Qipeng Phil Zheng, Ph.D.

Director of Applied Operations Research Lab
Professor, Industrial Engineering & Management Systems
University of Central Florida
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EDUCATION

- Ph.D. Industrial & Systems Engineering, University of Florida, Gainesville, FL, August 2010.
- M.S. Automation, Tsinghua University, Beijing, China, July 2005.
- B.S. Industrial Automation, North China University of Technology, Beijing, China, July 2001.

ACADEMIC APPOINTMENTS

- Faculty Fellow at UCF Faculty Excellence, since September, 2024
- Professor, since August, 2024
- Associate Professor (with tenure), August, 2018 – August, 2024
- Assistant Professor, August, 2013 – August, 2018
  Industrial Engineering & Management Systems,
  University of Central Florida, Orlando, FL, USA
- Assistant Professor, August, 2010 – August, 2013
  Industrial & Management Systems Engineering,
  West Virginia University, Morgantown, WV, USA

RESEARCH INTERESTS

Stochastic Programming, Integer Programming, Network Optimization, Global Optimization, Optimization in Energy and Environments and Sustainability, Transportation Planning, Supply Chain Management, Artificial Intelligence, Blockchain and Applications.

PUBLICATIONS

"★" denotes my students on dissertation/thesis works.
"*" denotes students whose dissertation committee I serve on.

Journal Articles

1. Y. Jiao, Z. Tan, D. Zhang, Q.P. Zheng, Short-term building energy consumption prediction strategy based on modal decomposition and reconstruction algorithm. *Energy & Buildings*, Volume 290, 113074, July 2023.
2. J. Z. Qiang★, E. L. Pasiliao, and Q. P. Zheng. Target Set Selection in Social Networks with Tiered Influence and Activation Thresholds. *Journal of Combinatorial Optimization*, 45(5):117, June 2023.

3. M. Elkamel*, A. Valencia*, W. Zhang, Q. P. Zheng, and N.-B. Chang. Multi-Agent Modeling for Linking a Green Transportation System with an Urban Agriculture Network in an Urban Food-Energy-Water Nexus, *Sustainable Cities and Society*, Volume 89, 104354, February 2023.
4. Z. Huang*, Q. P. Zheng, A. L. Liu, A nested cross decomposition algorithm for power system capacity expansion with multiscale uncertainties. *INFORMS Journal on Computing*, Vol. 34, No. 4, pp. 1919 – 1939, July – August 2022.
5. M. Elkamel*, A. Ahmadian, and Q. P. Zheng. Impact of coronavirus disease 2019 on electricity demand and the unit commitment problem: a long–short-term memory-based machine learning approach. *Journal of Engineering Optimization*, Volume 54, Issue11, Pages 1835-1852, 2022.
6. L. Schleider*, E. L. Pasiliao, Z. Qiang*, Q. P. Zheng, A study of feature representation via neural network feature extraction and weighted distance for clustering. *Journal of Combinatorial Optimization*, 44, pp. 3083–3105, February, 2022.
7. S. Al-Quradaghi*, Q. P. Zheng, A Betancourt-Torcat, A. Elkamel, Optimization Model for Sustainable End-of-Life Vehicle Processing and Recycling, *Sustainability*, 14 (6), 3551, March, 2022.
8. 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*, Volume 8, Issue 2, pp. 1293 – 1304, April-June, 2021.
9. G. Yun*, V. Zhygulin*, and Q. P. Zheng. Residential Energy Trading with Blockchain Technology. *Energy Systems*, Volume 12, Issue 1, pp. 619 – 636, February, 2021.
10. M. Elkamel*, A. Ahmadian, A. Diabat, and Q. P. Zheng. Stochastic Optimization for Price-Based Unit Commitment in Renewable Energy-based Personal Rapid Transit Systems in Sustainable Smart Cities. *Sustainable Cities and Society*, Volume 65, 102618, February 2021.
11. M. Chen*, Q. P. Zheng; V. Boginski; E. L. Pasiliao. Influence Maximization in Social Media Networks Concerning Dynamic User Behaviors via Reinforcement Learning. *Computational Social Networks*, Volume 8, Article number: 9, February 2021.
12. G. Yun*; Q. P. Zheng; V. Boginski; E. L. Pasiliao. Influence Network Design via Multi-level Optimization Considering Boundedly Rational User Behaviors in Social Media Networks. *Computational Social Networks*, Volume 8, Article number 7, February 2021.
13. A. Shalaby, A. Elkamel, P. L. Douglas, Q. Zhu and Q. P. Zheng. A Machine Learning Approach for Modeling and Optimization of a CO2 Post-Combustion Capture Unit. *Energy*, Volume 215, Part A, 119113, January 2021.
14. N.-B. Chang, U. Hossain, A. Valencia*, J. Qiu, Q. P. Zheng, L. Gu, M. Chen*, J.-W. Lu, A. Pires, C. Kaandorp, E. Abraham, M.-C. ten Veldhuis, N. van de Giesen, B. Molle, S. Tomash, N. Ait-Mouheb, D. Dotta, R. Declercq, M. Perrin, L. Conradi and G. Molle. Integrative Technology Hubs for Urban Food-Energy-Water Nexuses and Cost-Benefit-Risk Trade-offs (II): Design Strategies for Urban Sustainability. *Critical Review of Environmental Science and Technology*, Volume 51, Issue 14, pages 1533-1583, 2021.
15. N.-B. Chang, U. Hossain, A. Valencia*, J. Qiu, Q. P. Zheng, L. Gu, M. Chen*, J.-W. Lu, A. Pires, C. Kaandorp, E. Abraham, M.-C. ten Veldhuis, N. van de Giesen, B. Molle, S. Tomash, N. Ait-Mouheb, D. Dotta, R. Declercq, M. Perrin, L. Conradi and G. Molle. Integrative Technology Hubs for Urban Food-Energy-Water Nexuses and Cost-Benefit-Risk Trade-offs (I): Global Trend and Technology Metrics. *Critical Review of Environmental Science and Technology*, Volume 51, Issue 13, Pages 1397-1442, 2021.

