York, NY.
- Dmytro Korenkevych, Summer 2013, Reinforcement Learning Engineer, Toronto, Canada.
- Syed N. Mujahid, Summer 2013, King Fahd University of Petroleum and Minerals, Saudi Arabia.
- Michael B. Fenn, Summer 2013, Assistant Professor, Florida Institute of Technology.

MSc Students

- Yaqi Luo, Spring 2018 (expected).
- Manqi Wu, Spring 2018 (expected).
- Manik Goomer, Fall 2017, Operations & Analytics Professional at University of Florida.
- Venkat Narayanan Veerasekar, Fall 2017, Supply Chain Analyst at Lazydays.
- Manu Dixit, Summer 2016, Quantitative Analyst at Guzman & Company, Miami, FL.
- Anil Singh, Summer 2015.
- Ioannis Pappas, Fall 2014, Student at University of Cambridge, Cambridge, United Kingdom.
- Paul Francis Thottakkara, Fall 2013, Data Scientist at Aureus Analytics, Mumbai, India.
- Saravanan Natarajan, Fall 2013.
- Orestis Panagopoulos, Summer 2013, Assistant Professor at California State University Stanislaus.

6. External and Internal Funding Sources

Panos M. Pardalos

- NSF 2010-2013, Quantifying Causality in Distributed Spatial Temporal Brain Networks (with J. Principe), $550,000.
- UF Research Opportunity Fund (2011 -2013): "Raman Spectroscopy Using a Novel Data Mining Technique for Real-Time Pharmacological Analysis of Potential Anti-Cancer Agents" $79,000.
- "A Dynamic Data Driven Cognitive Control Architecture for Exploration," US Air Force 2013- 2015 (with J. Principe). $500,000.
- DTRA 2010-2013, Mathematical Approaches to WMD Defense and Vulnerability Assessments on Dynamic Networks (with C. Smith and M. Thai), $632,407 Extended to 2015.
- "A Probabilistic Model In The Study Of Match - Fixing Schemes For Multi-Contestant Games," Joint project with the National Research Foundation of Korea in cooperation with the Korea National Sport University (2014-2017, $120,000).
- 2016-2017, UF Informatics Institute (UFII) Seed Fund for "Data Science Techniques for Studying Patient-Specific Risk Assessment for Acute Kidney Injury" (PI: P.M. Pardalos [with P. Momcilovic and A. Bihorac]), $47,500.00.
- 2016-2019, NIH-NIGMS RO1 "Precision and Intelligent Systems in Medicine Partnership" (Co-PI with A. Bihorac, A. Li, P. Rashid, W. Hogan, P. Momcilovic, T. O. Basanti, D. Z. Wang, G. Lipori and M. Downey), $2,7M.

My T. Thai

- FC2 2017-2018, Resilient Smart Grid Control for Load Switching Cyber Attacks, (collaborate with Z. Miao)
- NSRI 2016-2017, Identification of Critical Monitoring Nodes in SCADA Network, (sole PI)
- FC2 2016-2017, Nonlinear Model-Based Cyber Attack-Resilient Smart Grid Control, (collaborate with Z. Miao)
- NSF 2015-2018, EARS: Collaborative Research: Laying the Foundations of Social Network-Aware Cellular Device-to-Device Communications, (collaborate with W. Saad and Z. Han)
- NSF 2014-2017, Collaborative Research: RIPS Type 2: Vulnerability Assessment and Resilient Design of Interdependent Infrastructures, (Lead PI: Thai, co-PI: V. Boginski, Y. Yin, C. McCarty, A. Sarwat)
- NSF 2014-2017, CCF: Modeling and Dynamic Analyzing for Multiplex Social Networks, (sole PI)
- DTRA 2014-2019, Interdependent Network Responses to WMD: Dynamics Modeling, Impact Analysis, and Adaptive Control Techniques, (PI: Thai, co-PI: D. Wu)
- NSRI 2014-2015, Efficient Protection Schemes towards Load-Redistribution Attacks, (sole PI)

