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Current Position

- **Assistant Professor**, Industrial & Systems Engineering, Rutgers University, 01/05 – present
- **Director**, Rutgers Center for Information Assurance (RCIA), an NSA National Center of Academic Excellence in Information Assurance, 12/08 – present (rucia.rutgers.edu)
- **Director**, COmplex Systems Modeling and Optimization (COSMO) Laboratory, Rutgers University, 08/06 – present (cosmolab.rutgers.edu)

Affiliate Faculty Appointments

- **Faculty Fellow**, Center for Supply Chain Management (SCM), Rutgers Business School, 04/05 – present
- **Faculty Member**, Center for Discrete Mathematics & Theoretical Computer Science (DIMACS), Rutgers University, 01/04 – present
- **Affiliated Faculty**, Comprehensive Epilepsy Center, St. Peter's University Hospital, 01/04 – 08/06

Professional Experience

- **Post Doctoral Fellow**, Corporate Strategic Research, ExxonMobil Research and Engineering, 01/04 – 01/05
- **Post Doctoral Associate**, Brain Institute, University of Florida and VA Medical Center, 08/03 – 01/04
- **Graduate Research Assistant**, Brain Institute, University of Florida and VA Medical Center, 08/00 – 08/03

Education

- **University of Florida**, Gainesville, FL
 08/2003 Ph.D. in Industrial and Systems Engineering (with concentration in Operations Research)
 Thesis Advisor: **Panos M. Pardalos**
- 12/2000 M.S. in Industrial and Systems Engineering
- **King Mongkut Institute of Technology at Ladkrabang**, Bangkok, Thailand
 05/1999 B.E. in Telecommunication Engineering

Awards and Honors

- 2009 Outstanding Service Award, The Association of Thai Professionals in America and Canada
- 2008 Pierskalla best paper award for research excellence in health care management science, Institute for Operations Research and the Management Sciences (INFORMS)
- 2008 Nominated for the National Security Science and Engineering Faculty Fellowship (NSSEFF) Program by Rutgers' President McCormick
- 2008 Rutgers FASIP Award for Research, Teaching and Service
- 2007 Notable Alumni, King Mongkut Institute of Technology at Ladkrabang
- 2007 Rutgers FASIP Award for Research, Teaching and Service
- 2006 NSF CAREER Award
- 2006 Rutgers FASIP Award for Research, Teaching and Service
- 2006 Omega Rho International Honor Society (Operations Research and Management Science)
- 2004 Pierskalla best paper award for research excellence in health care management science, Institute for Operations Research and the Management Sciences (INFORMS)
- 2003 Annual Award for Excellence in Research, Department of Industrial and Systems Engineering, University of Florida

Patents

- "Multi-Dimensional Multi-Parameter Time Series Processing for Seizure Warning and Prediction", United States Patent: US 7,263,467 B2, awarded Aug 2007
- "Optimization of Multi-Dimensional Time Series Processing for Seizure Warning and Prediction", International Patent: 7,373,199, awarded May 2008
- "Optimization of Spatio-Temporal Patterns Processing for Seizure Warning and Prediction", United States Patent: US 7,461,045, awarded December 2008

- “Multi-Dimensional Dynamical Analysis”, filed on Jan. 27th, 2006 (U.S. Patent Application, Attorney Docket No. 1028724-000154)

Media Citations

- Who's Who in the World (Marquis' version – 27th Edition 2010)
- Who's Who in America (Marquis' version – 110th Anniversary of Publishing Edition 2009)
- Who's Who in Science and Engineering (Marquis' version – 10th Anniversary Edition 2008)
- Thai Public Broadcast Station (Thai PBS), National TV channel in Thailand (June 2008)
- Who's Who in Engineering Higher Education (Academic Keys' version – 2007)
- Who's Who in America (Marquis' version – 61st Edition 2007)
- Who's Who of Emerging Leaders (Marquis' version – 1st Edition 2006)
- Who's Who in America (Marquis' version - 60th Edition 2006)
- Who's Who in Engineering Education (Academic Keys' version – 2005)
- Who's Who in the World (Marquis' version - 23rd Edition 2005)
- Who's Who in America (Marquis' version - 59th Edition 2005)
- Ranked 5th in Top 25 Hottest Articles in Operations Research Letters by ScienceDirect (1st quarter of 2005)
- TV20, Central Florida local TV channel (June 2003)
- Alligator, University of Florida's newspaper (April 2003)

Research Grants (Total of ~\$1,484,833 with \$992,833 as PI)

- “CAREER: Novel Optimization Methods for Cooperative Data Mining with Healthcare and Biotechnology Applications,” *National Science Foundation*, \$400,000, Role: **Sole-PI**, 2006-2011
- “Collaborative Research: Computational Framework of Robust Intelligent System for Mental State Identification and Human Performance Prediction with Biofeedback,” *National Science Foundation*, \$206,816, Role: **Sole-PI**, 2009-2012
- “Intelligent Mining of Sensor Signals for Thermal Management and Health Monitoring of Data Centers,” *Rutgers Computing Coordination Council (CCC) Green Computing Initiative*, \$50,000, Role: **Co-PI**, M.K. Jeong (PI), 2009-2010
- “School Development Cost Analysis,” *New Jersey Schools Development Authority*, \$49,000, Role: **Co-PI**, H. Pham (PI), 2008-2009
- “REU Supplement: Novel Optimization Methods for Cooperative Data Mining with Healthcare and Biotechnology Applications,” *National Science Foundation*, \$12,000, Role: **Sole-PI**, 2008-2009
- “Collaborative Research: Computational Methods for Kinship Reconstruction,” *National Science Foundation*, \$187,617, Role: **Sole-PI**, 2006-2009
- “Workshops Connecting Theoretical Computer Science to Other Fields,” *National Science Foundation*, \$300,000, Role: **Co-PI**, F.S. Roberts (PI), 2005-2008
- “Spatio-Temporal Data Mining in Brain Disorder and Cognitive Function Study,” *Rutgers Computing Coordination Council (CCC) Collaborative Computing Research*, \$50,000, Role: **PI**, E. Micheli-Tzanakou, N.N. Boustany, R.M. Lehman, B.Y. Wu (Co-PIs), 2008-2009
- “Center of Excellence for Cyber-Security and Information Assurance,” *Rutgers Academic Excellence Fund*, \$75,000, Role: **PI**, H. Pham, M. Parashar, H. Xiong, T. Nguyen (Co-PIs), 2008-2009
- “Optimization and Statistical Framework for Mining and Categorizing Correlated Text Records,” *Cisco – Academic Research & Technology Initiatives*, \$93,000, Role: **Co-PI**, H. Pham (PI), 2006-2007
- “Novel Combinatorial Optimization Approaches to Support the Future Multicast System in the Internet,” *Rutgers Research Council*, \$900, Role: **Sole-PI**, 2006-2007
- “Cooperative Data Mining for Aircraft Munition Sensors,” *Rutgers Research Council*, \$1,500, Role: **Sole-PI**, 2005-2006
- “Conference on Computational Neuroscience,” *DIMACS and University of Florida*, \$15,000, Role: **PI**, P.M. Pardalos, O. Seref, and Petros Xanthopoulos (Co-PIs), 2008
- “Conference on Data Mining, Systems Analysis and Optimization in Neuroscience,” *DIMACS, University of Florida's Office of the Vice President for Research and Genetics Institute*, \$15,000, Role: **PI**, P.M. Pardalos (Co-PI), 2006
- “Workshop on Clustering Problems in Biological Networks,” *DIMACS*, \$13,000, Role: **PI**, P.M. Pardalos and S. Butenko (Co-PIs), 2006
- “Workshop on Computational Optimization and Logistics Challenges in the Enterprise,” *ExxonMobil and DIMACS*, \$16,000, Role: **Sole-PI**, 2006

Teaching

S2005	Deterministic Models in Operations Research (<i>Instructor's rating = 4.58/5</i>) [undergrad]
F2005	Knowledge and Data Engineering (<i>Instructor's rating = 3.33/5</i>) [grad]
S2006	Network Modeling, Algorithms and Applications (<i>Instructor's rating = 4.00/5</i>) [grad]
F2006	Knowledge and Data Engineering (<i>Instructor's rating = 4.67/5</i>) [grad]
S2007	Network Modeling, Algorithms and Applications (<i>Instructor's rating = 4.75/5</i>) [grad]
F2007	Knowledge and Data Engineering (<i>Instructor's rating = 4.60/5</i>) [grad]
	Production Control and Operations Management (<i>50% share, Instructor's rating = 3.69/5</i>) [undergrad]
S2008	Deterministic Models in Operations Research (<i>Instructor's rating = 4.63/5</i>) [undergrad]
F2008	Network Modeling, Algorithms and Applications (<i>Instructor's rating = 5.00/5</i>) [grad]
S2009	Facilities Layout and Materials Handling (<i>Instructor's rating = 4.60/5</i>) [undergrad]