16. Z. Huang[⋆], Q. P. Zheng. A Multistage Stochastic Programming Approach for Preventive Maintenance Scheduling of GENCOs with Natural Gas Contract. *European Journal of Operational Research*, Volume 287, Issue 3, pp. 1036-1051, December 2020.
17. W. Zhang, A. Valencia[⋆], L. Gu, Q. P. Zheng, and N.-B. Chang. Integrating emerging and existing renewable energy technologies into a community-scale microgrid in an energy-water nexus for resilience improvement. *Applied Energy*, Volume 279, No.1, 115716, December 2020.
18. S. Al-Quradaghi[⋆], Q.P. Zheng, A. Elkamel. Generalized Framework for the Design of Eco-Industrial Parks: Case Study of End-of-Life Vehicles. *Sustainability*, 12(16), 6612, August 2020.
19. M. Elkamel[⋆], L. Schleider[⋆], E.L. Pasiliao, A. Diabat, and Q. P. Zheng. Long-Term Electricity Demand Prediction via Socioeconomic Factors - A Machine Learning Approach with a Case Study of Florida. *Energies*, 2020, 13(15), 3996, August 2020.
20. M. Rao, P. Xanthopoulos, Q. P. Zheng. Case Article - DeLand Crayon Company: An Application of Traveling Salesman Problem to Production Scheduling with Sequence Dependent Setup. *INFORMS Transactions on Education*, Vol. 20, No. 2, pp. 93 – 98, January 2020.
21. M. Rao, P. Xanthopoulos, Q. P. Zheng. Case – Production Scheduling at DeLand Crayon Company. *INFORMS Transactions on Education*, Vol. 20, No. 2, pp. 99 – 101, January 2020.
22. J. Z. Qiang[⋆], E. L. Pasiliao, and Q. P. Zheng. Model-based Learning of Information Diffusion in Social Media Networks. *Applied Network Science*, 4:111, December 2019.
23. Z. Huang[⋆], Q. P. Zheng, E. L. Pasiliao, V. Boginski, and T. Zhang. A Cutting Plane Method for Risk-constrained Traveling Salesman Problem with Random Arc Costs. *Journal of Global Optimization*, Volume 74, Issue 4, pp 839–859, August 2019.
24. B. Sen[*], T. Ercan, O. Tatari and Q. P. Zheng. Robust Pareto optimal approach to sustainable heavy-duty truck fleet composition. *Resources, Conservation & Recycling*, Volume 146, pp 502-513, July 2019.
25. A. Razmjoo[⋆], P. Xanthopoulos and Q. P. Zheng. Feature Importance Ranking for Classification in Mixed Online Environments. *Annals of Operations Research*, Volume 276, Issue 1-2, pp 315-330, May 2019.
26. A. Golshani[*], W. Sun, Q. Zhou, Q. P. Zheng and Y. Hou. Incorporating Wind Energy in Power System Restoration Planning, *IEEE Transactions on Smart Grid*, Volume 10, Issue 1, pp 16-28, January 2019.
27. A. Golshani[*], W. Sun, Q. Zhou, Q. P. Zheng, J. Wang and F. Qiu. Coordination of Wind Farm and Pumped-Storage Hydro for a Self-Healing Power Grid. *IEEE Transactions on Sustainable Energy*, Volume 9, Issue 4, pp 1910-1920, October 2018.
28. Y. Zhan[⋆] and Q. P. Zheng. A Multistage Decision-Dependent Stochastic Bi-level Programming Approach for Power Generation Investment Expansion Planning. *IISE Transactions*, Volume 50, Issue 8, pp 729 – 734, August 2018.
29. Y. Zhan[⋆], Q. P. Zheng, C.-L. Tseng and E. L. Pasiliao. An Accelerated Extended Cutting Plane Approach with Piecewise Linear Approximations for Signomial Geometric Programming. *Journal of Global Optimization*, Volume 70, Issue 3, pp 579-599, March 2018.
30. P. M. Pardalos and Q. P. Zheng. "A message from the new editors-in-chief of *Energy Systems*." editorial in *Energy Systems*, Volume 9, Issue 1, pp 1–2. February 2018.

