Curriculum Vitae

Dr. Vladimir L. Boginski

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Professional Preparation

- **Ph.D. in Industrial and Systems Engineering**, August 2005 (GPA 4.0/4.0)
  Department of Industrial and Systems Engineering, University of Florida, Gainesville, FL
- **M.S. in Industrial and Systems Engineering**, May 2003 (GPA 4.0/4.0)
  Department of Industrial and Systems Engineering, University of Florida, Gainesville, FL
- **B.S. in Applied Mathematics**, June 2000, *Honor of Excellence Diploma*
  Moscow Institute of Physics and Technology, Moscow, Russia

Citizenship

U.S. citizen

Appointments

- Professor (with tenure), Department of Industrial Engineering and Management Systems, University of Central Florida, Orlando, FL, 2020 – present
- Associate Professor (with tenure), Department of Industrial Engineering and Management Systems, University of Central Florida, Orlando, FL, 2015 – 2020
- Courtesy Associate Professor, Department of Mechanical and Aerospace Engineering, University of Florida, Gainesville, FL, 2016 – present
- Courtesy Associate Professor, Department of Industrial and Systems Engineering, University of Florida, Gainesville, FL, 2015 – 2018
- Assistant Professor, Research and Engineering Education Facility (REEF) & Department of Industrial and Systems Engineering, University of Florida, Gainesville, FL/Shalimar, FL, 2010 – 2015
- Visiting Assistant Professor, Research and Engineering Education Facility (REEF) & Department of Industrial and Systems Engineering, University of Florida, Shalimar, FL, 2007 – 2010
- Assistant Professor, Department of Industrial Engineering, FAMU-FSU College of Engineering, Tallahassee, FL, 2005 – 2007
- Research/Teaching Assistant, Department of Industrial and Systems Engineering, University of Florida, Gainesville, FL, 2001 – 2005

Research Interests

Network Science, Data Analytics, Operations Research, Optimization, Systems Engineering

Sponsored Projects (Total: $16M+, including $6M+ while at UCF)

1. **V. Boginski** (PI), Q.P. Zheng (co-PI), A. Veremyev (co-PI), T. Mukherjee (co-PI). *Modeling and Optimization of Networked Systems in Contested Environments*, $6,523,440, Air Force Research Laboratory, 07/2016-12/2025.
2. S. Mehta (PI), **V. Boginski** (co-PI, UCF PI), Q.P. Zheng (co-PI), T. Mukherjee (co-PI). *Network Dynamics and Optimization*, $476,926, Air Force Research Laboratory, 10/2018-07/2022.

3. M.T. Thai (PI), **V. Boginski** (co-PI, UCF PI), C. McCarty (co-PI), Y. Yin (co-PI), A. Sarwat (co-PI). *Collaborative Research: RIPS Type 2: Vulnerability Assessment and Resilient Design of Interdependent Infrastructures*, $1,336,682, National Science Foundation, 12/2014 - 11/2019.
4. **V. Boginski** (PI), T. Mukherjee (co-PI), J. Shea (co-PI), T. Wong (co-PI). *Assured Communications for Cooperative Engagement*, $2,020,297, Air Force Research Laboratory, 05/2015 - 11/2018.
5. **V. Boginski** (PI) and A. Veremyev (co-PI). *AFRL/RW and UF-DOOR Partnership in Network Science*, $234,497, Air Force Research Laboratory, 08/2012 - 06/2017.
6. D. Hahn (PI), **V. Boginski** (co-PI), W. Dixon (co-PI), J. Shea (co-PI). *AFRL Mathematical Modeling and Optimization Institute*, $4,613,746 (total for two awards), Air Force Research Laboratory, 05/2013-04/2017.
7. S. Butenko (PI), B. Balasundaram (co-PI), and **V. Boginski** (co-PI). *Clique Relaxations in Biological and Social Network Analysis: Foundations and Algorithms*, $452,942, Air Force Office of Scientific Research, 07/2012 - 06/2015.
8. **V. Boginski** (PI). *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.
9. B. Balasundaram (PI), **V. Boginski** (co-PI), S. Butenko (co-PI), and S. Uryasev (co-PI). *Robust Optimization for Connectivity and Flow Patterns in Dynamic Networks*, $589,092, U.S. Department of Energy, 09/2009-09/2013.
10. **V. Boginski** (PI). *Reliability of Complex Networks under Uncertainty*, $161,489 (total for three one-year tasks), Air Force Research Laboratory, 01/2009 - 09/2012.
11. DURIP: *Equipment for DoD-funded Large-scale Data Analysis and Network Optimization Projects at the University of Florida*, $215,937 (with P.M. Pardalos and S. Uryasev), U.S. Department of Defense/AFOSR, 06/2010 - 06/2012.
12. J.R. Eyler (PI), B. Bendiak (co-PI), and **V. Boginski** (co-PI). *Differentiating Oligosaccharide Isomers via Infrared Spectra of Gaseous Ions*, $440,000, National Science Foundation, 09/2007 - 08/2011.
13. S. Butenko (PI), **V. Boginski** (co-PI/ UF PI), and O. Prokopyev (co-PI/ UPitt PI). *Optimization Techniques for Clustering, Connectivity, and Flow Problems in Complex Networks*, $349,952, Air Force Office of Scientific Research, 08/2008 - 08/2011.
14. **V. Boginski** (PI) and S. Uryasev (co-PI). *Dynamic Sensor Networks under Risk and Robustness Considerations*, $65,743, Air Force Research Laboratory, 05/2009 - 05/2010.
15. P.M. Pardalos (PI), **V. Boginski** (co-PI), and S. Uryasev (co-PI). *Modeling and Optimization of Network Response to WMD Attacks Under Uncertainty*, $219,016, U.S. Department of Defense/DTRA, 01/2009-05/2010.
16. **V. Boginski** (PI). *Asymptotic Behavior of Random Graph Models*, $15,975, Air Force Research Laboratory, 04/2009 - 01/2010.
17. J.R. Rogacki (PI), **V. Boginski** (co-PI), and S.A. Heise (co-PI). *Development of New Capabilities in Training Skilled Workforce in the Area of Systems Engineering in Northwest Florida*, $75,532, Florida's Great Northwest (federally funded by U.S. Department of Labor), 02/2009-12/2009.
18. **V. Boginski** (PI), J.R. Rogacki (co-PI), and S. Uryasev (co-PI). *Design of Sensor Networks*, $51,317, Air Force Research Laboratory, 05/2008 - 07/2009.
19. **V. Boginski** (PI). *Studying the Impact of Social Factors on Stock Market Behavior Using Data Mining Techniques*, $15,000, FSU Council on Research and Creativity, 05/2006–08/2006.