- DTRA 2010-2015, Mathematical Approaches to WMD Defense and Vulnerability Assessments on Dynamic Networks (co-PI with C. Smith and P. Pardalos)
- DTRA 2009-2014, YIP: C-WMD: Models, Complexity, and Algorithms in Complex Dynamic Evolving Networks (sole PI)
- NSF 2010-2015, CAREER: Optimization Models and Approximation Algorithms for Network Vulnerability and Adaptability (sole PI)
- ETRI 2013-2014, Efficient DPI Methods in SCADA Smart Grid System (sole PI)
- NSF 2010-2015, Sequencing Gators: Building a Genome Science Curriculum at the University of Florida and Beyond (co-PI with E. Triplett, V. Crecy, and T. Kahveci)

William Hager

- "Next-Generation Framework for Real-Time Solutions of Nonlinear Optimal Control Problems," Office of Naval Research, Award N000141110068, November 1, 2010, to September 30, 2013, $551,728 (with Anil Rao).
- "A Computational Framework for Rapid, Reliable, and Robust Solutions to Complex Constrained Nonlinear Optimal Control Problems," Defense Advanced Research Projects Agency (DARPA), October 24, 2011, to October 23, 2014, $988,194 (with Anil Rao).
- "Collaborative Research: Fast TV-Regularized Large-Scale and Ill-Conditioned Linear Inversion with Application to PPI," National Science Foundation, September 15, 2011, to September 14, 2014, $241,579 (with Yunmei Chen).
- "Third University of Florida SIAM Gators Conference," National Science Foundation, March 15, 2014, to March 14, 2016, $15,300 (with Yunmei Chen, Maia Martcheva, and Scott McKinley).
- "Innovations in Large-Scale Sparse Optimization and Applications," Office of Naval Research (Mathematics), March 1, 2015, to February 28, 2018, $479,869 (with Anil Rao).
- "Fast Sparse Nonlinear Optimization and its Application to Optimal Control," National Science Foundation DMS, July 15, 2015, to June 30, 2018, $294,061 (with Anil Rao).
- "Pseudospectral Optimal Control for Flight Trajectory Optimization," (Phase 1) US Navy, June 16, 2015, to January 15, 2017, $72,500 (with Anil Rao).
- 38. "Solution of Optimal Control Problems for Boost Glide High-Speed Applications," Air Force Research Laboratory, September 9, 2015, to December 7, 2017, $358,843 (with Anil Rao).
- "Pseudospectral Optimal Control for Flight Trajectory Optimization," (year 1 of phase 2) Office of Naval Research, January 5, 2017, to January 4, 2018, $143,904 (with Anil Rao).

Other grants

- V. Boginski. AFRL/RW and UF-DOOR Partnership in Network Science, $194,497, Air Force Research Laboratory/Eglin AFB, 08/2012 - 12/2015.

- S. Butenko, B. Balasundaram, and V. Boginski. Clique Relaxations in Biologicaland Social Network Analysis: Foundations and Algorithms, $452,942, Air Force Office of Scientific Research, 07/2012 - 06/2015.
- V. Boginski. New Robustness Characteristics and Phase Transition Problems for Complex Networks in Dynamic and Uncertain Environments, Young Investigator Award, $399,881, U.S. Department of Defense/DTRA, 07/2009 - 12/2013.
- B. Balasundaram, V. Boginski, S. Butenko, and S. Uryasev. Robust Optimization for Connectivity and Flow Patterns in Dynamic Networks, $589,092, U.S. Department of Energy, 09/2009-09/2013.
- "YIP:Combating Weapons of Mass Destruction: Models, Complexity & Algorithms in Complex Dynamic & Evolving Networks", DTRA, $200,000 12/16/11 - 12/15/13 (V. Boginski, M. Thai)
- CAREER:Optimization Models and Approximation Algorithms for Network Vulnerability and Adaptability, NSF, 400,000 01/01/10 - 12/31/14 (M. Thai)

7. If applicable, please also provide a listing of the following items:

(a) Funded/proposed teaching/training grants in area of focus

Panos M. Pardalos:
- Elizabeth Wood Dunlevie Honors Term Professor for 2013-2014, University of Florida.
- Teaching Honors class:
  - "Honor Read Ignorance".
  - "Honor Read The Music of Pythagoras".