31. A. Golshani*, W. Sun, Q. Zhou, Q. P. Zheng and J. Tong. Two-stage Adaptive Restoration Decision Support System for a Self-healing Power Grid. *IEEE Transactions on Industrial Informatics*, Volume 13, Issue 6, pp 2802 – 2812, December 2017.
32. A. Razmjoo★, P. Xanthopoulos and Q. P. Zheng. Online Feature Importance Ranking based on Sensitivity Analysis. *Expert Systems with Applications*, Volume 85, pp 397 – 406, November 2017.
33. Y. Zhan★, Q. P. Zheng, J. Wang and P. Pinson. Generation Expansion Planning with Large Amounts of Wind Power via Decision-Dependent Stochastic Programming. *IEEE Transactions on Power Systems*, Volume 32, Issue 4, pp 3015 - 3026, July 2017.
34. Z. Huang★, Q. P. Zheng, E. L. Pasiliao and D. Simmons. Exact algorithms on reliable routing problems under uncertain topology using aggregation techniques for exponentially many scenarios. *Annals of Operations Research*, Volume 249, Issue 1, pp 141– 162, February 2017.
35. Y. Li, N. Kong, M. Chen★, Q. P. Zheng. Optimal Physician Assignment and Patient Demand Allocation in an Outpatient Care Network. *Computers & Operations Research*, Volume 72, pp. 107-117, August 2016.
36. V. Krishnan, J. Ho, B. H. Hobbs, A. L. Liu, J. D. McCalley, M. Shahidehpour, and Q. P. Zheng. Co-Optimization of Electricity Transmission and Generation Resources for Planning and Policy Analysis: Review of Concepts and Modeling Approaches. *Energy Systems*, Volume 7, Issue 6, pp. 297 – 332, May 2016.
37. N.C. Onat★, M. Kucukvar, O. Tatari and Q. P. Zheng. Combined Application of Multi-Criteria Optimization and Life Cycle Sustainability Assessment for Optimal Allocation of Alternative Passenger Vehicles in U.S. *Journal of Cleaner Production*, Volume 112, Part 1, pp. 291-307, January 2016.
38. Z. Huang★ and Q. P. Zheng. Decomposition-based Exact Algorithms for Risk-constrained Traveling Salesman Problems with Discrete Random Arc Costs. *Optimization Letters*, Volume 9, Issue 8, pp. 1553-1568, December 2015.
39. P. Khadgi, L. Bai, G. Evans and Q. P. Zheng. A Simulation Model with Multi-Attribute Utility Functions for Energy Consumption Scheduling in a Smart Grid. *Energy Systems*, Volume 6, Issue 4, pp. 533-550, November 2015.
40. C.-L. Tseng, Y. Zhan★, Q. P. Zheng, M. Kumar. A MILP Formulation for Generalized Geometric Programming Using Piecewise-Linear Approximations. *European Journal of Operational Research*, Volume 245, Issue 2, pp. 360 – 370, September 2015.
41. T. Zhang, Q. P. Zheng, Y. Fang★, Y. Zhang. Multi-Level Inventory Matching and Order Planning under the Hybrid Make-To-Order/Make-To-Stock Production Environment for Steel Plants via Particle Swarm Optimization. *Computers & Industrial Engineering*, Volume 87, pp. 238-249, September 2015.
42. Q. P. Zheng, S. Shen and Y. Shi. Loss-Constrained Minimum Cost Flow under Arc Failure Uncertainty with Applications in Risk-Aware Kidney Exchange. *IIE Transactions*, Volume 47, Issue 9, pp. 961-977, July 2015.
43. Q. P. Zheng, J. Wang and A. L. Liu. Stochastic Optimization for Unit Commitment – A Review. *IEEE Transactions on Power Systems*, Volume 30, Issue 4, pp. 1913-1924, July 2015.
44. Y. Huang★, Q. P. Zheng and J. Wang. Two-Stage Stochastic Unit Commitment Model Including Non-Generation Resources with Conditional Value-at-Risk Constraints. *Electric Power Systems Research*, Volume 116, pp. 427-438, November 2014.