Honors and Awards

1. UCF Research Incentive Award (RIA), 2020 (university-wide award that supports outstanding research, scholarly, and creative activity that advances the body of knowledge in a particular field, including interdisciplinary research and collaborations)
2. Japan-America Frontiers of Engineering (JAFOE), 2018 (competitive selection by U.S. National Academy of Engineering - 60 of the most promising early career engineers from the U.S. and Japan)
3. Research Mentoring Program Award, Office of Research and Commercialization, UCF, 2018
4. Title of Docent in Complex Networks, University of Jyväskylä, Finland, 2016
5. Young Investigator Program (YIP) Award, Defense Threat Reduction Agency (DTRA), 2009-2013

Publications (h-index = 22, $i10$-index = 40, according to Google Scholar)

◇ **Refereed Journal Articles**[1]

1. C.-L. Chen, E.L. Pasiliao, and V. Boginski. A polyhedral approach to least cost influence maximization in social networks. *Journal of Combinatorial Optimization* (IF=1.254), 45: 44, 2023.
2. V. Stozhkov, A. Buchanan, S. Butenko, and V. Boginski. Continuous cubic formulations for cluster detection problems in networks. *Mathematical Programming* (IF=4.517), 196: 279–307, 2022.
3. O. Shirokikh, G. Pastukhov, A. Semenov, S. Butenko, A. Veremyev, E.L. Pasiliao, and V. Boginski. Networks of causal relationships in the U.S. stock market. *Dependence Modeling*, 10(1): 177–190, 2022.
4. A. Veremyev, V. Boginski, E.L. Pasiliao, and O.A. Prokopyev. On integer programming models for the maximum 2-club problem and its robust generalizations in sparse graphs. *European Journal of Operational Research* (IF=6.363), 297: 86–101, 2022.
5. C.-L. Chen, Q.P. Zheng, A. Veremyev, E.L. Pasiliao, and V. Boginski. Failure mitigation and restoration in interdependent networks via mixed-integer optimization. *IEEE Transactions on Network Science and Engineering* (IF=5.033), 8: 1293–1304, 2021.
6. A. Veremyev, L. Liyanage, M. Fornari, V. Boginski, S. Curtarolo, S. Butenko, and M. Buongiorno Nardelli. Networks of materials: Construction and structural analysis. *AIChE Journal* (IF=3.993), 67(3): e17051, 2021.
7. M. Chen, Q.P. Zheng, V. Boginski, and E.L. Pasiliao. Influence maximization in social media networks concerning dynamic user behaviors via reinforcement learning. *Computational Social Networks*, 8:9, 2021.
8. G. Yun, Q.P. Zheng, V. Boginski, and E.L. Pasiliao. Influence network design via multi-level optimization considering boundedly rational user behaviors in social media networks. *Computational Social Networks*, 8:7, 2021.
9. J. Kim, A. Veremyev, V. Boginski, and O.A. Prokopyev. On the maximum small-world subgraph problem. *European Journal of Operational Research* (IF=6.363), 280(3): 818–831, 2020.
10. A. Semenov, A. Veremyev, A. Nikolaev, E.L. Pasiliao, and V. Boginski. Network-based indices of individual and collective advising impacts in mathematics. *Computational Social Networks*, 7:1, 2020.
11. A. Veremyev, A. Semenov, E.L. Pasiliao, and V. Boginski. Graph-based exploration and clustering analysis of semantic spaces. *Applied Network Science* (special issue on Machine Learning with Graphs), 4(1): 104, 2019.
12. S. Sarker, A. Veremyev, V. Boginski, and A. Singh. Critical nodes in river networks. *Scientific Reports* (IF=5.516), 9: 11178, 2019.

[1]The most recent impact factor (IF) is indicated for each journal (where available).