(b) Funded/proposed research project grants in area of focus

"A Probabilistic Model In The Study Of Match - Fixing Schemes For Multi-Contestant Games," Joint project with the National Research Foundation of Korea in cooperation with the Korea National Sport University (2014-2017, $120,000).

(c) Investment of Center funds in generating pilot data for grants

Not applicable.

(d) Promotion and funding of seminars with Center funds (not customary department seminars)

Regular seminars by students and visitors of the CAO.

(e) Promotion and funding of major conferences in area of focus

The Center has promoted collaboration between faculty and students, organizing the following series of conferences in the last 5 years.

- The Third International Workshop on Machine Learning, Optimization and Big Data (MOD 2017), September 14-17, 2017, Volterra, Tuscany, Italy. Organizing Committee: Giovanni Giuffrida, Giuseppe Nicosia, Panos Pardalos.

- Deucalion (Δευκαλίων) Summer Institute for Advanced Studies in Optimization, Mathematics, and Data Sciences, August 10-20, 2017, Drossato, Argithea, Greece. Organizing Committee: Panos M. Pardalos.

- First International Conference on Data Driven Smart Manufacturing, July 25-25, 2017, Hefei, China. Organizing Committee: Shanlin Yang, Panos M. Pardalos.

- 3rd International Conference on Dynamics of Disasters, July 5-9, 2017, Kalamata, Greece. Organizing Committee: Fuad Aleskerov, Ilias S. Kotsireas, Anna Nagurney, Panos M. Pardalos.

- Approximation and Optimization: Algorithms, Complexity, and Applications, June 29-30, 2017, Athens, Greece. Organizing Committee: Ioannis Demetriou, Panos Pardalos.

- 4th International Conference on Energy, Sustainability and Climate Change, June 13-15, 2017, Santorini, Greece. Organizing Committee: Stefan Pickl, Panos Pardalos, Georgios K.D. Saharidis.

- Fourth International Conference on Computational Biomedicine (CBM 2017), February 16-17, 2017, Gainesville, FL, USA. Organizing Committee: Panos M. Pardalos, George Michailidis.

- International Conference on Discrete Optimization and Operations Research (DOOR 2016), September 19-23, 2016, Vladivostok, Russky Island. Organizing Committee: Evgeny Nurminski, Vladimir Beresnev, Panos Pardalos.

- The Second International Workshop on Machine Learning, Optimization and Big Data (MOD 2016), August 26-29, 2016, Volterra, Tuscany, Italy. Organizing Committee: Giuseppe Nicosia, Panos M. Pardalos.

- Deucalion (Δευκαλίων) Summer Institute for Advanced Studies in Optimization, Mathematics, and Data Sciences, August 10-20, 2016, Drossato, Argithea, Greece. Organizing Committee: Panos M. Pardalos.

- Third International Conference on Energy, Sustainability and Climate Change (ESCC 2016), July 10-16, 2016, Athens, Greece. Organized by Panos M. Pardalos, George Saharidis.

- Third International Conference on Computational Biomedicine (CBM 2016), February 25-27, 2016, Gainesville, FL, USA. Organizing Committee: Panos M. Pardalos, George Michailidis.

- Deucalion (Δευκαλίων) Summer Institute for Advanced Studies in Optimization, Mathematics, and Data Sciences, August 10-20, 2015, Drossato, Argithea, Greece. Organizing Committee: Panos M. Pardalos.