45. Y. Huang*, Q. P. Zheng, N. Fan and K. Aminian. Optimal Scheduling for Enhanced Coal Bed Methane Production through CO_2 Injection. *Applied Energy*, Volume 113, pp. 1475-1483, January 2014.

46. Y. Huang*, S. Rebennack and Q. P. Zheng. Techno-Economic Analysis and Optimization Models for Carbon Capture and Storage - A Survey. *Energy Systems*, Volume 4, Number 4, pp. 315-353, December 2013.

47. Q. P. Zheng, J. Wang, P. M. Pardalos and Y. Guan. A Decomposition Approach to Two-Stage Stochastic Unit Commitment. *Annals of Operations Research*, Volume 210, Issue 1, pp. 387-410, November 2013.

48. N. Fan, Q. P. Zheng and P. M. Pardalos. Robust optimization of graph partitioning involving interval uncertainty. *Theoretical Computer Science*, Volume 447, pp. 53-61, August, 2012.

49. Q. P. Zheng and A. Arulselvan. Discrete Time Dynamic Traffic Assignment Models and Solution Algorithm for Managed Lanes. *Journal of Global Optimization*, Volume 51, Number 1, pp. 47-68, 2011.

50. T. Zhang, Y. Zhang, Q. P. Zheng and P. M. Pardalos. A hybrid Particle Swarm Optimization and Tabu Search Algorithm for Order Planning Problems of Steel Factory based on the Make-To-Stock and Make-To-Order Management. *Journal of Industrial and Management Optimization*, Volume 7, Number 1, pp. 31-51, 2011.

51. Q. P. Zheng and P. M. Pardalos. Stochastic and Risk Management Models and Solution Algorithm for Gas Transmission Network Expansion and LNG Terminal Location Planning. *Journal of Optimization Theory and Applications*, Volume 147, Number 2, pp. 337-357, 2010.

52. B. Li, X. Li, W. Liu and Q. Zheng. Dynamic maintenance service management based on exception perception. *Journal of Computer Integrated Manufacturing Systems*, Vol.12, No.08, 1006-5911(2006)08-1308-05, 2006. (In Chinese with an English Abstract)

53. Q. Zheng, W. Liu, X. Li and B. Li. "Application of Support Vector Machine in Bank Customer Classification". *Journal of Control & Automation*. 2005 (33) 68-70, 2005. (In Chinese with an English Abstract)

Book Chapters

1. Qiang, Z.*, Pasiliao, E.L., Semenov, A., Zheng, Q.P. (2023). Incorporating Neighborhood Information and Sentence Embedding Similarity into a Repost Prediction Model in Social Media Networks. In: Dinh, T.N., Li, M. (eds) Computational Data and Social Networks. CSoNet 2022. Lecture Notes in Computer Science, vol 13831. Springer, Cham.