13. A. Semenov, A.V. Mantzaris, A. Nikolaev, A. Veremyev, J. Veijalainen, E.L. Pasiliao, and V. Boginski. Exploring social media network landscape of post-Soviet space. *IEEE Access* (IF=3.476), 7: 411–426, 2019.
14. Z. Huang, Q.P. Zheng, E.L. Pasiliao, V. Boginski, T. Zhang. A cutting plane method for risk-constrained traveling salesman problem with random arc costs. *Journal of Global Optimization* (IF=2.338), 74: 839–859, 2019.
15. A. Veremyev, K. Pavlikov, E.L. Pasiliao, M.T. Thai, and V. Boginski. Critical nodes in interdependent networks with deterministic and probabilistic cascading failures. *Journal of Global Optimization* (IF=2.338), 74: 803–838, 2019.
16. G. Pastukhov, A. Veremyev, V. Boginski, and O.A. Prokopyev. On maximum degree-based γ-quasi-clique problem: complexity and exact approaches. *Networks* (IF=1.871), 71: 136–152, 2018 **(in Top 20 most downloaded articles in *Networks* journal for January 2017–December 2018)**.
17. W. Geremew, N.M. Nam, A. Semenov, V. Boginski, and E.L. Pasiliao. A DC programming approach for solving multicast network design problems via the Nesterov smoothing technique. *Journal of Global Optimization* (IF=2.338), 72: 705–729, 2018.
18. O. Yezerska, S. Butenko, and V. Boginski. Detecting robust cliques in graphs subject to uncertain edge failures. *Annals of Operations Research* (IF=4.820), 262(1): 109–132, 2018.
19. 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* (IF=1.431), 32: 336–338, 2017.
20. V. Stozhkov, V. Boginski, O.A. Prokopyev, and E.L. Pasiliao. A simple greedy heuristic for linear assignment interdiction. *Annals of Operations Research* (IF=4.820), 249(1-2): 39–53, 2017.
21. 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* (IF=3.288), 28(2): 295–307, 2016.
22. A. Veremyev, V. Boginski, and E.L. Pasiliao. Potential energy principles in networked systems and their connections to optimization problems on graphs. *Optimization Letters* (IF=1.888), 9: 585–600, 2015.
23. 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* (IF=2.338), 61: 109–138, 2015.
24. F. Mahdavi Pajouh, J. Walteros, V. Boginski, and E.L. Pasiliao. Minimum edge blocker dominating set problem. *European Journal of Operational Research* (IF=6.363), 247: 16–26, 2015.
25. A. Veremyev, O.A. Prokopyev, V. Boginski, and E.L. Pasiliao. Finding maximum subgraphs with relatively large vertex connectivity. *European Journal of Operational Research* (IF=6.363), 239: 349–362, 2014.
26. F. Mahdavi Pajouh, V. Boginski, and E.L. Pasiliao. Minimum vertex blocker clique problem. *Networks* (IF=1.871), 64: 48–64, 2014.
27. 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* (IF=6.363), 232: 499–511, 2014.
28. A. Buchanan, J.S. Sung, V. Boginski, and S. Butenko. On connected dominating sets of restricted diameter. *European Journal of Operational Research* (IF=8=6.363), 236: 410–418, 2014.
29. A. Veremyev, V. Boginski, and E.L. Pasiliao. Exact identification of critical nodes in sparse networks via new compact formulations. *Optimization Letters* (IF=1.888), 8:1245–1259, 2014.
30. 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* (IF=4.820), 216: 23–34, 2014.

31. 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* (IF=1.254), 27: 462–486, 2014.
32. A. Kammerdiner, A. Sprintson, E.L. Pasiliao, and V. Boginski. Optimization of discrete broadcast under uncertainty using conditional value-at-risk. *Optimization Letters* (IF=1.888), 8: 45–59, 2014.
33. 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.
34. J. Pattillo, A. Veremyev, S. Butenko, and V. Boginski. On the maximum quasi-clique problem. *Discrete Applied Mathematics* (IF=1.254), 161: 244–257, 2013.
35. 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.
36. M. Carvalho, A. Sorokin, V. Boginski, and B. Balasundaram. Topology design for on-demand dual-path routing in wireless networks. *Optimization Letters* (IF=1.888), 7: 695–707, 2013.
37. 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* (IF=1.254), 25: 99–122, 2013.
38. A. Veremyev, V. Boginski, P.A. Krokhmal, and D.E. Jeffcoat. Dense percolation in large-scale mean-field random networks is provably "explosive". *PLOS ONE* (IF=3.752), 7(12): e51883, 2012.
39. A. Veremyev and V. Boginski. Identifying large robust network clusters via new compact formulations of maximum k-club problems. *European Journal of Operational Research* (IF=6.363), 218: 316–326, 2012.
40. S. Stefan, M. Ehsan, W. Pearson, A. Aksenov, V. Boginski, B. Bendiak, and J. Eyler. Differentiation of closely related isomers: Application of data mining techniques in conjunction with variable wavelength infrared multiple photon dissociation mass spectrometry for identification of glucose-containing disaccharide ions. *Analytical Chemistry* (IF=8.008), 83(22): 8468–8476, 2011.
41. K. Kalinchenko, A. Veremyev, V. Boginski, D.E. Jeffcoat, and S. Uryasev. Robust connectivity issues in dynamic sensor networks for area surveillance under uncertainty. *Pacific Journal of Optimization*, 7(2): 235–248, 2011.
42. N. Boyko, T. Turko, V. Boginski, D.E. Jeffcoat, S. Uryasev, G. Zrazhevsky, and P.M. Pardalos. Robust multi-sensor scheduling for multi-site surveillance. *Journal of Combinatorial Optimization* (IF=1.254), 22(1): 35–51, 2011.
43. V. Boginski, C.W. Commander, and T. Turko. Polynomial-time identification of robust network flows under uncertain arc failures. *Optimization Letters* (IF=1.888), 3(3):461–473, 2009.
44. A. Sorokin, N. Boyko, V. Boginski, S. Uryasev, and P.M. Pardalos. Mathematical programming techniques for sensor networks, *Algorithms*, 2: 565–581, 2009.
45. A. Arulselvan, G. Baourakis, V. Boginski, E. Korchina, and P.M. Pardalos. Analysis of food industry market using network approaches. *British Food Journal*, 110(9): 916–928, 2008.
46. V. Boginski, S. Butenko, and P.M. Pardalos. Mining market data: A network approach. *Computers and Operations Research* (IF=5.159), 33: 3171–3184, 2006.
47. A. Arulselvan, V. Boginski, A. Kammerdiner, and P.M. Pardalos. Analysis of stock market structure by identifying connected components in the market graph. *Journal of Financial Decision Making*, 1(1): 27–37, 2005.
48. V. Boginski, S. Butenko, and P.M. Pardalos. Statistical analysis of financial networks. *Computational Statistics and Data Analysis* (IF=1.681), 48(2): 431–443, 2005.