- International Workshop on Machine Learning, Optimization and Big Data (MOD 2015), July 20-24, 2015, Taormina – Sicily, Italy. Organizing Committee: Vincenzo Cutello, Giuseppe Nicosia, Panos M. Pardalos, Mario Pavone.

- 2nd International Conference on Dynamics of Disasters (DOD 2015), June 29 – July 2, 2015, Calamata, Greece. Organized by Panos M. Pardalos. Organizing Committee: Ilias S. Kotsireas

- Energy, Sustainability and Climate Change (ESCC 2015), June 21-27, 2015, Crete, Greece. Organized by Panos M. Pardalos. Organizing Committee: Georgios K.D. Saharidis and Narek Malkhasyan.

- World Congress on Global Optimization (WCGO 2015), February 22-25, 2015, Gainesville, FL, USA. Organized by Panos M. Pardalos. Local Organizers: Jiaxing Pi and Ioannis Pappas.

- Quantum Optimization Workshop, October 27-29, 2014, Toronto, Canada. Fields Institute. Organizing Committee: Thomas F. Coleman, Ilias S. Kotsireas, Michele Mosca, Panos M. Pardalos, Rolando Somma.

- Learning and Intelligent OptimizatioN Conference LION 8, February 16-21, 2014 Gainesville, FL. Organized by Panos M. Pardalos. Local Organizers: Chrysafis Vogiatzis, and Jose L. Walteros.

- Systems & Optimization Aspects of Smart Grid Challenges 2013. March 21-23, 2013. Organized by Neng Fan, Feng Pan, and Panos M Pardalos.

- 5th International Conference on the Dynamics of Information Systems, February 25-27, 2013. Organized by Panos M. Pardalos, Robert Murphey and Chrysafis Vogiatzis.

- 2nd International Conference on Computational Biomedicine, January 24-26, 2013.

Organized by Panos M Pardalos, Vijay Pappu and Mike Fenn.

- Learning and Intelligent OptimizatioN Conference LION 7, January 7-11, 2013, Catania, Italy. Organized by Panos M. Pardalos and Giuseppe Nicosia.
- Systems Optimization Aspects of Smart Grid Challenges 2013, March 21-23, 2013 Organized by Neng Fan, Feng Pan, and Panos M Pardalos.
- 5th International Conference on the Dynamics of Information Systems, February 25-27, 2013. Organized by Panos M. Pardalos, Robert Murphey and Chrysafis Vogiatzis.
- 2nd International Conference on Computational Biomedicine, January 24-26, 2013, Organized by Panos M Pardalos, Vijay Pappu and Mike Fenn.
- Learning and Intelligent OptimizatioN LION 7, January 7-11, 2013 Catania, Italy Organized by Panos M. Pardalos and Giuseppe Nicosia.

(f) Educational Core or Elective Courses offered in area of focus

Not applicable.

(g) Funding for graduate students from Center funds

See Section 5.

(h) Funding for travel for students from Center funds

Not applicable.

(i) Core lab support provided for research of members

Not applicable.

(j) Mentoring activities directed at junior faculty

Not applicable.

(k) Fundraising accomplishments

Not applicable.

(l) Public programs and results of those programs

Not applicable.

(m) National or international recognition received

See Section 4.

(n) Exchanges, agreements or planning initiated

Not applicable.

(o) Outside activities and/or conflicts of interests for Center participants relevant to the Center's mission.

Not applicable.

8. Additional information

The Center promotes collaboration between faculty and students by organizing weekly seminars every semester: on Biomedical Data Analysis and for Network Optimization Problems and energy applications. The Center has several international visitors and has plans to accept many new ones. The visitors contribute to the collaboration with the students and with other members of CAO. Plans for major activities in the future include: continuing organizing 3-4 conferences per year, writing and submitting proposals for external funding, inviting eminent scholars, writing and publishing papers, books and developing patents.