2. Y. Huang*, A. Rahil and Q. P. Zheng. A Quasi Exact Solution Approach for Scheduling Enhanced Coal Bed Methane Production through CO_2 Injection. In *Optimization in Science and Engineering* (edited by Rassias, Themistocles M. and Floudas, Christodoulos A. and Butenko, Sergiy), Springer New York, pp. 247-261, June 2014.

3. N. Fan, Q. P. Zheng and P. M. Pardalos. On the two-stage stochastic graph partitioning. In *Combinatorial Optimization and Applications* (edited by Weifan Wang, Xuding Zhu and Ding-Zhu Du), COCOA 2011, Lecture Notes in Computer Science, Volume 6831, pp. 500-509, 2011.

4. P. M. Pardalos, Q. P. Zheng and A. Arulselvan. Deterministic Global Optimization. *Wiley Encyclopedia of Operations Research and Management Science* (edited by James J. Cochran), Volume 2, John Wiley & Sons, pp. 1388-1407, 2011.

5. Q. P. Zheng, Y. Lou and P. M. Pardalos. Economics of Gambling on Sports: A Multistage Stochastic Programming Approach to American Jai Alai Gambling Strategies. In *Optimal Strategies in Sports Economics and Management*, Sergiy Butenko, Jaime Gil-Lafuente and Panos M. Pardalos (Eds.), pp. 199-215, 2010.
6. Q. P. Zheng, S. Rebennack, N. A. Iliadis and P. M. Pardalos. Optimization Models in Natural Gas Industry. Chapter 6 in *Handbook of Power Systems I*, Steffen Rebennack, Panos M. Pardalos, Mario V.F. Pereira and Niko A. Iliadis (Eds.), Energy Systems, Springer, pp. 121-148, 2010.

Conference Proceedings

7. Z. J. Qiang★, E. L. Pasiliao, Q. P. Zheng. Target Set Selection in Social Networks with Influence and Activation Thresholds. *International Conference on Computational Data and Social Networks, CSoNet 2021: Computational Data and Social Networks*, December 2021.
8. Y. J. Kim*, B. H. Nam, Q. P. Zheng. An artificial neural network approach to sinkhole hazard assessment for East Central Florida. *Proceedings of the 16th Sinkhole Conference*, https://doi.org/10.5038/9781733375313.1031, 2020.
9. L. Schleider★, Q. Zheng★ and E. Pasiliao. Graph-Based Supervised Clustering in Vector Space. *International Conference on Computational Data and Social Networks, CSoNet 2020: Computational Data and Social Networks*, November 2020.
10. G. Yun★, Q. P. Zheng, V. Boginski, and E. L. Pasiliao. Information Network Cascading and Network Re-construction with Boundedly Rational User Behaviors. *International Conference on Computational Data and Social Networks, CSoNet 2019: Computational Data and Social Networks*, pp. 351-362, November 2019.
11. M. Chen★, Q. P. Zheng, V. Boginski, and E. L. Pasiliao. Reinforcement Learning in Information Cascade Based on Dynamic User Behavior. *International Conference on Computational Data and Social Networks, CSoNet 2019: Computational Data and Social Networks*, pp. 148 – 154, November 2019.
12. B. Sen★, T. Ercan, O. Tatari, Q. P. Zheng. Robust Pareto Optimal Approach for Sustainable Heavy-Duty Truck Fleet Composition. *Proceedings of the Transportation Research Board (TRB) 98th Annual Meeting*, Paper No. 19-02552, pp. 1-24, Washington, D. C., January 2019.
13. L. Bai, G. Xu and Q. P. Zheng. A Game Theoretical Approach to Modeling Energy Consumption with Consumer Preference. *Proceedings of IEEE Power & Energy Society General Meeting 2014*, Washington DC, pp. 1-5, August 2014.
14. J. R. Davis, Q. P. Zheng, V. A. Paramygin, B. Tutak, C. Vogiatzis, Y. P. Sheng, P. M. Pardalos, and R. J. Figueiredo. Development of a Multimodal Transportation Educational Virtual Appliance (MTEVA) to study congestion during extreme tropical events. *Proceedings of the Transportation Research Board (TRB) 91st Annual Meeting*, Paper No. 12-1119, pp. 1-19, Washington, D. C., January, 2012.
15. W. Liu, Q. Zheng, X. Li and B. Li. "Application of Support Vector Machine in Customer Relationship Management". *Proceedings of the Symposium on Global Manufacturing & Simulation Technology of the 21st Century*. *Paper No*. 7-5062-6822-1 (2004)-*B*165, *Oct*. 2004. (In Chinese with an English abstract)