Publications (* represents students/postdocs supervised by Dr. Chaovalitwongse)o **Edited Books:**

- [E1] **W. Chaovalitwongse**, K.C. Furman, and P.M. Pardalos (Eds). *Optimization and Logistics Challenges in the Enterprise*, Springer, New York, 448 pages, 2009. [ISBN-13: 9780387886169]
- [E2] S. Butenko, **W. Chaovalitwongse**, and P.M. Pardalos (Eds). *Clustering Challenges in Biological Networks*, 332 pages, World Scientific, Singapore, 350 pages, 2009. [ISBN-13: 97898127716050]
- [E3] **W. Chaovalitwongse**, P.M. Pardalos, and P. Xanthopoulos (Eds). *Computational Neuroscience*, Springer, New York. In preparation.
- [E4] J.P. Kharoufeh (Area Editor for Stochastic Models) with **W. Chaovalitwongse** (Topical Editor for Data Mining and Forecasting), *Encyclopedia of Operations Research and Management Science*, Wiley. In preparation.

o **Journal Special Issues:**

- [I1] **W. Chaovalitwongse** and O. Seref. "Special Issue on Combinatorial Optimization in Data Mining," *Journal Combinatorial Optimization*, 15(3): 223-224, 2008.
- [I2] **W. Chaovalitwongse** and K.C. Furman. "Special Volume on Optimization and Logistics Challenges with Industrial Applications," *Annals of Operations Research*. In preparation.

o **Peer- Reviewed Journal Papers:** (*IF denotes Impact Factors as of 2007*)

- [J1] Z. Liang* and **W. Chaovalitwongse**. Bounds of Redundant Multicast Routing Problem with Multi-layer Constraints: Edge, Path and Tree Models. Accepted to *Journal of Global Optimization* with minor revision. (*IF = 1.062*)
- [J2] **W. Chaovalitwongse**, C.-A. Chou*, T.Y. Berger-Wolf, B. DasGupta, M.V. Ashley, S. Sheikh, and I.C. Caballero. New Optimization Model and Algorithm for Sibling Reconstruction from Genetic Markers. To appear in *INFORMS Journal on Computing*. (*IF = 1.041*)
- [J3] Y.J. Fan* and **W. Chaovalitwongse**. Optimizing Feature Selection to Improve Medical Diagnosis. To appear in *Annals of Operations Research*. (*IF = 0.619*) [DOI: 10.1007/s10479-008-0506-z]
- [J4] Z. Liang*, **W. Chaovalitwongse**, A.D. Rodriguez*, D.E. Jeffcoat, D.A. Grundel, and J.K. O'Neil. Optimization in Target Tracking From Multi-Sensor Data in Battle Space. To appear in *IEEE Transactions on Systems, Man, and Cybernetics, Part C: Applications and Reviews*. (*IF = 1.375*)
- [J5] S.I. Sheikh, T.Y. Berger-Wolf, A. Khokar, C.-A. Chou*, **W. Chaovalitwongse**, M.V. Ashley, I.C. Caballero, and B. DasGupta. Combinatorial Reconstruction of Half-Sibling Groups: Models and Algorithms. To appear in *Journal of Bioinformatics and Computational Biology*. (*IF = N/A*)
- [J6] L. Lei, H. Zhong, and **W. Chaovalitwongse**. On the Integrated Production and Distribution Problem with Bi-directional Flows. *INFORMS Journal on Computing*, 21(4): 576–589, 2009. (*IF = 1.041*)
- [J7] M. Cha, **W. Chaovalitwongse**, J. Yates, A. Shaikh, and S.B. Moon. Efficient and Scalable Provisioning Solutions for Always-On Multicast streaming Services. *Computer Networks*, 53: 2825–2839, 2009. (*IF = 1.304*)
- [J8] T. Zhang, **W. Chaovalitwongse**, Y. Zhang and P. Pardalos. The Hot-rolling Batch Scheduling Method based on the Prize Collecting Vehicle Routing Problem. *Journal of Industrial and Management Optimization*, 5 (4): 749–765, 2009. (*IF = 1.181*)

- [J9] M.V. Ashley, I.C. Caballero, **W. Chaovalitwongse**, B. DasGupta, P. Govindan, S.I. Sheikh, and T.Y. Berger-Wolf. KINALYZER: A Computer Program for Reconstructing Sibling Groups. *Molecular Ecology Resources*, 9(4): 1127–1131, 2009. (*IF* = 1.257)
- [J10] M.J. Anzanello, S.L. Albin, and **W. Chaovalitwongse**. Selecting the Best Variables for Classifying Production Batches into Two Quality Levels. *Chemometrics and Intelligent Laboratory Systems*, 97(2): 111-117, 2009. (*IF* = 1.940)
- [J11] M.V. Ashley, T.Y. Berger-Wolf, P. Berman, **W. Chaovalitwongse**, B. DasGupta, and M.-Y. Kao. On Approximating Four Covering and Packing Problems. *Journal of Computer and System Sciences*, 75(5), 287-302, 2009. (*IF* = 1.244)
- [J12] Y.J. Fan*, **W. Chaovalitwongse**, C.C. Liu, R.C. Sachdeo, L.D. Iasemidis, and P.M. Pardalos. Optimization and Data Mining Techniques for the Screening of Epileptic Patients. *International Journal of Bioinformatics Research and Applications*, 5(2): 187-196, 2009. (*IF* = N/A)
- [J13] **W. Chaovalitwongse**, Y.J. Fan*, and R.C. Sachdeo. Novel Optimization Models for Abnormal Brain Activity Classification. *Operations Research*, 56(6): 1450-1460, 2008. (*IF* = 1.463) (**Pierskalla best paper award 2008**)
- [J14] **W. Chaovalitwongse**, W. Suharitdamrong, C.C. Liu, and M.L. Anderson. Graph-Based Data Mining Techniques to Study Brain Connectivity in Epilepsy Patients. *Annales Zoologici Fennici*, 45(5): 402-414, 2008. (*IF* = 1.210)
- [J15] **W. Chaovalitwongse**. Novel Quadratic Programming Approach for Time Series Clustering with Biomedical Application. *Journal of Combinatorial Optimization*, 15(3): 225-241, 2008. (*IF* = 0.701)
- [J16] **W. Chaovalitwongse** and P.M. Pardalos. On the Time Series Support Vector Machine using Dynamic Time Warping Kernel for Brain Activity Classification. *Cybernetics and Systems Analysis*, 44(1): 125-138, 2008. (*IF* = 0.494)
- [J17] C.C. Liu, P.M. Pardalos, **W. Chaovalitwongse**, D.S. Shiau, G.A. Ghacibeh, W. Suharitdamrong, and J.C. Sackellares. Quantitative Complexity Analysis in Multi-Channel Intracranial EEG Recordings from Epilepsy Brains. *Journal of Combinatorial Optimization*, 15(3): 276-286, 2008. (*IF* = 0.701)
- [J18] **W. Chaovalitwongse**, Y.J. Fan*, and R. Sachdeo. On the Time Series K-Nearest Neighbor Classification of Abnormal Brain Activity. *IEEE Transactions on Systems, Man, and Cybernetics, Part A: Systems and Humans*, 37(6): 1005-1016, 2007. (*IF* = 1.350)
- [J19] T.Y. Berger-Wolf, S. Sheikh, B. DasGupta, M.V. Ashley, I.C. Caballero, **W. Chaovalitwongse**, and S.L. Putrevu. Reconstructing Sibling Relationships in Wild Populations. *Bioinformatics*, 23: 49-56, 2007. (*IF* = 4.328)
- [J20] **W. Chaovalitwongse**, T.Y. Berger-Wolf, B. DasGupta, and M.V. Ashley. A Robust Combinatorial Approach for Sibling Relationships Reconstruction. *Optimization Methods and Software*, 22(1): 11-24, 2007. (*IF* = 0.708)
- [J21] **W. Chaovalitwongse**, P.M. Pardalos, and O.A. Prokopyev. Electroencephalogram (EEG) Time Series Classification: Applications in Epilepsy. *Annals of Operations Research*, 148: 227-250, 2006. (*IF* = 0.619)
- [J22] J.C. Sackellares, D.-S. Shiau, J.C. Principe, M.C.K. Yang, L.K. Dance, W. Suharitdamrong, **W. Chaovalitwongse**, P.M. Pardalos, and L.D. Iasemidis. Predictability Analysis for an Automated Seizure Prediction Algorithm. *Journal of Clinical Neurophysiology*, 23(6): 509-520, 2006. (*IF* = 1.740)
- [J23] **W. Chaovalitwongse**, P.M. Pardalos, and O.A. Prokopyev. Optimization Approaches to Characterize the Hidden Dynamics of the Epileptic Brain: Seizure Prediction and Localization. *SIAG/OPT Views-and-News*, 17(2): 9-19, 2006. (*the SIAM Activity Group on Optimization*) (*IF* = N/A)
- [J24] **W. Chaovalitwongse**, P.M. Pardalos, L.D. Iasemidis, D.-S. Shiau, and J.C. Sackellares. Dynamical Approaches and Multi-Quadratic Integer Programming for Seizure Prediction. *Optimization Methods and Software*, 20(2-3): 383-394, 2005. (*IF* = 0.708)
- [J25] **W. Chaovalitwongse**, L.D. Iasemidis, P.M. Pardalos, P.R. Carney, D.-S. Shiau, and J.C. Sackellares. Performance of a Seizure Warning Algorithm based on the Dynamics of Intracranial EEG. *Epilepsy Research*, 64: 93-133, 2005. (*IF* = 2.405)