Research Topics During the Last Five Years

Global Optimization

Global optimization has been expanding in all directions at an astonishing rate during the last few decades. At the same time, one of the most striking trends in optimization is the constantly increasing interdisciplinary nature of the field. Dr. Pardalos is working on all aspects of global optimization with several PhD students: theory (including, complexity, optimality, and robustness) algorithm and software development, and applications.

Optimization in Biomedicine

In the last few years Dr. Pardalos has been working on applying optimization in medical problems (brain disorders, data mining in biomedicine, etc.). There are many interesting optimization problems in that area. As an example, in predicting epileptic seizures we globally solve multiquadratic 0-1 problems and maximum clique problems. We developed a novel data mining technique called biclustering based on the solution of large mixed fractional integer optimization problems. For our work on epilepsy we received the ``William Pierskalla award'' for research excellence in health care management science, from the Institute for Operations Research and the Management Sciences (INFORMS). In addition, several patents have been issued related to our research in brain disorders.

Analysis of Massive Data Sets

The proliferation of massive data sets brings with it a series of special computational challenges. The ``data avalanche'' arises in a wide range of scientific and commercial applications. With advances in computer and information technologies, many of these challenges are beginning to be addressed. A variety of massive data sets (e.g., the web graph and the call graph) can be modeled as very large multi-digraphs with a special set of edge attributes that represent special characteristics of the application at hand.

Understanding the structure of the underlying digraph is essential for storage organization and information retrieval. Our group was the first to analyze the call graph and to prove that it is a self-organized complex network (the degrees of the vertices follow the Power law distribution). We extended this work for financial and social networks. Our research goal is to have a unifying theory and develop external memory algorithms for all these types of dynamic networks.

Analysis of Approximation Algorithms

In my recent joint work of Du, Graham, Wan, Wu and Zha, we introduced a new method which can analyze a large class of greedy approximations with non-submodular potential functions, including some long-standing heuristics for Steiner trees, connected dominating sets, and power-assignment in wireless networks. There exist many greedy approximations for various combinatorial optimization problems, such as set covering, Steiner tree, and subset-interconnection designs. There are also many methods to analyze these in the literature. However, all the previously known methods are suitable only for those greedy approximations with submodular potential functions. Our work will have a lasting impact in the theory of approximation algorithms.

Design and Analysis of Algorithms for Multicast Networks

Multicast networks have been proposed in the last years as a new technique for information routing and sharing. This new technology has an increasing number of applications in diverse fields, ranging from financial data distribution to video-conferencing, automatic software updates and groupware. In multicast networks, the objective is to send information from a source to multiple users with a single send operation. This approach allows one to save bandwidth, since data can be shared across network links. Multicast network applications often require the solution of difficult combinatorial optimization problems. Most of these problems are NP-hard, which makes them very unlikely to be solved exactly in polynomial time. Therefore, specialized algorithms must be developed that give reasonable good solutions for the instances found in practice. The intrinsic complexity of these problems has been a technological barrier for the wide deployment of multicast services. We have developed efficient algorithms for multicast routing problem and the streaming cache placement problem.

Algorithms on Source Signal Extraction

Biomedical signals recorded from body surfaces, without intrusion into the body, typically suffer from mixing. The objective under such scenarios is to extract the source signals from the information of mixed signals. The extraction problems are very critical and well known in the signal processing community and are studied under the preamble of blind signal separation problems. In this area, our contribution was to develop a hierarchical optimization-based source extraction method for the sparse signals. The hierarchical model

can be solved as a 0-1 integer programming problem. Furthermore, when an additional assumption regarding non-negativity of the sources is imposed into the extraction problem, the basic structure of the problem transforms into a convex optimization problem. For the special case (non-negative sources) we have developed efficient methods, based on the structure of the non-negative sources. This is an ongoing work, and we hope that our work will have a significant impact in the field of signal processing.