Book Authored

- *Electrical Power Unit Commitment: Deterministic and Two-Stage Stochastic Programming Models and Algorithms*.
  Y. P. Huang*, P. M. Pardalos and Q. P. Zheng
  ISBN 978-1-4939-6766-7, Springer, 2016.

Book Edited

- *Handbook of CO_2 in Power Systems*.
  Q. P. Zheng, S. Rebennack, P. M. Pardalos, N. A. Iliadis, and M. V. F. Pereira (Eds.)
  ISBN 978-3-642-27430-5, Springer, May, 2012.

Other Publications

- "Co-optimization of Transmission and other Supply Resources." Report prepared for Eastern Interconnection States Planning Council (EISPC) and National Association of Regulatory Utility Commissioners (NARUC), funded by Department of Energy (DoE), Pages 1-213, September 2013. (with A. L. Liu, B. H. Hobbs, J. Ho, J. D. McCalley, V. Krishnan, M. Shahidehpour)
  http://www.naruc.org/Grants/Documents/Co-optimization-White-paper_Final_rv1.pdf

WORKS IN PROGRESS

1. Influence and Activation Thresholds Target Set Selection within Random Community Structure.
2. Experimental Designs for Blockchain Performance Evaluation.
3. Robust Pricing and Boundedly Rational User Equilibrium for Electricity Consumer Market Studies in Smart Grid. *In Revision*.
4. Two-Stage Stochastic Programming Physician Location Problem with Patients Having Discrete Choices. *Finished and to be submitted.*
5. Solving the Robust Toll Pricing Problem with Boundedly Rational Users. *In Revision.*
6. Evacuation Planning via Discrete Dynamic Traffic Assignment with Lane Reversals. *In Revision*.

FUNDED RESEARCH PROJECTS

1. PI: **Q. P. Zheng**; Co-PIs: A. Semenov, Z. Yu and J. A. Watson.
   "From Sunshine to Harvest: Fueling Rural Northeast and Central Florida's Growth with Social Media Insights and AI."
   Sponsor: NIFA USDA
   Budget: $650,000.
   Duration: 08/2024 – 08/2027
2. PI: V. Boginski; Co-PI: **Q. P. Zheng.**
   "Modeling and Optimization of Networked Systems in Contested Environments."
   Sponsor: Air Force Research Laboratory
   Budget: $5,614,340.
   Duration: 07/2016 – 12/2025.

3. PI: **Q. P. Zheng.**
   "Game-Theoretical Analysis of Consensus Algorithm Design for Permissionless Blockchain Protocol Based on Proof-of-Stake and Randomized Sharding."
   Sponsor: UCF Mid-Career Refresh Program
   Budget: $49,896.
   Duration: 04/2020 – 06/2024

4. PI: N.-B. Chang; Co-PI: **Q. P. Zheng**, N. Kapucu, L. Gu, P. Fairey.
   "(ENLARGE) Enabling Large-Scale Adaptive Integration of Technology Hubs to Enhance Community Resilience through Decentralized Urban Food-Water-Energy Nexus Decision Support."
   Sponsors:
   - U.S.: National Science Foundation, ICER-1830036
   - E.U.: Belmont Forum and Urban Europe (EU's Horizon 2020 research and innovation program, No. 730254-ENLARGE)

   Partnership with:
   - U.S.: University of Florida, Florida Solar Energy Center, Southeast Florida Regional Climate Change Compact - Resilient Redesign
   - Netherlands: Delft University of Technology, Amsterdam Institute for Advanced Metropolitan Solutions
   - France: Ecofilae, IRSTEA, ECOSEC
   - Canada: Institute for Catastrophic Loss Reduction (University of Western Ontario).