- [J26] L.D. Iasemidis, P.M. Pardalos, D.-S. Shiau, **W. Chaovallitwongse**, K. Narayanan, A. Prasad, K. Tsakalis, P.R. Carney, and J.C. Sackellares. Long Term Prospective On-Line Real-Time Seizure Prediction. *Journal of Clinical Neurophysiology*, 116(3): 532-544, 2005. (*IF* = 1.740)
- [J27] **W. Chaovallitwongse**, P.M. Pardalos, and O.A. Prokopyev. A New Linearization Technique for Multi-Quadratic 0-1 Programming Problems. *Operations Research Letters*, 32(6): 517-522, 2004. (**Ranked 5th in top 25 articles in ORL by ScienceDirect**) (*IF* = 0.830)
- [J28] P.M. Pardalos, **W. Chaovallitwongse**, L.D. Iasemidis, J.C. Sackellares, D.-S. Shiau, P.R. Carney, O.A. Prokopyev, and V.A. Yatsenko. Seizure Warning Algorithm Based on Optimization and Nonlinear Dynamics. *Mathematical Programming*, 101(2): 365-385, 2004. (*IF* = 2.336) (**Pierskalla best paper award 2004**)
- [J29] **W. Chaovallitwongse**, D.K. Kim, and P.M. Pardalos. GRASP with a New Local Search Scheme for Vehicle Routing Problems with Time Windows. *Journal of Combinatorial Optimization*, 7: 179-207, 2003. (*IF* = 0.701)
- [J30] L.D. Iasemidis, D.-S. Shiau, **W. Chaovallitwongse**, J.C. Sackellares, P.M. Pardalos, P.R. Carney, J.C. Principe, A. Prasad, B. Veeramani, and K. Tsakalis. Adaptive Epileptic Seizure Prediction System. *IEEE Transactions on Bio-medical Engineering*, 50(5): 616-627, 2003. (*IF* = 2.496)
- [J31] L.D. Iasemidis, P.M. Pardalos, D.-S. Shiau, **W. Chaovallitwongse**, K. Narayanan, S. Kumar, P.R. Carney, and J.C. Sackellares. Prediction of Human Epileptic Seizures based on Optimization and Phase Changes of Brain Electrical Activity. *Optimization Methods and Software*, 18(1): 81-104, 2003. (*IF* = 0.708)
- [J32] P.M. Pardalos, J.C. Sackellares, V.A. Yatsenko, M.C.K. Yang, D.-S. Shiau, and **W. Chaovallitwongse**. Statistical Information Approaches to Modeling and Detection of the Epileptic Human Brain. *Computational Statistics & Data Analysis*, 43(1): 79-108, 2003. (*IF* = 1.126)
- [J33] P.M. Pardalos, V.A. Yatsenko, J.C. Sackellares, D.-S. Shiau, **W. Chaovallitwongse**, and L.D. Iasemidis. Analysis of EEG Data Using Optimization, Statistics, and Dynamical System Techniques. *Computational Statistics & Data Analysis*, 44(1-2): 391-408, 2003. (*IF* = 1.126)

(Correspondence)

- [J34] **W. Chaovallitwongse**, L.D. Iasemidis, P.M. Pardalos, P.R. Carney, D.S. Shiau, and J.C. Sackellares. Reply to comments on "Performance of a seizure warning algorithm based on the dynamics of intracranial EEG" by F. Mormann, C.E. Elger, and K. Lehnertz. *Epilepsy Research*, 72: 85-87, 2006. (*IF* = 2.405)
- [J35] **W. Chaovallitwongse**, L.D. Iasemidis, P.M. Pardalos, P.R. Carney, D.S. Shiau, and J.C. Sackellares. Reply to comments on "Performance of a seizure warning algorithm based on the dynamics of intracranial EEG" by M. Winterhalder, B. Schelter, A. Achulze-Bonhage, and J. Timmer. *Epilepsy Research*, 72: 82-84, 2006. (*IF* = 2.405)

o Book Chapters:

- [B1] M.V. Ashley, T.Y. Berger-Wolf, I.C. Caballero, **W. Chaovallitwongse**, C.-A. Chou*, B. DasGupta, and S. Sheikh. Full Sibling Reconstruction in Wild Populations from Microsatellite Genetic Markers. In *Computational Biology: New Research*, Nova Publisher.
- [B2] C.C. Liu, **W. Chaovallitwongse**, B.M. Uthman, and P.M. Pardalos. Data Mining in Electroencephalogram: Dynamical Future extraction. In J. Wang (Ed), *Encyclopedia of Data Warehousing and Mining*, pp. 729-735, Idea Group Reference, Hershey, PA, 2008.
- [B3] **W. Chaovallitwongse**, H. Pham, S. Hwang, Z. Liang*, and C.H. Pham. Recent Advances in Data Mining for Categorizing Text Records. In H. Pham (Ed.), *Recent Advances in Reliability*, pp. 223-240, Springer, New York, 2008.
- [B4] Y.J. Fan*, C. Iyigun, and **W. Chaovallitwongse**. Recent Advances in Optimization Models for Data Mining: Clustering and Classification. *CRM Proceedings & Lecture Notes of the American Mathematical Society (AMS)*, pp. 67-94, 2008.
- [B5] S. Ji, **W. Chaovallitwongse**, N. Fefferman, W. Yoo, and J.E. Perez-Ortin. Mechanism-Based Clustering of Genome-Wide mRNA Levels: Roles of Transcription and Transcript-Degradation Rates. In S. Butenko, W. Chaovallitwongse, and P.M. Pardalos (Eds.), *Clustering Challenges in Biological Networks*, pp. 237-256, World Scientific, Singapore, 2009.