Computational Neuroscience

We designed a network model of a human brain to create computational tools for automated diagnosis of Parkinson's disease (PD). We constructed functional network models based on functional Magnetic Resonance Imaging (fMRI) data. The connections between the nodes were computed based on the associations between neural activity patterns from distinct brain regions. The associations were computed through wavelet coefficients correlation. In constructed networks we evaluated a range of network characteristics and showed that certain small world properties provide statistically significant distinction between PD patients and healthy individuals. We also used connectivity models to study the epileptic brain. This is part of our research to use Networks to study brain dynamics.

Probabilistic Classifiers in Diagnostic Medicine

We created a probabilistic model based on generalized additive models in order to predict in-hospital mortality in post-operative patients. The data set included categorical, continuous and time series features, such as age, gender, race, surgery type, blood tests. We incorporated time series data into the model by extracting a set of meta-features describing the most important aspects of the time series. The categorical features were modeled with the relative posterior probabilities for a patient to survive given the value of the feature. Our model exhibited a very high discriminative ability (ROC 0.93) together with high accuracy (Hosmer-Lemeshow $p > 0.5$). This research involved the UF Medical School.

Research on Energy

Energy networks are undeniably considered as one of the most important infrastructures in the word. Energy plays a dominant role in the economy and security of each country. In our recent research we focus on several difficult problems in energy networks, such as hydro-thermal scheduling modeling, electricity network expansion, liquefied natural gas, and blackout detection in the smart grid. In addition to several edited handbooks in Optimization and Energy, Dr. Pardalos is the editor-in-chief (and Founding Editor) of the international Journal "Energy Systems" (published by Springer).

Development of Classification and Feature Selection Techniques for Breast Cancer Characterization using Raman Spectroscopy

Raman spectroscopy is an optical spectroscopic technique that has the potential to significantly aid in the research, diagnosis and treatment of cancer, with broad and highly valuable clinical translational applications over the next five to ten years. The information dense, complex spectra generate massive datasets in which subtle correlations often provide critical clues for biological analysis and pathological classification. Therefore, implementing advanced data mining techniques is imperative for complete, rapid and accurate spectral processing and biological interpretation. We have been focusing our investigations specifically on breast cancer, as we have continued to work on our collaborative project with several faculty from Biomedical Engineering and Clinical Oncology, which is funded by our 2011 UF Seed Fund Research Grant. We have developed a novel data mining framework optimized for Raman datasets, called Fisher-based Feature Selection Support Vector Machines (FFS-SVM). This framework provides simultaneous supervised classification and user-defined Fisher criterion-based feature selection, reducing over-fitting and directly yielding significant wavenumbers for correlation to the observed biological phenomena. Furthermore, this framework provides feature selection control over the nature of the feature input, and the number of features based on sample size in order to reduce variance and over-fitting during classification. We have a current article in press, in the Journal of Raman Spectroscopy, detailing the advantages of our framework compared to several of the most common data analysis methods currently in use. We achieve both high classification accuracy, as well as extraction of biologically relevant 'biomarker-type' information from the selected features using the original feature space for the in-situ investigative comparison of five cancerous and non-cancerous cell lines. The FFS-SVM framework provides comprehensive cell-based characterization, which is can also be used to study in-situ dynamic biological phenomena and it is hypothesized that this is the basis for the discovery of Raman-based spectral biomarkers for cancer. Our current work both in the laboratory and in the data analysis realm involves the development of multi-level/multi-class classification methods, employing SVM, Clustering and other techniques, as well as combing feature selection methods to further advance the information extracted from the increasingly complex experimental challenges of evaluating the effects of anti-cancer agents in-vitro. Our envisioned end goal is the development of the first Raman spectroscopic-based cell death classification assay capable of combined and simultaneous 'mechanism-of-action' elucidation for both cancer research and clinical application for rapid, real-time non-invasive diagnostic monitoring of various cancer treatment modalities.