   Budget: $ 838,415 for teams in U.S. and €1,072,421 for teams in European Union.
   Duration: 7/2018 – 6/2023.

5. PI: V. Boginski; Co-PI: **Q. P. Zheng.**
   "Network Dynamics and Optimization."
   Sponsor: Air Force Research Laboratory
   Budget: $156,939.
   Duration: 09/2018 – 10/2022.

6. PI: **Q. P. Zheng**.
   "Collaborative Research: The Next-Generation Electricity Capacity and Transmission Expansion Model with Large-Scale Energy Storage and Renewable Resources."
   Sponsor: National Science Foundation, CMMI-1234094 (now CMMI-1355939).
   Budget: $172,655.
   Duration: 08/2012 - 07/2016.

7. PI: S. Solanki; co-PIs: **Q. P. Zheng**, J. Solanki, D. Martinelli.
   "Grid Challenges for a Smart Transit System."
   Sponsor: National Science Foundation, ECCS-1232168.
   Budget: $322,501.
   Duration: 08/2012 - 07/2016.

8. PI: **Q. P. Zheng**.
   "Dynamic Traffic Assignment Models with Lane Reversals for Evacuation Planning."
   Sponsor: UCF In-house Research.
   Budget: $7,485.
   Duration: 05/2015 – 04/2016.

9. PI: M. Calabrese, co-PI: **Q. P. Zheng**.
   "USNTPS Optimization of Probabilistic Sortie Model."
   Sponsor: Naval Air Warfare Center Aircraft Division (NAWCAD).
   Budget: $56,190.
   Duration: 09/2014 - 08/2015.
10. PI: A. L. Liu (Purdue University); co-PIs: B. F. Hobbs (John Hopkins University), J. McCalley (Iowa State University), M. Shahidehpour (Illinois Institute of Technology), P. T. Sullivan (NREL) and **Q. P. Zheng**.
    "Whitepaper: Co-Optimization of Transmission and other Supply Resources."
    Sponsor: Department of Energy (Sub-contracted through National Association of Regulatory Utility Commissioners).
    Budget: $150,000.
    Duration: 02/2013 - 9/2013.
11. PI: **Q. P. Zheng**.
    "Robust Minimum Cost Flows via Risk Measures."
    Sponsor: NASA WV Space Grant Consortium.
    Budget: $26,139.
    Duration: 08/2011 - 07/2012.

HONORS AND AWARDS

- UCF RIA (Research Incentive Award), 2021
- IEOM Outstanding Researcher Award, 2020
- IEOM Outstanding Service Award, 2019
- UCF TIP (Teaching Incentive Program) Award, 2018.
- AFRL Summer Faculty Fellowship Program, 2016.
- IIE New Faculty Colloquium participant, May, 2011.
- Best Presentation Award, CMS Annual Student Conference, March, 5, 2010.
- INFORMS, Future Academician Colloquium participant, Nov, 2009.
- Academic Excellence Scholarships, NCUT, China, 1997-2001.
- Honor Prize of Physics Thesis, NCUT, China, 1998.

TEACHING EXPERIENCE

"◘" denotes a graduate course.

@University of Central Florida

- ESI6938, Stochastic Optimization – Models, Algorithms and Applications◘, Spring 2016
- ESI6418, Linear Programming and Extensions◘, Spring 2015, 2017
- ESI 6247, Experimental Design◘, Spring 2018, 2022
- ESI5306, Operations Research◘, Summer 2015, Falls 2013, 2015, 2017, 2018
- ESI4312, Operations Research, Fall 2016
- ESI4312, Operations Research I – Deterministic Methods, Falls 2017, 2020, 2022, 2023
- ESI4313, Operations Research II – Stochastic Methods, Spring 2018, 2021, 2023, 2024
- ESI4221, Empirical Methods for Industrial Engineering, Spring 2014, Fall 2014
- STA 3032H, (Honors) Probability and Statistics for Engineers, Falls 2015, 2016

@West Virginia University

- IENG593G, Nonlinear Programming, Spring 2012
- IENG350, Introduction to Operations Research, Fall 2010, Spring 2011, Fall 2011 and Fall 2012
- IENG446, Facility Planning and Material Handling, Spring 2013

@University of Florida

- ESI4567, Numerical and Matrix Analysis, Summer 2009 and Fall 2009
- EIN4354, Engineering Economy, Spring 2009

INDUSTRIAL EXPERIENCE

- Feb.2002– Sep.2002, System Design and Software Engineer in Sino-Electronic Future Telecommunication Company Ltd, Beijing, P.R. China.