49. V. Boginski, S. Butenko, and P.M. Pardalos. Network models of massive datasets. *Computer Science and Information Systems* (IF=1.167), 1: 75–89, 2004.

◇ **Refereed Book Chapters**

50. J. Kim, V. Stozhkov, and V. Boginski. Small-world networks. In *Handbook of Discrete and Combinatorial Mathematics, 2nd edition*, K. H. Rosen, D. R. Shier, W. D. Goddard (eds.), pp. 807–825, CRC Press, 2017.
51. F. Mahdavi Pajouh, A. Veremyev, and V. Boginski. Analysis and design of robust network clusters with bounded diameter. In *Examining Robustness and Vulnerability of Critical Infrastructure Networks*, S. Butenko et al. (eds.), pp. 141–160, IOS Press, 2014.
52. O. Shirokikh, V. Stozhkov, and V. Boginski. Combinatorial optimization techniques for network-based data mining. In *Handbook of Combinatorial Optimization, 2nd edition*, P.M. Pardalos et al. (eds.), pp 631–672, Springer, 2013.
53. D. Jallo, D. Budai, V. Boginski, B. Goldengorin, and P.M. Pardalos. Network-based representation of stock market dynamics: An application to American and Swedish stock markets. In *Models, Algorithms, and Technologies for Network Analysis*, B. Goldengorin et al. (eds.), pp. 93–106, Springer, 2013.
54. A. Veremyev and V. Boginski. Robustness and strong attack tolerance of low-diameter networks. In *Dynamics of Information Systems: Mathematical Foundations*, A. Sorokin et al. (eds.), pp. 137–156, Springer, 2012.
55. V. Boginski. Network-based data mining: operations research techniques and applications. In *Wiley Encyclopedia of Operations Research and Management Science*, J. Cochran et al. (eds.), pp. 3498–3508, John Wiley and Sons, 2011.
56. V. Boginski and C.W. Commander. Identifying critical nodes in protein-protein interaction networks. In *Clustering Challenges in Biological Networks*, S. Butenko et al. (eds.), pp. 153–167, World Scientific, 2009.
57. 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 *Data Mining in Biomedicine*, P.M. Pardalos et al. (eds.), pp. 559–573, Springer, 2007.
58. W. Chaovalitwongse, L.D. Iasemidis, P.R. Carney, J.C. Sackellares, D.-S. Shiau, L.K. Dance, O. A. Prokopyev, V. Boginski, and P.M. Pardalos. Data mining in EEG: Application to epileptic brain disorders. In *Data Mining in Biomedicine*, P.M. Pardalos, et al. (eds.), pp. 459–481, Springer, 2007.
59. V. Boginski, P.M. Pardalos, and A. Vazacopoulos. Network-based models and algorithms in data mining and knowledge discovery, In *Handbook of Combinatorial Optimization*, D.-Z. Du and P.M. Pardalos (eds.), Supplementary Volume B, pp. 217–258, 2005.
60. P.M. Pardalos, V. Boginski, O. Prokopyev, W. Suharitdamrong, P.R. Carney, W. Chaowalitwongse, and A. Vazacopoulos. Optimization in medicine. In *Essays and Surveys on Global Optimization*, C. Audet and P. Hansen (eds.), pp. 211–232, 2005.
61. V. Boginski, S. Butenko, and P.M. Pardalos. Network-based techniques in the analysis of the stock market. In *Supply Chain and Finance*, P. M. Pardalos, et al. (eds.), World Scientific, pp. 1–14, 2004.
62. V. Boginski, S. Butenko, and P. M. Pardalos. Matrix-based methods for college football rankings. In *Economics, Management and Optimization in Sports*, S. Butenko et al. (eds.), Springer, pp. 1-14, 2004.
63. V. Boginski, S. Butenko, P. M. Pardalos, and O. Prokopyev. Collaboration networks in sports. In *Economics, Management and Optimization in Sports*, S. Butenko et al. (eds.), Springer, pp. 265-277, 2004.

64. V. Boginski, S. Butenko, and P. M. Pardalos. On structural properties of the market graph. In *Innovations in Financial and Economic Networks*, A. Nagurney (ed.), Edward Elgar Publishers, pp. 28-45, 2003.
65. V. Boginski, S. Butenko, and P. M. Pardalos. Modeling and optimization in massive graphs. In *Novel Approaches to Hard Discrete Optimization*, P.M. Pardalos and H. Wolkowitz (eds.), AMS, pp. 17-39, 2003.