- [B6] C.C. Liu, W. Suharitdamrong, **W. Chaovalitwongse**, G.A. Ghacibeh, and P.M. Pardalos. Clustering Neurophysiological Signals to Study Brain Disorders. In S. Butenko, W. Chaovalitwongse, and P.M. Pardalos (Eds.), *Clustering Challenges in Biological Networks*, pp. 267-280, World Scientific, Singapore, 2009.
- [B7] X. He, A. Chen, **W. Chaovalitwongse**, and H. Liu. On the Quadratic Programming Approach for Uncapacitated Single Allocation p-Hub Median Problem. In W. Chaovalitwongse, K.C. Furman and P.M. Pardalos (Eds.), *Optimization and Logistics Challenges in the Enterprise*, Springer, New York. To appear in 2009.
- [B8] Z. Liang* and **W. Chaovalitwongse**. A Review on Mathematical Models for Airline Crew Pairing and Maintenance Routing Problems. In W. Chaovalitwongse, K.C. Furman and P.M. Pardalos (Eds.), *Optimization and Logistics Challenges in the Enterprise*, Springer, New York. To appear in 2009.
- [B9] **W. Chaovalitwongse**. Optimization and Data Mining in Epilepsy Research: A Review and Prospective. In P.M. Pardalos and H.E. Romeijn (Eds.), *Handbook of Optimization in Medicine*, Springer, New York, 2008.
- [B10] **W. Chaovalitwongse**, X. He, and A. Chen. Multi-Quadratic Zero-One Programming. In C.A. Floudas and P.M. Pardalos (Eds.), *Encyclopedia of Optimization*, Vol. II. Springer, New York, 2008.
- [B11] Y.J. Fan* and **W. Chaovalitwongse**. Deterministic and Probabilistic Optimization Models for Data Classification. In C.A. Floudas and P.M. Pardalos (Eds.), *Encyclopedia of Optimization*, Vol. II. Springer, New York, 2008.
- [B12] M. Cha, **W. Chaovalitwongse**, Z. Liang*, J. Yates, A. Shaikh, and S.B. Moon. Integer Linear Programs for Routing and Protection Problems in Optical Networks. In C.A. Floudas and P.M. Pardalos (Eds.), *Encyclopedia of Optimization*, Vol. II. Springer, New York, 2008.
- [B13] **W. Chaovalitwongse**, I.P. Androulakis, and P.M. Pardalos. Quadratic Integer Programming: Complexity and Equivalent Forms. In C.A. Floudas and P.M. Pardalos (Eds.), *Encyclopedia of Optimization*, Vol. II. Springer, New York, 2008.
- [B14] I.P. Androulakis and **W. Chaovalitwongse**. Mathematical Programming for Data Mining. In C.A. Floudas and P.M. Pardalos (Eds.), *Encyclopedia of Optimization*, Vol. II. Springer, New York, 2008.
- [B15] **W. Chaovalitwongse**, W. Suharitdamrong, and P.M. Pardalos. Time-Frequency Analysis of Brain Neuro-dynamics. In D.Y. Gao and H.D. Sherali (Eds.), *Advances in Applied Mathematics and Global Optimization vol. III*, pp. 107-136, Springer, New York, 2008.
- [B16] **W. Chaovalitwongse**, L.D. Iasemidis, J.C. Sackellares, P.R. Carney, D.-S. Shiau, L.K. Dance, O.A. Prokopyev, V.L. Boginski, and P.M. Pardalos. Data Mining in EEG: Application to Epileptic Brain Disorders. In P.M. Pardalos, V.L. Boginski, and A. Vazacopoulos (Eds.), *Data Mining in Biomedicine*, pp. 459-482, Springer, New York, 2007.
- [B17] O.A. Prokopyev, V. Boginski, **W. Chaovalitwongse**, P.M. Pardalos, J.C. Sackellares, and P.R. Carney. Network-Based Techniques in EEG Data Analysis and Epileptic Brain Modeling. In P.M. Pardalos, V.L. Boginski, and A. Vazacopoulos (Eds.), *Data Mining in Biomedicine*, pp. 559-574, Springer, New York, 2007.
- [B18] D.-S. Shiau, L.D. Iasemidis, P.M. Pardalos, P.R. Carney, L.K. Dance, **W. Chaovalitwongse**, and J.C. Sackellares. Automated Seizure Prediction Algorithm and Its Statistical Assessment: A Report From Ten Patients. In P.M. Pardalos, V.L. Boginski, and A. Vazacopoulos (Eds.), *Data Mining in Biomedicine*, pp. 517-534, Springer, New York, 2007.
- [B19] P.M. Pardalos, V.L. Boginski, O.A. Prokopyev, W. Sudharidamrong, P.R. Carney, **W. Chaovalitwongse**, and A. Vazacopoulos. Optimization Techniques in Medicine. In C. Audet, P. Hansen, and G. Savard (Eds.), *Essays and Surveys in Global Optimization*, pp. 211-232, Springer, New York, 2005.
- [B20] **W. Chaovalitwongse**, P.M. Pardalos, L.D. Iasemidis, D.-S. Shiau, and J.C. Sackellares. Applications of Global Optimization and Dynamical Systems to Prediction of Epileptic Seizures. In P.M. Pardalos, and J.C. Sackellares (Eds.), *Quantitative Neuroscience*, pp. 1-36, Kluwer Academic Publishers, Netherland, 2004.
- [B21] B. Chiarini, **W. Chaovalitwongse**, and P.M. Pardalos. A New Algorithm for the Triangulation of Input-Output Tables. In: P.M. Pardalos, A. Migdalas, and G. Baourakis (Eds.), *Supply chain and finance*, pp. 254-273, World Scientific, Singapore, 2004.

- [B22] D.-S. Shiau, L.D. Iasemidis, J.C. Sackellares, P.M. Pardalos, P.R. Carney, and **W. Chaovalitwongse**. Nonlinear Dynamics and Global Optimization Approaches to Investigate Dynamical Transitions Before and After Epileptic Seizures. In P.M. Pardalos and J.C. Sackellares (Eds.), *Quantitative Neuroscience*, pp. 239-250, Kluwer Academic Publishers, Netherland, 2004.
- [B23] P.R. Carney, D.-S. Shiau, L.D. Iasemidis, **W. Chaovalitwongse**, and J.C. Sackellares. Nonlinear Neurodynamical Features in an Animal Model of Generalized Epilepsy. In P.M. Pardalos and J.C. Sackellares (Eds.), *Quantitative Neuroscience*, pp. 37-52, Kluwer Academic Publishers, Netherland, 2004.
- **Peer-Reviewed Conference Proceedings:**
- [C1] S.S. Leondopoulos*, **W. Chaovalitwongse**, E. Micheli-Tzanakou, S. Wong and B.Y. Wu Feature Selection of Linear Predictors at Spectral Bands of Interest. To appear in *The 31st Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBS 2009)*.
- [C2] S.I. Sheikh, T.Y. Berger-Wolf, A. Khokar, I.C. Caballero, M.V. Ashley, **W. Chaovalitwongse**, and B. DasGupta. Combinatorial Reconstruction of Half-Sibling Groups. *Proceedings of the 8th Annual International Conference on Computational Systems Bioinformatics (CSB 2009)*, pp. 59-67, 2009. (Acceptance rate: 23%)
- [C3] M.V. Ashley, T.Y. Berger-Wolf, **W. Chaovalitwongse**, B. DasGupta, Ashfaq Khokhar, and S. Sheikh. On Approximating an Implicit Cover Problem in Biology. *Proceedings of the 5th International Conference on Algorithmic Aspects in Information and Management (AAIM)*, A. Goldberg and Y. Zhou (Eds.), *Lecture Notes in Computer Science (LNCS)*, 5564, pp. 43-54, 2009.
- [C4] S.I. Sheikh, T.Y. Berger-Wolf, M.V. Ashley, I.C. Caballero, **W. Chaovalitwongse**, and B. DasGupta. Error Tolerant Sibship Reconstruction in Wild Populations. *Proceedings of the 7th Annual International Conference on Computational Systems Bioinformatics (CSB 2008)*, pp. 273-284. (Acceptance rate: 22%)
- [C5] C.-C. Liu, P. Xanthopoulos, **W. Chaovalitwongse**, P.M. Pardalos, and B.M. Uthman Antiepileptic Drug Intervention Decouples Electroencephalogram (EEG) Signals: A case study in Unverricht-Lundborg Disease. *Proceedings of The 30th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBS 2008)*, pp. 2108-2111, 2008.
- [C6] **W. Chaovalitwongse**, Y.J. Fan*, and R.C. Sachdeo. Support Feature Machine for Classification of Abnormal Brain Activity. *Proceedings of the Thirteenth ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (SIGKDD 2007)*, pp. 113-122. (Full presentation acceptance rate: 8%, Overall acceptance rate: 16%)
- [C7] T. Y. Berger-Wolf, S. Sheikh, M. Ashley, I. C. Caballero, **W. Chaovalitwongse**, B. DasGupta and S. P. Lahari. Reconstructing Sibling Relationships in Wild Populations, *Proceedings of 15th Annual International Conference on Intelligent Systems for Molecular Biology (ISMB 2007)*, Vienna. (Acceptance rate: 15%)
- [C8] Y.J. Fan*, **W. Chaovalitwongse**, C.C. Liu, R.C. Sachdeo, L.D. Iasemidis, and P.M. Pardalos. Optimization and Data Mining Techniques for the Screening of Epileptic Patients. *BIOMAT, 2007*.
- [C9] C.C. Liu, **W. Chaovalitwongse**, P.M. Pardalos, O. Seref, P. Xanthopoulos, J.C. Sackellares, and F.M. Skidmore. Quantitative Analysis for Electrooculography (EOG) for Neurodegenerative Disease. *Proceedings of International Conference on Data Mining, Systems Analysis, and Optimization in Biomedicine, American Institute of Physics*, Vol. 953, pp. 246-253, 2007.
- [C10] C.C. Liu, D.S. Shiau, **W. Chaovalitwongse**, P.M. Pardalos, and J.C. Sackellares. Presence of Nonlinearity in Intracranial EEG Recordings: Detected by Lyapunov Exponents. *Proceedings of International Conference on Data Mining, Systems Analysis, and Optimization in Biomedicine, American Institute of Physics*, Vol. 953, pp. 197-205, 2007.
- [C11] T.P. Williams and **W. Chaovalitwongse**. Using Classification Rules to Develop a Predictive Indicator of Project Cost Overruns from Bidding Patterns. *Proceedings of the 9th International Conference on the Application of Artificial Intelligence to Civil, Structural and Environmental Engineering*, Sep 2007.
- [C12] L. Lei, **W. Chaovalitwongse**, and S. Bora. Scheduling the Operations of an Integrated Production-Distribution Process. *Proceedings of the 3rd Multidisciplinary International Scheduling Conference: Theory and Applications (MISTA)*, Aug 2007.