UF UNIVERSITY of FLORIDA

College of Engineering
Associate Dean for Research

300 Weil Hall
PO Box 116550
Gainesville, FL 32611-6550
352-392-0946
352-392-9673 Fax
www.eng.ufl.edu

April 15, 2013

MEMORANDUM

TO: Dr. Panos Pardalos, Director of Center for Applied Optimization

FROM: Jennifer S. Curtis
          Associate Dean for Research and Facilities

SUBJECT: 2013 Five-Year Evaluation of the Center for Applied Optimization

The Center for Applied Optimization (CAO) 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 CAO is directed by Dr. Panos Pardalos of the Department of Industrial and Systems Engineering. The Center website is located at http://www.ise.ufl.edu/cao/. Center affiliates include several members from Industrial and Systems Engineering, Civil Engineering, Mechanical and Aerospace Engineering, Computer and Information Science and Engineering, Chemical Engineering, Decision and Information Sciences, Mathematics, and Medicine, as well as from industry.

Individual and joint research projects include global, discrete and continuous optimization, optimization in biomedicine, analysis of massive data sets, analysis of approximation algorithms, design and analysis of algorithms for multicast networks, algorithms on source signal extraction, computational neuroscience, probabilistic classifiers in diagnostic medicine, development of classification and feature selection techniques for breast cancer characterization using Raman spectroscopy. Sponsors include the National Science Foundation, National Institutes of Health, Air Force, the Army Research Office, Center for Multimodal Solutions for Congestion Mitigation, and Florida Energy Systems Consortium.

The Center is interested in promoting collaboration with researchers at other universities through visitors and student exchange. It administers a program for visiting students

The Foundation for The Gator Nation

An Equal Opportunity Institution

from the Royal Institute of Technology (KTH) in Stockholm. Currently the Center hosts several visitors from China, Spain, Greece, and Russia, totaling approximately 18 for last year, this year and in the future.

The Center promotes collaboration between faculty and students by organizing weekly seminars every semester on biomedical data analysis, network optimization problems, and energy applications. Plans for major activities in the future include continuing organizing 3-4 conferences per year, writing and submitting proposals for external funding, inviting eminent scholars, writing and publishing papers, books and patents. The Center has successfully applied for many patents over the last few years, especially in the field of biomedical engineering.

The College of Engineering recommends continuation of the Center as it serves a useful purpose for the College and the University.

Please contact me if there are any questions.

JSC/mrh

cc: Dean Cammy Abernathy
    Dr. Joseph Hartman

Office of Interdisciplinary Research Programs

205 Particle Science & Technology
PO Box 116135
Gainesville, FL 32611-6135
Phone: (352) 846-1194
Fax: (352) 846-1196
E-mail: bmoudgil@perc.ufl.edu

July 13, 2011

Dear Dr. Pardalos,

It was a pleasure meeting you and your colleagues during our visit for the Center for Applied Optimization last Wednesday, June 29, 2011.

We enjoyed learning about the mission and activities of the CAO, including the collaboration initially between COE and CLAS when the Center first began its activities, and which has now evolved to include faculty members from Medicine and Business Administration in addition to a handful of industry members. We were pleased to hear about the breadth of research areas the Center is involved in, from data analysis and mining to optimization, covering sectors from defense and national security to energy and biomedicine. We sincerely hope you continue the hosting of exchange students and faculty visitors through your collaborators in Europe to further strengthen your industrial work overseas and add to your already high international visibility.

With this letter we want to thank you for your time and invite you to contact us in the future if we could be of any help to you and the Center for Applied Optimization.

Sincerely,

Brij M. Moudgil
Associate Vice President for
Interdisciplinary Research Programs
University of Florida
205 Particle Science & Technology Building
PO Box 116135
Gainesville, FL 32611-6135
Phone: (352) 846-1194
Fax: (352) 846-1196
E-mail: bmoudgil@perc.ufl.edu

Marie E. Zeglen
Assistant Provost and Director of
Institutional Planning and Research
University of Florida
Tigert Hall 355
PO Box 113115
Gainesville, FL 32611-3115
Phone: (352) 392-0456
Fax: (352) 392-8774
Email: zeglenm@ufl.edu