◇ **Conference Papers and Abstracts**

66. O. Shirokikh, G. Pastukhov, A. Semenov, S. Butenko, A. Veremyev, E.L. Pasiliao, and V. Boginski. Networks of Causal Relationships in Financial Markets. In: H. Cherifi et al. (eds.), The 11th International Conference on Complex Networks and their Applications - Book of Abstracts, ISBN: 978-2-9557050-6-3, pp. 267–269, 2023.
67. A. Semenov, A. Veremyev, E.L. Pasiliao, and V. Boginski. Double-Threshold Models for Network Influence Propagation. In: H. Cherifi et al. (eds.), The 11th International Conference on Complex Networks and their Applications - Book of Abstracts, ISBN: 978-2-9557050-6-3, pp. 300–302, 2023.
68. A. Veremyev, L. Liyanage, M. Fornari, V. Boginski, S. Curtarolo, S. Butenko, M. Buongiorno Nardelli. Network-based representation and analysis of materials space. Bulletin of the American Physical Society, 2021.
69. A. Semenov, A. Veremyev, E.L. Pasiliao, and V. Boginski. Double-Threshold Models for Network Influence Propagation. In: Chellappan, Sriram, Choo, Kim-Kwang Raymond, Phan, NhatHai (Eds.) Computational Data and Social Networks. CSoNet 2020. Lecture Notes in Computer Science, pp. 512–523, Springer, 2020.
70. C.-L. Chen, E.L. Pasiliao, and V. Boginski. A Cutting Plane Method for Least Cost Influence Maximization. In: Chellappan, Sriram, Choo, Kim-Kwang Raymond, Phan, NhatHai (Eds.) Computational Data and Social Networks. CSoNet 2020. Lecture Notes in Computer Science, pp. 499–511, Springer, 2020.
71. H. Heinonen, A. Semenov, and V. Boginski. Collective behavior of price changes of ERC-20 tokens. In: Chellappan, Sriram, Choo, Kim-Kwang Raymond, Phan, NhatHai (Eds.) Computational Data and Social Networks. CSoNet 2020. Lecture Notes in Computer Science, pp. 487–498, Springer, 2020.
72. G. Yun, Q.P. Zheng, V. Boginski, and E.L. Pasiliao. Information Network Cascading and Network Re-construction with Bounded Rational User Behaviors. In: A. Tagarelli, H. Tong (eds) Computational Data and Social Networks. CSoNet 2019. Lecture Notes in Computer Science, vol 11917, pp. 351–362, Springer, 2019.
73. M. Chen, Q.P. Zheng, V. Boginski, and E.L. Pasiliao. Reinforcement Learning in Information Cascades Based on Dynamic User Behavior. In: A. Tagarelli, H. Tong (eds) Computational Data and Social Networks. CSoNet 2019. Lecture Notes in Computer Science, vol 11917, pp. 148–154, Springer, 2019.
74. A. Semenov, V. Boginski, and E.L. Pasiliao. Neural Networks with Multidimensional Cross-Entropy Loss Functions. In: A. Tagarelli, H. Tong (eds) Computational Data and Social Networks. CSoNet 2019. Lecture Notes in Computer Science, vol 11917, pp. 57–62, Springer, 2019.
75. S. Sarker, A. Veremyev, V. Boginski, and A. Singh, Spectral Properties of River Networks, in AGU Fall Meeting Abstracts, vol. 2019, pp. EP51C-2107, Dec 2019.
76. A. Semenov, A. Veremyev, A. Nikolaev, E.L. Pasiliao, and V. Boginski. Ranking Academic Advisors: Analyzing Scientific Advising Impact Using MathGenealogy Social Network. In: Chen X., Sen A., Li W., Thai M. (eds) Computational Data and Social Networks. CSoNet 2018. Lecture Notes in Computer Science, vol 11280, pp. 437-449, Springer, 2018.

77. O. Shirokikh, G. Pastukhov, A. Semenov, S. Butenko, A. Veremyev, E.L. Pasiliao, and V. Boginski. The Network of Causal Relationships in the U.S. Stock Market. In: Chen X., Sen A., Li W., Thai M. (eds) Computational Data and Social Networks. CSoNet 2018. Lecture Notes in Computer Science, vol 11280, pp. 541-542, Springer, 2018.
78. S. Sarker, A. Veremyev, V. Boginski, and A. Singh, On critical nodes in river networks, in AGU Fall Meeting Abstracts, vol. 2018, pp. EP33D–2446, Dec 2018.
79. G.K. Befekadu, A. Veremyev, V. Boginski, and E.L. Pasiliao. Stochastic decision problems with multiple risk-averse agents. In: Takac M., Terlaky T. (eds) Modeling and Optimization: Theory and Applications. MOPTA 2016. Springer Proceedings in Mathematics & Statistics, vol 213, Springer, 2016.
80. A. Semenov, A. Nikolaev, A. Veremyev, V. Boginski, and E.L. Pasiliao. Analysis of viral advertisement re-posting activity in social media. *Proceedings of the 5th International Conference on Computational Social Networks*, pp. 123–134, Ho Chi Minh City, Vietnam, August 2016.
81. L.V. Kulemina, G. Pastukhov, A. Veremyev, and V. Boginski. Using clique relaxations to identify highly connected clusters in molecular networks in cancer. *Proceedings of the 2013 AACR-NCI-EORTC International Conference on Molecular Targets and Cancer Therapeutics*, 2013 Nov 12-16; Boston AACR; *Molecular Cancer Therapeutics*, 10(13 Suppl), 2013.
82. A. Arulselvan, P. Mendoza, V. Boginski, and P.M. Pardalos. Predicting the nexus between post-secondary education affordability and student success: An application of network-based approaches. *Proceedings of International Conference on Advances in Social Network Analysis and Mining*, *IEEE Computer Society*, pp. 149-154, July 2009.
83. P. Xanthopoulos, A. Arulselvan, V. Boginski, and P.M. Pardalos. A retrospective review of social networks. *Proceedings of International Conference on Advances in Social Network Analysis and Mining*, *IEEE Computer Society*, pp. 300-305, July 2009.
84. V. Boginski, I. Mun, Y. Wu, K. Mason, and C. Zhang. Simulation and analysis of hospital operations and resource utilization using RFID data. *Proceedings of IEEE International Conference on RFID*, pp. 199-204, Grapevine, TX, March 2007.
85. S. Butenko, P. Pardalos, and V. Boginski. Analytic approaches to college football rankings. *Research Quarterly for Exercise and Sport*, Supplement: Suppl. S, Volume: 76, Issue: 1, pp. A13-A13, 2005.