- [C13] S. Sheikh, T.Y. Berger-Wolf, **W. Chaovallitwongse**, B. DasGupta, and M.V. Ashley. Reconstructing Sibling Relationships from Microsatellite Data. *Proceedings of the 5th European Conference on Computational Biology*, Jan 2007.
- [C14] M. Cha, **W. Chaovallitwongse**, Z. Ge, J. Yates, and S. Moon. Path Protection Routing with SRLG Constraints to Support IPTV in WDM Mesh Networks. *Proceedings of INFOCOM Global Internet Symposium*, pp. 134-138, Apr 2006.
- [C15] **W. Chaovallitwongse**, R.C. Sachdeo, P.M. Pardalos, L.D. Iasemidis, and J.C. Sackellares. Automated Brain Activity Classifier. *Epilepsia*, 46 (S8): 312, Dec 2005.
- [C16] **W. Chaovallitwongse**. Novel Quadratic Programming Approaches for Feature Selection and Clustering with Applications. *Proceedings of IEEE International Conference on Data Mining, Optimization-based Data Mining Techniques with Applications Workshop*, pp. 1-7, Dec 2005.
- [C17] T.Y. Berger-Wolf, B. DasGupta, **W. Chaovallitwongse**, and M.V. Ashley. Combinatorial Reconstruction of Sibling Relationships. *Proceedings of the 6th International Symposium on Computational Biology and Genome Informatics (CBGI)*, pp. 1252-1255, Jul 2005.
- [C18] **W. Chaovallitwongse**, P.M. Pardalos, J.C. Sackellares, L.D. Iasemidis, D.-S. Shiau, and P.R. Carney. Automated Real-Time Seizure Detection Algorithm. *Epilepsia*, 44 (S9): 227, Oct 2003.
- [C19] D.-S. Shiau, L.D. Iasemidis, W. Suharitdamrong, L.K. Dance, **W. Chaovallitwongse**, P.M. Pardalos, P.R. Carney, and J.C. Sackellares. Detection of the Preictal Period by Dynamical Analysis of Scalp EEG. *Epilepsia*, 44 (S9): 233, Oct 2003.
- [C20] P.R. Carney, J.C. Sackellares, D.-S. Shiau, L.D. Iasemidis, **W. Chaovallitwongse**, W. Suharitdamrong, and P.M. Pardalos. Detection of Seizures in Newborns by Quantitative EEG Signal Analyses. *Epilepsia*, 44 (S9): 54, Oct 2003.
- [C21] J.C. Sackellares, L.D. Iasemidis, D.-S. Shiau, W. Suharitdamrong L.K. Dance, **W. Chaovallitwongse**, P.M. Pardalos, and P.R. Carney. An Automated Seizure Warning Algorithm for Scalp EEG. *Epilepsia*, 44 (S9): 228, Oct 2003.
- [C22] D.-S. Shiau, J.C. Sackellares, L.D. Iasemidis, P.M. Pardalos, P.R. Carney, and **W. Chaovallitwongse**. Dynamical Entrainment among Epileptic Brain Areas. *Annals of Neurology*, 54 (7): S55 Suppl. 2003.
- [C23] **W. Chaovallitwongse**, L.D. Iasemidis, A. Prasad, D.-S. Shiau, J.C. Sackellares, P.M. Pardalos, and P.R. Carney. Seizure Prediction by Dynamical Phase Information from the EEG. *Epilepsia*, 43 (7): S45, Oct 2002.
- [C24] J.C. Sackellares, L.D. Iasemidis, D.-S. Shiau, **W. Chaovallitwongse**, P.M. Pardalos, and P.R. Carney. Dynamical Dependence of Seizure Prediction on Preceding Seizures. *Epilepsia*, 43 (7): S50, Oct 2002.
- [C25] L.D. Iasemidis, D.-S. Shiau, **W. Chaovallitwongse**, P.M. Pardalos, P.R. Carney, and J.C. Sackellares. Adaptive Seizure Prediction System. *Epilepsia*, 43 (7): S264-S265, Oct 2002.
- [C26] J.C. Sackellares, L.D. Iasemidis, D.-S. Shiau, P.M. Pardalos, **W. Chaovallitwongse**, and P.R. Carney. Can knowledge of cortical site dynamics in a preceding seizure be used to improve prediction of the next seizure? *Annals of Neurology*, 52 (3): S65-S66 Suppl., Sep 2002.
- [C27] J.C. Sackellares, L.D. Iasemidis, P.M. Pardalos, **W. Chaovallitwongse**, D.-S. Shiau, S.N. Roper, R.L. Gilmore, and J.C. Principe. Performance Characteristics of an Automated Seizure Warning Algorithm (ASWA) Utilizing Dynamical Measures of the EEG Signal and Global Optimization Techniques. *Epilepsia*, 42 (7): S40, Nov 2001.
- **Technical Reports:**
 - [T1] M.V. Ashley, T.Y. Berger-Wolf, P. Berman, **W. Chaovallitwongse**, B. DasGupta, and M.-Y. Kao. On Approximating Four Covering/Packing Problems with Applications to Bioinformatics. *DIMACS Technical Report, 2007-14*.
 - [T2] T.Y. Berger-Wolf, B. DasGupta, **W. Chaovallitwongse**, and M.V. Ashley. A Combinatorial Reconstruction of Sibling Relationships in Absence of Parental Data. *DIMACS Technical Report, 2005-27*.
 - **Submitted Papers:**
 - [S1] A. Rodriguez*, **W. Chaovallitwongse**, Z. Liang*, H. Singhal*, and H. Pham. Master Defect Record Retrieval Using Network-Based Feature Association. 2nd Revision submitted to *IEEE Transactions on*

Systems, Man, and Cybernetics, Part C: Applications and Reviews (December 2008, May 2009, September 2009).