◇ **Edited Volumes and Special Issues**

1. *Special Issue on Optimization in Military Applications, Optimization Letters*, V. Boginski, E.L. Pasiliao, and S. Shen (eds.), Springer, December 2015.
2. *Sensors: Theory, Algorithms, and Applications*, V. Boginski, C.W. Commander, P.M. Pardalos, and Y. Ye (eds.) Springer, ISBN: 0-387-88618-4, November 2011.
3. *Data Mining in Biomedicine*, P.M. Pardalos, V. Boginski and A. Vazacopoulos (eds.) Springer, ISBN-10: 0-387-69318-1, February 2007 (also published in paperback in 2010).

Invited Presentations and Short Courses

1. *Graph-based Exploration and Clustering Analysis of Semantic Spaces*, Invited presentation at 11th International Conference on Network Analysis, Higher School of Economics (National Research University), October 2021, Nizhny Novgorod, Russia (presented virtually due to COVID-19).
2. *Mathematical Modeling and Optimization of Interdependent Network Resilience Characteristics*, Invited seminar presentation, Department of Civil & Environmental Engineering, Rice University, October 2020, Houston, TX (presented virtually due to COVID-19).

3. *Network Science and Engineering: Mathematical Modeling and Optimization Aspects*, Invited seminar presentation, Department of Industrial Engineering, University of Houston, February 2019, Houston, TX.
4. *Robustness and Vulnerability of Interdependent Infrastructure Networks: Mathematical Modeling and Optimization Aspects*, Plenary presentation at the 8th International Conference on Network Analysis, May 2018, Moscow, Russia.
5. *Identifying Critical Nodes in Interdependent Networks with Cascading Failures*, Invited seminar presentation, Department of Industrial Engineering, University at Buffalo, February 2018, Buffalo, NY.
6. *Optimization Approaches to Analyzing Robustness of Complex Networks*, short course at University of Jyväskylä Summer School, August 2017, Jyväskylä, Finland (co-taught with A. Veremyev).
7. *Identifying Critical Nodes in Interdependent Networks with Cascading Failures*, Invited seminar presentation, Department of Industrial Engineering, University of Pittsburgh, March 2017, Pittsburgh, PA.
8. *Analyzing Cohesive Clusters in Complex Networks*, Plenary presentation at the 4th International Conference on Network Analysis, May 2014, Nizhny Novgorod, Russia.
9. *Modeling and Optimization Techniques for Ensuring Robustness in Complex Networked Systems*, Distinguished Seminar Series, Department of Industrial Engineering and Management Systems, University of Central Florida, January 2014, Orlando, FL.
10. *The Maximum Quasi-clique Problem*, 4th International Conference on the Dynamics of Information Systems, February 2012, Gainesville, FL.
11. *Network Models for Clustering and Portfolio Selection in Financial Markets*, 61st Annual IIE Conference and Expo, May 2011, Reno, NV.
12. *Robustness and Vulnerability of Connected Clusters in Complex Networks*, INFORMS Northeast Regional Conference, May 2011, Amherst, MA.
13. *Finding Quasi-Cliques in Networks*, INFORMS Northeast Regional Conference, May 2011, Amherst, MA.
14. *Analysis and Design of Low-Diameter Attack-Tolerant Clusters in Complex Networks*, 3rd International Conference on the Dynamics of Information Systems, February 2011, Gainesville, FL.
15. *Computational Risk Management Techniques for Fixed Charge Network Flow Problems with Uncertain Arc Disruptions*, INFORMS Annual Meeting, November 2010, Austin, TX.
16. *Robust Performance of Networked Systems in Adverse and Uncertain Environments*, Invited speaker for the research seminar at School of Computing, Informatics, and Decision Systems Engineering, Arizona State University, March 2010, Tempe, AZ.
17. *Asymptotic Behavior and Phase Transitions for Clique Relaxations in Random Graphs*, 2nd International Conference on the Dynamics of Information Systems, February 2010, Destin, FL.
18. *Connectivity and Flow Problems on Networks under Uncertainty and Robustness Considerations*, 20th International Symposium on Mathematical Programming, August 2009, Chicago, IL.
19. *Identifying Critical Nodes in Protein-Protein Interaction Networks*, INFORMS Annual Meeting, October 2008, Washington, DC.
20. *Optimization and Data Mining Issues in Robust Performance of Networked Systems in Uncertain Environments*, Invited speaker for the lecture series at Florida Institute for Human and Machine Cognition (IHMC), October 2008, Pensacola, FL.
21. *Solving Network Flow Problems Under Uncertainty*, Conference "Sensors 2008: Theory, Algorithms and Applications", April 2008, Shalimar, FL.

22. *Distinguishing Disaccharides Using Dissociation Spectra via Predictive Modeling Techniques*, Conference on Data Mining, Systems Analysis, and Optimization in Biomedicine, March 2007, Gainesville, FL.
23. *Simulation and Analysis of Hospital Operations and Resource Utilization Using RFID Data*, IEEE International Conference on RFID, March 2007, Grapevine, TX.
24. *Network-Based Approaches for Mining Financial Data*, International Conference on Financial Engineering, March 2006, Gainesville, FL.
25. *Clustering Stocks Using Network Models*, INFORMS Annual Meeting, November 2005, San Francisco, CA.
26. *Analysis of Stock Market Data Using Network-Based Approaches*, INFORMS Annual Meeting, October 2004, Denver, CO.
27. *Network-based Techniques in EEG Data Analysis and Epileptic Brain Modeling*, INFORMS Annual Meeting, October 2004, Denver, CO.
28. *Network-based Approaches to the Analysis of Financial Data*, SIAM Student Workshop (sponsored by NSF), March 2004, Gainesville, FL.
29. *On Structural Properties of the Market Graph*, INFORMS Annual Meeting, October 2003, Atlanta, GA.
30. *Optimization in Data Mining*, Dash Optimization, Inc. Users Meeting, October 2003, San Francisco, CA.
31. *Collaboration Networks in Sports*, Congreso Mundial de Optimizacion Social y Gestion Economica del Deporte, May 2003, Barcelona, Spain.

Professional Service Activities

- ◇ Associate Editor, *Optimization Letters*, 2006–present.
- ◇ Associate Editor, *Journal of Combinatorial Optimization*, 2019–present.
- ◇ Member of Council, INFORMS Telecommunications and Network Analytics Section, 2016–2020.
- ◇ Vice-chair for Networks, INFORMS Optimization Society, 2013–2015.
- ◇ Reviewer for *Annals of Operations Research, Applied Network Science, Computational Management Science, Computational Optimization and Applications, Computational Social Networks, Computers & Industrial Engineering, Discrete Applied Mathematics, Energy Systems, European Journal of Operational Research, IEEE Access, IIE Transactions, INFORMS Journal on Computing, Journal of Combinatorial Optimization, Journal of Global Optimization, Journal of Heuristics, Hydrological Processes, Mathematical Programming Computation, Networks, Omega, Optimization Letters, Optimization Methods and Software, Physica A: Statistical Mechanics and its Applications, Quantitative Finance, Transactions on Information Technology in BioMedicine.*
- ◇ Panelist, NSF (2008, 2009, 2010, 2012, 2013), DOE (2009, 2011), ASEE (2011).
- ◇ Scientific Committee member, Workshop: Panoptic View on Global Optimization (PanOptiC 2023), March 2023, Gainesville, FL.
- ◇ Program Committee member, ACM International Workshop on Critical Infrastructure Network Security (CINS), June 2017, Urbana-Champaign, IL.
- ◇ Cluster Chair: *Optimization/Network Optimization*, INFORMS Annual Meeting, November 2015, Philadelphia, PA.
- ◇ Program Committee member, IEEE INFOCOM Workshop on Inter-Dependent Networks (WIDN), April 2015, Hong Kong.

- ◇ Cluster Chair: *Optimization/Network Optimization*, INFORMS Annual Meeting, November 2014, San Francisco, CA.
- ◇ Organizer/Chair of invited session "Clique Relaxation Models in Networks", INFORMS Annual Meeting, October 2013, Minneapolis, MN.
- ◇ Organizer/Chair of invited session "Modeling and Optimization Techniques for Network Robustness", INFORMS Annual Meeting, October 2012, Phoenix, AZ.
- ◇ Organizer/Chair of invited session "Optimization Models for Network Robustness", INFORMS Annual Meeting, November 2011, Charlotte, NC.
- ◇ Program Committee member, 10th International Symposium on Experimental Algorithms (SEA 2011), May 5-7, 2011, Chania, Greece.
- ◇ Program Committee member, 4th Annual International Conference on Combinatorial Optimization and Applications (COCOA'10), December 18-20, 2010, The Big Island, Hawaii.
- ◇ Co-Organizer, 2nd International Conference on the Dynamics of Information Systems, February 3-5, 2010, Destin, FL.
- ◇ International Program Committee member, 6th International Conference on Computational Management Science, May 1-3, 2009, Geneva, Switzerland.
- ◇ Co-Organizer, Conference on Engineering Risk Control and Optimization, February 22–23, 2009, Gainesville, FL.
- ◇ Co-Organizer, Conference "Sensors 2008: Theory, Algorithms, and Applications ", April 24–26, 2008, Shalimar, FL.
- ◇ Advisory Committee member, Conference on Systems Analysis, Data Mining and Optimization in Biomedicine, March 28–30, 2007, Gainesville, FL.
- ◇ Organizing Committee member, International Conference on Applied Optimization and Metaheuristic Innovations, July 19-21, 2006, Yalta, Ukraine.
- ◇ Advisory Board member, International Conference on Computational Management Science, May 17-19, 2006, Amsterdam, the Netherlands.
- ◇ Advisory Board member, International Conference on Computational Management Science, March 31–April 3, 2005, Gainesville, FL.
- ◇ Organizing Committee member, Conference on Systems Analysis, Data Mining and Optimization in Biomedicine, February 2–4, 2005, Gainesville, FL.
- ◇ Organizer/Chair of invited session "Data Mining in Biomedicine", INFORMS Annual Meeting, October 2004, Denver, CO.
- ◇ Organizing Committee member, Conference on Data Mining in Biomedicine, February 16–18, 2004, Gainesville, FL.