- [S2] **W. Chaovalitwongse**, R.S. Pottenger*, S. Wang*, Y.J. Fan*, and L.D. Iasemidis. Pattern-Based and Network-Based Classification Techniques for Multichannel Medical Data Signals to Improve Brain Diagnosis. Submitted to *IEEE Transactions on Systems, Man, and Cybernetics, Part A: Systems and Humans (September 2009)*.
- [S3] Z. Liang*, **W. Chaovalitwongse**, H.C. Huang, and E.L. Johnson. On the Network Flow Based Model for Aircraft Maintenance Routing Problem. Submitted to *Transportation Science (January 2008)*.
- [S4] Z. Liang*, **W. Chaovalitwongse**, M. Cha, J. Yates, A. Shaikh, and S.B. Moon. Redundant Multicast in Multilayer Networks with Shared Risk Resource Groups: Complexity, Models and Algorithms. Submitted to *Computers and Operations Research (January 2009)*.
- [S5] **W. Chaovalitwongse**, W. Wang*, T.P. Williams, and P. Chaovalitwongse. Predictability of Project Cost Overruns and Bid Selection from Bidding Patterns. Revision submitted to *ASCE Journal of Construction Engineering and Management (September 2008, July 2009)*.
- [S6] **W. Chaovalitwongse**, P.M. Pardalos, M.G.C. Resende, and D.A. Grundel. Revised GRASP with Path-Relinking for the Linear Ordering Problem. Submitted to *Journal of Combinatorial Optimization (March 2009)*.
- [S7] X. He, A. Chen, **W. Chaovalitwongse**, and H. Liu. Comparison of Linearized Mathematical Programming Models for Uncapacitated Single Allocation p-Hub Median Problem. Revision submitted to *Optimization Letters (March 2009, November 2009)*.
- [S8] S. Wang*, **W. Chaovalitwongse**, and R. Babuska. Survey of Learning Algorithms for Bipedal Robot Control Application. Submitted to *IEEE Transactions on Pattern Analysis and Machine Intelligence (November 2009)*.
- [S9] Z. Liang* and **W. Chaovalitwongse**. A Multicast Problem with Shared-Risk Cost. Submitted to *Operations Research Letters (October 2009)*.
- [S10] S.I. Sheikh, T.Y. Berger-Wolf, B. DasGupta, M.V. Ashley, I.C. Caballero, A.A. Khokhar, W. Chaovalitwongse. Consensus Methods for Reconstruction of Sibling Relationships and Application to Genotyping Errors. Submitted to *PLoS Computational Biology (October 2009)*.
- [S11] S. Wang* and **W. Chaovalitwongse**. Operations Research in Data Mining. Submitted to *Encyclopedia of Operations Research and Management Science, Wiley (November 2009)*.
- **In Preparation:**
 - [W1] S. Leondopoulos*, **W. Chaovalitwongse**, E. Micheli-Tzanakou, S. Wong, and B. Wu. Spectral Band and Linear Feature Selection in EEG Recordings to Detect Seizure Pre-Cursors. To be submitted to *IEEE Transactions on Information Technology in Biomedicine (November 2009)*.
 - [W2] A. Rodriguez*, M. Tortorella, and **W. Chaovalitwongse**. Limit Theorems for Flow on a Stochastic Link with Unreliable Elements. To be submitted to *Operations Research Letters (November 2009)*.
 - [W3] O. Seref and **W. Chaovalitwongse**. Relaxing Support Vectors for Multiple Instance Classification. To be submitted to *Annals of Operations Research (November 2009)*.
 - [W4] Z. Liang*, **W. Chaovalitwongse**, and E.A. Elsayed. Mathematical Modeling and Solution Approaches for Resolving Flight Conflicts and Disruption in the Northern Pacific Airspace. To be submitted to *Operations Research (November 2009)*.
 - [W5] C.-A. Chou*, **W. Chaovalitwongse**, Z. Liang*, T.Y. Berger-Wolf, B. DasGupta, M.V. Ashley, S. Sheikh, and I.C. Caballero. Column Generation Framework of Combinatorial and Statistical Approaches for Full-Sibling Group Reconstruction. To be submitted to *INFORMS Journal on Computing (November 2009)*.
 - [W6] Y.J. Fan* and **W. Chaovalitwongse**. Bilinear Optimization Model for k -Median Time Series Clustering. To be submitted to *Annals of Operations Research (November 2009)*.
 - [W7] Z. Liang* and **W. Chaovalitwongse**. Steiner Tree Generation Framework for Redundant Multicast Problem with Multilayer Constraints. To be submitted to *Operations Research (November 2009)*.
 - [W8] T. Zhang, **W. Chaovalitwongse**, and Y. Zhang. Heuristic Approaches for Stochastic Vehicle Routing Problem with Simultaneous Pick-Up and Delivery. To be submitted to *Journal of Industrial and Management Optimization (November 2009)*.

- [W9] C.-A. Chou*, **W. Chaovalitwongse**, T.Y. Berger-Wolf, B. DasGupta, M.V. Ashley, S. Sheikh, and I.C. Caballero. Enhanced GRASP for Constrained Clustering Problem with Application in Population Biology. To be submitted to *European Journal of Operational Research* (November 2009).
- [W10] S. Jongprasithporn, **W. Chaovalitwongse**, and K. Chomsamutr*. Design Optimization of Cutting Parameters for Improving Product Quality in Turning Operations: Taguchi Method and Validation. To be submitted to *Materials and Design* (November 2009).
- [W11] S. Wang*, **W. Chaovalitwongse**, and S. Wong. Online Detection of Seizure Pre-Cursors Using Reinforcement Learning Framework. To be submitted to *IEEE Transactions on Biomedical Engineering* (December 2009).
- [W12] L. Lei, **W. Chaovalitwongse**, and S. Bora. Scheduling the Operations of an Integrated Production-Distribution Process. To be submitted to *Production and Operations Management* (December 2009).
- [W13] S. Jongprasithporn, **W. Chaovalitwongse**, and K. Chomsamutr*. Design Optimization of Cutting Parameters for Improving Product Quality in Turning Operations: Multi-Objective Analysis. To be submitted to *Materials and Design* (December 2009).
- [W14] **W. Chaovalitwongse**, Z. Liang*, M. Cha, J. Yates, A. Shaikh, and S.B. Moon. Path Generation Approaches for Diverse Multicast Routing Problem with Multilayered Resource Constraints. To be submitted to *INFORMS Journal on Computing* (December 2009).
- [W15] **W. Chaovalitwongse** and, T.P. Williams. Application of Data Mining Techniques for Decision-Making Problems in the Construction Industry. To be submitted to *IEEE Transactions on Systems, Man, and Cybernetics, Part C: Applications and Reviews* (January 2010).
- [W16] **W. Chaovalitwongse**, A. Rodriguez*, H. Singhal*, Z. Liang*, and H. Pham. Keyword Weight Optimization Framework for Information Retrieval of Master Defect Record.
- [W17] **W. Chaovalitwongse**, M. Cha, Z. Liang*, J. Yates, A. Shaikh, and S.B. Moon. Network Decomposition Techniques for Diverse Multicasting with Shared Risk Resource Group Constraints.
- [W18] Z. Liang*, **W. Chaovalitwongse**, H.C. Huang, and E.L. Johnson. Network Flow Representation of Periodic Routing and Scheduling.
- [W19] C.J. Lin, S. Wang, C. Wu, and **W. Chaovalitwongse**. Using Data Mining Techniques to Detect Numerical Typing Errors.
- [W20] S. Wang, S. Wong, S. Danish, and **W. Chaovalitwongse**. Classification of Neurophysiological Signals from Different Sub-Cortical Areas with Application in Deep Brain Stimulation.

Invited Lectures

- *Automated Seizure Warning System Utilizing Nonlinear Dynamics and Optimization.*
 - Neuroscience Research seminar series by The Centers for Alcohol, Aging and Neurobiological Sciences, Brain Institute, **University of Florida**, Gainesville, FL, Jun 2002.
 - Quantitative Neuroscience/Neural Engineering Seminar, Department of Biomedical Engineering, **University of Florida**, Gainesville, FL, Jan 2003.
- *Automated Real-Time Seizure Detection Algorithm.*
 - Celebration of Research, College of Medicine, **University of Florida**, Gainesville, FL, Apr 2003.
 - Quantitative Neuroscience/Neural Engineering Seminar, Department of Biomedical Engineering, **University of Florida**, Gainesville, FL, Oct 2003.
- *Optimization and Data Mining for Time Series Analysis with Applications in Bioengineering.*
 - Department of Industrial Engineering, **Arizona State University**, Tempe, AZ, Apr 2003.
 - Corporate Strategic Research, **ExxonMobil Research & Engineering**, Annandale, NJ, Sep 2003.
 - Department of Industrial and Systems Engineering, **University of Florida**, Gainesville, FL, Oct 2003.
 - Department of Industrial and Systems Engineering, **Rutgers University**, Piscataway, NJ, Nov 2003.
- *Optimization and Data Mining in Epilepsy Research.*
 - International Topical Meeting on Environmental Reliability and Risk Studies, **Seoul National University**, Seoul, Korea, Feb 2005.
 - Department of Industrial and Manufacturing Engineering, **New Jersey Institute of Technology (NJIT)**, Newark, NJ, Oct 2005.
 - DIMACS Computational and Mathematical Epidemiology Seminar, **Rutgers University**, Piscataway, NJ, Dec 2005.