PhD Student Committees

– **PhD Committee Chair/Co-Chair**

- ◇ Cheng-Lung "Leo" Chen, PhD, IEMS, UCF (Chair, graduated in 2022): currently with American Airlines, Dallas, TX
- ◇ Mengnan Chen, PhD, IEMS, UCF (Co-Chair, graduated in 2019): currently with Expedia, Seattle, WA
- ◇ Guanxiang Yun, PhD, IEMS, UCF (Co-Chair, graduated in 2019): currently with Disney, Orlando, FL

- ◇ Vladimir Stozhkov, PhD, ISE, UF (Chair, graduated in 2015): currently with FedEx, Memphis, TN; previously a postdoctoral researcher at University of Florida Research and Engineering Education Facility (UF-REEF), Shalimar, FL
- ◇ Grigory Pastukhov, PhD, ISE, UF (Chair, graduated in 2014): currently with Wayfair, Boston, MA; previously with CSX Transportation, Jacksonville, FL
- ◇ Oleg Shirokikh, PhD, ISE, UF (Chair, graduated in 2013): currently with Frontline Solver, Inc., Reno, NV
- ◇ Alexey Sorokin, PhD, ISE, UF (Co-Chair, graduated in 2012): currently with Uber, San Francisco, CA; previously with Optym, Inc., Gainesville, FL
- ◇ Alexander Veremyev, PhD, ISE (Co-Chair, graduated in 2011): currently Research Assistant Professor at University of Central Florida, previously Research Assistant Scientist at University of Florida Research and Engineering Education Facility (UF-REEF), NRC Research Associate at Air Force Research Laboratory, Eglin AFB, FL

– **PhD Committee Member**

- ◇ Marwen Elkamel, PhD, IEMS, UCF (in progress)
- ◇ Chathurani Senevirathna, PhD, IEMS, UCF (graduated in 2022)
- ◇ Nisha Baral, PhD, IEMS, UCF (graduated in 2022)
- ◇ Zhecheng Qiang, PhD, IEMS, UCF (graduated in 2022)
- ◇ Marie Alaghband, PhD, IEMS, UCF (graduated in 2021)
- ◇ Milad Talebzadehhosseini, PhD, IEMS, UCF (graduated in 2021)
- ◇ Alaleh Razmjoo, PhD, IEMS, UCF (graduated in 2018)
- ◇ Jiaxing Pi, PhD, ISE, UF (graduated in 2016)
- ◇ Ximing Wang, PhD, ISE, UF (graduated in 2015)
- ◇ Konstantin Pavlikov, PhD, ISE, UF (graduated in 2014)
- ◇ Chrysafis Vogiatzis, PhD, ISE, UF (graduated in 2014)
- ◇ Jose Walteros, PhD, ISE, UF (graduated in 2014)
- ◇ Peter Tsyurmasto, PhD, ISE, UF (graduated in 2013)
- ◇ Vijay Pappu, PhD, ISE, UF (graduated in 2013)
- ◇ Dmytro Korenkevych, PhD, ISE, UF (graduated in 2013)
- ◇ Hongsheng Xu, PhD, ISE, UF (graduated in 2012)
- ◇ Konstantin Kalinchenko, PhD, ISE, UF (graduated in 2012)
- ◇ Nikita Boyko, PhD, ISE, UF (graduated in 2010)
- ◇ Qipeng "Phil" Zheng, PhD, ISE, UF (graduated in 2010)
- ◇ Alla Kammerdiner, PhD, ISE, UF (graduated in 2008)

– **PhD Committee External Member**

- ◇ Juthika Roy, PhD, CECE, UCF (in progress)
- ◇ Shiblu Sarker, PhD, CECE, UCF (graduated in 2021)
- ◇ Sevil Ranjbar, PhD, CECE, UCF (graduated in 2020)
- ◇ Geremy Kleiser, PhD, MAE, UF (graduated in 2015)
- ◇ Philip Flater, PhD, MAE, UF (graduated in 2015)
- ◇ Nitin Chandola, PhD, MAE, UF (graduated in 2014)
- ◇ Ryan Carter, PhD, MAE, UF (graduated in 2012)
- ◇ Bradley Martin, PhD, MAE, UF (graduated in 2011)
- ◇ Joel Stewart, PhD, MAE, UF (graduated in 2009)
- ◇ Michael Nixon, PhD, MAE, UF (graduated in 2008)

– **PhD Dissertation External Reviewer**

  ◇ Glory Alozie, University of Strathclyde, UK (dissertation defended August 2021)

  ◇ Peter Miasnikof, University of Toronto, Canada (dissertation defended September 2019)

Courses Taught

◇ ESI 5219 Engineering Statistics (UCF, Fall 2015, Fall 2016, Fall 2017, Fall 2018, Fall 2019, Spring 2019, Fall 2019, Spring 2020, Fall 2020, Spring 2021, Fall 2021, Spring 2022, Fall 2022, Spring 2023)

◇ ESI 6247 Experimental Design Methods (UCF, Spring 2016)

◇ ESI 6314 Deterministic Methods in Operations Research (UF, Fall 2007, Fall 2008, Fall 2009, Fall 2010, Fall 2011, Fall 2012, Fall 2014)

◇ ESI 6553 Systems Design (UF, Spring 2008, Spring 2009, Spring 2010, Spring 2011, Spring 2012)

◇ ESI 6912 Data Mining for Engineers (UF, Spring 2009, Spring 2010)

◇ ESI 6552 Systems Architecture (UF, Summer 2008)

◇ ESI 4567C Matrix and Numerical Methods in Systems Engineering (UF, Summer 2004, Fall 2004, Spring 2005)

◇ ESI 3312 Operations Research I (FAMU/FSU, Fall 2005, Fall 2006)

◇ EIN 5930 Data Mining and Operations Research Techniques (FAMU/FSU, Fall 2005, Fall 2006)

◇ EIN 5930 Heuristic Optimization in Engineering (FAMU/FSU, Spring 2006, Spring 2007)