- Program in Integrative Information, Computer and Application Sciences (PICASso), Department of Computer Science, **Princeton University**, Sep 2006.
- Centre de recherches mathematiques (CRM), **Universite de Montreal**, Oct 2006.
- Department of Computer Science, **University of Illinois at Chicago**, Nov 2006.
- Department of Industrial and Systems Engineering, **Lehigh University**, Nov 2006.
- *Current Trends and Prospective Outlooks of Long-Term Inventory Routing Problem in the Enterprise.*
 - Supply Chain Management Research Seminar, **Rutgers Business School**, Newark, NJ, Mar 2006.
 - School of Industrial Engineering and Management, **Oklahoma State University**, Stillwater, Apr 2006.
- *Recent Advances and Applications of Optimization and Data Mining in Healthcare and Biology.*
 - Division of Computer Science, **Korea Advanced Institute of Science and Technology (KAIST)**, Korea, Jun 2006.
 - Edward P. Fitts Department of Industrial and Systems Engineering, **North Carolina State University**, Oct 2006.
- Multi-Dimensional Time Series Classification for Early Epilepsy Diagnosis.
 - Conference on Data Mining, Systems Analysis and Optimization in Biomedicine, **University of Florida**, Mar 2007.
 - DIMACS Workshop on Discrete Mathematical Problems in Computational Biomedicine, **Rutgers University**, Apr 2007.
- *Optimizing the Sibling Relationship Reconstruction to Better Understand Evolutionary Mechanisms.*
 - U.S.- Korea Workshop: Understanding Bioenvironmental Complexity, **Seoul National University**, Seoul, Korea, Jul 2007.
 - **Thailand's National Science and Technology Development Agency**, Jul 2009.
- *Optimization and Data Mining in Medical Diagnosis and Other Fields.*
 - Department of Industrial and Operations Engineering, **University of Michigan**, Ann Arbor, Mar 2008.
 - Department of Industrial Engineering, **University of Houston**, Mar 2008.
 - National Science Foundation Workshop on Bridges to Engineering Research 2020, **North Carolina A&T State University**, Mar 2008.
 - Faculty of Medical Technology, **Mahidol University**, Thailand, Jun 2008.
 - IEEE Educational Activities Board Annual Meeting, November 2008. (*Keynote Presentation*)
- A Tree-Based Model for Redundant Multicast Routing Problem with Shared Risk Link Group Diverse Constraints.
 - Modelling and Optimization: Theory and Applications, **Lehigh University**, Aug 2009.
- *Optimizing Feature Selection to Improve Pattern Recognition: From Medical Diagnosis to Information Retrieval.*
 - School of Computer Science and Information Systems, Birkbeck College, **University of London**, UK, Mar 2008.
 - Engineering Systems Division, **Massachusetts Institute of Technology (MIT)**, Feb 2009.
 - Department of Statistics, **Rutgers University**, Sep 2009.
 - Department of Industrial and Systems Engineering, **SUNY – University at Buffalo**, Oct 2009

Professional Activities

- **Executive Vice President**, The Association of Thai Professionals in America and Canada, 2007-present
- **Director of Northeast Region**, Omega Rho International Honor Society, 2006-present
- **Newsletter Editor**, INFORMS Optimization Society, 2005-2006
- **Treasurer**, INFORMS Health Applications Section (HAS), 2005-2007
- **Associate Editor/Editorial Board Member:**
 - Journal of Combinatorial Optimization [*Springer*], 2005-present
 - Optimization Letters [*Springer*], 2006-present
 - International Journal of Engineering and Management [*Serial Publications*], 2008-present
 - International Journal of Data Mining, Modelling and Management (IJDMMM) [*Inderscience*], 2008-present
 - International Journal of Electronic Transport (IJET) [*Inderscience*], 2009-present
- **NSF Panelist:**
 - Computer and Information Science and Engineering (CISE), March 2005
 - Computer and Information Science and Engineering (CISE), June 2005
 - Computer and Information Science and Engineering (CISE), September 2005 @ NASA Ames

- Biological Sciences (BS), November 2008
- Cyber-Enabled Discovery and Innovation (CDI), March 2009
- **External Grant Reviewer:**
 - NSF: Chemical, Bioengineering, Environmental, and Transport Systems (CBET), 2009
 - NSF: CAREER, Information & Intelligent Systems (IIS), 2009
 - NSF: CAREER, Computing & Communication Foundation (CCF), 2009
 - The Grants to Enhance and Advance Research (GEAR), University of Houston, 2007
 - Wiener Wissenschafts-, Forschungs- und Technologiefonds (WWTF), Vienna Science and Technology Fund, 2007
- **Award Committee Member:**
 - Chair of *INFORMS HAS Pierskalla Award Committee*, 2005
 - Member of *INFORMS HAS Bonder Scholarship Committee*, 2006
 - Chair of *INFORMS HAS Pierskalla Award Committee*, 2009
- **Conference Organizer:**
 - *Conference on Computational Neuroscience*, University of Florida, Gainesville, FL, Feb 20-21, 2008
 - *Conference on Data Mining, Systems Analysis and Optimization in Neuroscience*, University of Florida, Gainesville, FL, Feb 15-17, 2006
 - *DIMACS and ExxonMobil Joint Workshop on Computational Optimization and Logistics Challenges in the Enterprise*, ExxonMobil Research & Engineering, Annandale, NJ, Apr 19-20, 2006
 - *Conference on Clustering in Biological Networks*, DIMACS, Rutgers University, Piscataway, NJ, May 9-11, 2006
- **Conference Program Committee Member:**
 - *IEEE International Conference on Industrial Engineering and Engineering Management (IEEM 2009)*, Hong Kong, Dec 8-11 2009
 - *The 3rd Annual International Conference on Combinatorial Optimization and Applications (COCOA'09)*, Yellow Mountains, China, Jun 10-12, 2009
 - *The First World Congress on Global Optimization (WCGO-2009)*, Hunan, China, Jun 1-5, 2009
 - *Data Mining in Bio-medicine*, Athens, Greece May 7-8, 2009
 - *IEEE/WIC/ACM International Conference on Web Intelligence, Workshop on Optimization-based Data Mining and Web Intelligence*, Sydney, Australia, Dec 9-12, 2008
 - *IEEE International Conference on Data Mining (ICDM 2008)*, Pisa, Italy, Dec 15-19, 2008
 - *IEEE International Conference on Industrial Engineering and Engineering Management (IEEM 2008)*, Singapore, Dec 8-11 2008
 - *IEEE International Conference on Granular Computing (GrC 2008)*, Hangzhou, China, Aug 26-28, 2008
 - *Workshop of Computational Finance and Business Intelligence, International Conference on Computational Science (ICCS 2008)*, AGH University of Science and Technology, Krakow, Poland, Jun 23-25, 2008
 - *IEEE International Conference on Granular Computing (GrC 2007)*, San Jose, CA, Nov 2-4, 2007
 - *Workshop on Optimization-based Data Mining Techniques with Applications, The Seventh IEEE International Conference on Data Mining (ICDM'07)*, Omaha, NE, Oct 28-31, 2007
 - *Workshop on Computational Finance and Business Intelligence, International Conference on Computational Science (ICCS 2007)*, Graduate University of the Chinese Academy of Sciences, Beijing, China, May 27-30, 2007
 - *Conference on Data Mining, Systems Analysis and Optimization in Biomedicine*, University of Florida, Gainesville, FL, Mar 28-30, 2007
 - *IEEE International Conference on System Integration and Reliability Improvements*, Hanoi, Vietnam, Dec 13-15, 2006
 - *IEEE International Conference on Granular Computing (GrC 2006)*, Atlanta, GA, May 12-16, 2006
 - *INFORMS Optimization Society Conference on Optimization and Healthcare*, San Antonio, TX, Feb 3-5, 2006
- **Conference Cluster/Track Chair:**
 - *IERC Annual Conference*, Cancun, Mexico, May 2010
 - *IERC Annual Conference*, Vancouver, Canada, May 2008
 - *Second International Conference on Continuous Optimization + Modeling and Optimization: Theory and Applications*, McMaster University, Canada, Aug 13-16, 2007

- *INFORMS Optimization Society Conference on Optimization and Healthcare*, San Antonio, TX, Feb 3-5, 2006
- **Conference Session Chair:**
 - *INFORMS Annual Meeting*, Washington DC, Oct 2008
 - *INFORMS Annual Meeting*, Seattle, WA, Nov 2007
 - *Conference on Data Mining, Systems Analysis and Optimization in Biomedicine*, University of Florida, Gainesville, FL, Mar 28-30, 2007
 - *IERC Annual Conference*, Orlando, FL, May 2006
 - *INFORMS Annual Meeting*, San Francisco, CA, Nov 2005
 - *The 2nd Multidisciplinary International Conference on Scheduling: Theory & Applications*, NYU, Jul 2005
 - *Conference on Systems Analysis, Data Mining, and Optimization in Biomedicine*, U of Florida, Feb 2005
 - *INFORMS Annual Meeting*, Denver, CO, Oct 2004
 - *Conference on Data Mining in Biomedicine*, University of Florida, Feb 2004
 - *International Nonlinear Sciences Conference: Research and Applications in the Life Sciences*, Vienna, Austria, Feb 2003
 - *Conference on Quantitative Neurosciences*, University of Florida, Feb 2003
- **Ad hoc Reviewer (number of reviews):**
 - *Algorithms* (1)
 - *Annals of Biomedical Engineering* (6)
 - *Annals of Operations Research* (4)
 - *Bioinformatics* (1)
 - *Biomedical Signal Processing & Control* (1)
 - *Computer-Aided Civil and Infrastructure Engineering* (2)
 - *Computational Optimization and Applications* (1)
 - *Computational Statistics and Data Analysis* (2)
 - *Computers and Industrial Engineering* (3)
 - *Computers and Operations Research* (2)
 - *Epilepsy Research* (1)
 - *European Journal of Operational Research* (5)
 - *Health* (1)
 - *IEEE Engineering in Medicine and Biology Magazine* (1)
 - *IEEE Transactions on Biomedical Engineering* (1)
 - *IEEE Transactions on Circuits and Systems I* (1)
 - *IEEE Transactions on Knowledge and Data Engineering* (1)
 - *IEEE Transactions on Information Technology in Biomedicine* (1)
 - *IEEE Transactions on Systems, Man and Cybernetics - Part A* (1)
 - *IEEE Transactions on Systems, Man and Cybernetics - Part B* (1)
 - *IEEE Transactions on Systems, Man and Cybernetics - Part C* (1)
 - *IIE Transactions* (1)
 - *INFORMS Journal on Computing* (1)
 - *International Journal of Systems Science* (1)
 - *International Journal of Reliability, Quality and Safety Engineering* (1)
 - *Journal of Combinatorial Optimization* (6)
 - *Journal of Global Optimization* (4)
 - *Journal of Multiple-Valued Logic and Soft Computing* (1)
 - *Journal of Statistical Computation and Simulation* (1)
 - *Operations Research* (1)
 - *Operations Research Letters* (1)
 - *Optimization Methods and Software* (3)
 - *Physica A* (1)
 - *Proceedings of the IEEE International Conference on Granular Computing 2006* (4)
 - *Proceedings of the IEEE International Conference on Granular Computing 2007* (4)
 - *Proceedings of the International Conference on Computational Science 2007* (6)
 - *Proceedings of the International Conference on Computational Science 2008* (5)

- *Proceedings of the IEEE International Conference on Granular Computing 2008 (4)*
- *Proceedings of the IEEE International Conference on Industrial Engineering and Engineering Management 2008 (6)*
- *Proceedings of the IEEE International Conference on Data Mining 2008 (13)*
- *Proceedings of the 31st Annual International IEEE Engineering in Medicine and Biology Society (EMBS) Conference 2009*
- *Recent Patents on Computer Science (1)*
- *TOP: The OR Journal of the Spanish Stats & OR Society (1)*

Students and Post Docs

- Ph.D. Students Advised:
 - *Zhe Liang*, Topic: “Network and Decomposition Approaches for Practical Logistics Problems”
 - ◇ Honorable Mention, NJ INFORMS Student Operations Research Contest 2009
 - *Ya-Ju Fan*, Topic: “Optimization-Based Data Mining with Biomedical Applications”
 - ◇ Kuhl Memorial Engineering Fellowship, 2006-2007
 - ◇ Transportation Coordinating Council/Federal Transit Administration (TCC/FTA) Fellowship, 2007-2008
 - *Chun-An (Joe) Chou*, Topic: “Systems Modeling and Optimization in Computational Biology”
 - ◇ Kuhl Memorial Engineering Fellowship, 2008-2009
 - ◇ Honorable Mention, NJ INFORMS Student Operations Research Contest 2009
 - *Shouyi Wang*, Topic: Optimization Modeling for Reinforcement Learning with Medical Application
 - *Andrew Rodriguez*, Topic: Stochastic Discrete Flow Models with Telecommunications Applications (Co-advised with M. Tortorella)
 - ◇ NASA GSRP Fellowship, 2007-2008
 - ◇ Rutgers Graduate School Fellowship, 2009
 - *Kompan Chomsamutr (King Mongkut University of Technology, Thailand)*, Topic: Neural Network Optimization for Product Quality Control and Prediction (Co-advised with S. Jongprasitporn)
 - *Linda Pichitdassakornkul (University of the Thai Chamber of Commerce, Thailand)*, Topic: Redesign the Global Supply Chain of Customized Product Using Integrated Stochastic-Deterministic Model (Co-advised with M. Barameechai)
- Post Doc Advised:
 - *Stathis S. Leondopulos*, Topic: “EEG Feature Extraction for Identifying Seizure Precursors.” (Co-advised with E. Micheli-Tzanakou)
- M.S. Students Advised:
 - *Harsh Singhal*, Rutgers ISE, “Keyword Weight Optimization in Text Mining”, Spring 2008, Current Position: Senior Business Analyst at Mu Sigma.
 - *Wanbin Wang*, Rutgers ISE, “Data Mining for Decision Making in Construction Industry”, Fall 2008.
- REU (Research Experiences for Undergraduates) Students Advised:
 - *Jessica McCoy*, North Carolina State University, “Optimization in Flight Scheduling”, Summer 2005
 - *Abhinav Jha*, Rutgers University, “Marine Logistics: Crude Oil Transportation”, Summer 2005
 - *Jai Dhyani*, University of Chicago, “Support Vector Machines for Abnormal Brain Activity Classification”, Summer 2006
 - *Megan Olson*, Winona State University, “Wavelet Approach for Identification of Normal and Epilepsy Patients”, Summer 2006
 - *Latoya Clay*, Clark Atlanta University, “Statistical Analysis of Abnormal Brainwaves”, Summer 2007
 - *Rebecca Pottenger*, Princeton University, “Mining EEG Data to Diagnose Epilepsy”, Summer 2008, 2009
 - *Marc Fridson*, Rutgers University, “Probabilistic Tracking of Targets in Battle Space”, Summer 2009
- Ph.D. Students (Committee Member):
 - *Hua Zhong*, Rutgers Business School, “Models and Algorithms for Supply Chain Network with Bi-Directional Flows”, Spring 2006
 - *Su Gao*, Rutgers Business School, “A Zero-Inventory Production-Distribution Problem”
 - *Seheon Hwang*, Rutgers ISE, “Generalized Software Reliability models Considering Time-Delay Removal and Selective Testing Effects”, Fall 2006
 - *Abdullah Karaman*, Rutgers ISE, “Performance Analysis of Batch Ordering Policies in Capacitated Supply Chains”, Spring 2007

- *Heidi Arlene Taboada Jimenez*, Rutgers ISE, “Practical Approaches to the Solution of Multi-objective Optimization Problems Considering Objective Preferences and Solution Clusters”, Spring 2007
- *Hang Zhang*, Rutgers ISE, “Analysis of Multivariate Process Control Baseline Data Using Data Mining”, Summer 2007
- *Cem Iyigun*, RUTCOR, “Probabilistic Distance Clustering: Theory, Algorithm and Applications”, Fall 2007
- *Meeyoung Cha*, Computer Science, Korea Advanced Institute of Science and Technology (KAIST), Korea, “Resilient Design of Network Services Exploiting Path Diversity”, Fall 2007
- *Michel J. Anzanello*, Rutgers ISE, “Selecting the Best Variables for Classification of Production Batches into Quality Levels”, Summer 2009
- *Saad Sheikh*, Computer Science, University of Illinois at Chicago, “Combinatorial Methods for Sibling Reconstruction”, Summer 2009
- *Amy Chen*, Rutgers Business School, “The Impact of Negative Base-Stock Policies in Tree-Structured Supply Chains”
- *Kian Seyed*, Rutgers ISE, “Process Modeling, Control and Economics of New Drug Development”
- M.S. Students (Committee Member):
 - *Theresa A. Brewer*, Rutgers ISE, “Approaches for Scheduling Flights for Entry into the Northern Pacific Airspace”, May 2005

Service to the University, School, and Department

- Member, Rutgers Ralph E. Powe Junior Faculty Enhancement Award Committee, 2009
- Acting Director, ISE Department’s Undergraduate Program, Jan – May 2008
- Director, ISE Department’s Microcomputer Laboratory, Sep 2007 – present
- Member, ISE Department’s Graduate Program Committee, Sep 2005 – present
- Member, ISE Department’s Seminar Organizing Committee, Jan 2005 – present
- Member, ISE Department’s Faculty Search Committee, 2008
- Faculty Advisor, ISE Department’s Website, Sep 2005 – present
- Faculty Advisor, ISE Department’s Undergraduate Class of 2009
- Editor, ISE Department’s Newsletter, Summer 2009
- Chair, ISE Department’s Student Award Committee, 2008
- Faculty Advisor, Alpha Pi Mu Honor Society, Sep 2005 – present
- Member, School of Engineering (SOE)’s Honors Committee, Sep 2006 – present
- Member, SOE’s Applied Sciences Committee, Sep 2005 – present
- Faculty Marshal, SOE Commencement, 2008, 2009
- Alternate Faculty Marshal, SOE Commencement, 2005

Memberships in Professional Societies/Organizations

ACM (Association for Computing Machinery) • SIAM (Society for Industrial and Applied Mathematics) • AES (American Epilepsy Society) • MPS (Mathematical Programming Society) • INFORMS (Institute for Operations Research and the Management Sciences) • IIE (Institute of Industrial Engineers) • IEEE (Institute of Electrical and Electronics Engineers)