  I was responsible for the software design of the power-on initialization, phone status settings, and SMS (Short Message Service) modules using C and C++ language.

PROFESSIONAL ACTIVITIES

- **Associate Editor**
  - *Energy Systems*, Springer. (2010 – 2017 and 2021 – present)
  - *IET Blockchain*, (2018 – present)
- **Editor-In-Chief**
  - *Energy Systems*, *Springer. (2018 – 2020)*
- **Article Referee for**
  - *Annals of Operations Research*, Springer;
  - *Applied Energy*, Elsevier;
  - *Computers & Industrial Engineering*, Elsevier;
  - *Computers & Operations Research*, Elsevier;
  - *Energy Policy*, Elsevier;
  - *Energy Systems*, Springer;
  - *Environmental Modeling & Assessment*, Springer;
  - *European Journal of Operational Research*, Elsevier;
  - *IISE Transactions*, Taylor & Francis;
  - *IEEE Transactions on Automation Science and Engineering*, IEEE;
  - *IEEE Transactions on Power Systems*, IEEE;
  - *IEEE Systems Journal*, IEEE;
  - *International Journal of Energy Sector Management*, Emerald;
  - *International Journal of Operational Research*, InderScience;
  - *Journal of Combinatorial Optimization*, Springer;
  - *Journal of Global Optimization*, Springer;
  - *Journal of Industrial & Management Optimization*, American Institute Mathematical Sciences;
  - *Journal of Intelligent Manufacturing*, Springer;
  - *Journal of Optimization Theory and Applications*, Springer;

- *Journal of Systems Science and Systems Engineering*, Springer;
- *Journal of Transportation Safety & Security*, Taylor & Francis;
- *Mathematical Methods of Operations Research*, Springer;
- *Networks*, Wiley;
- *Networks and Spatial Economics*, Springer;
- *Operations Research, INFORMS*,
- *Optimization and Engineering*, Springer;
- *Optimization Letters*, Springer;
- *PLOS ONE*,
- *Transportation Research Part C*, Elsevier;
- *Several books, etc.*

- **Session Chair of**
  - Plenary session and speaker, First IEOM Global Lean Six Sigma, 4th African International Conference on Industrial Engineering and Operations Management, Lusaka, Zambia, April 4-6, 2023.
  - Long-term sustainable energy/power system expansion planning, INFORMS Annual Meeting, Phoenix, AZ, November 2018.
  - Advances in Manufacturing and Supply Chain Operations, POMS 27th Annual Conference, Orlando, FL, May 2016.
  - Bi- and Multi-Level Optimization in Energy Systems, INFORMS Annual Meeting, Philadelphia, PA, November 2015.
  - Smart Grid Integration and Analysis in the New Electrical Era, INFORMS Annual Meeting, Minneapolis, MN, October 2013.
  - New Models and Algorithms for Power Grid Transmission, INFORMS Annual Meeting, Phoenix, AZ, October 2012.
  - Energy System Planning with Smart Grid Challenges, IIE Annual Conference and Expo, ISERC Annual Conference, May, 2012.
  - Integrated Production Planning and Inventory Control, IIE Annual Conference and Expo, ISERC Annual Conference, May, 2012.
  - Long-Term Power Systems Planning with New Features of Smart Grids, INFORMS Annual Meeting, Charlotte, NC, Nov, 2011.
  - Scheduling Problems in Various Areas, IIE 61st Annual conference and Expo, IERC Annual Conference, May, 2011.
  - Power System Planning, IIE 61st Annual conference and Expo, IERC Annual Conference, May, 2011.
  - Conference on Systems and Optimization Aspects of Smart Grid Challenges, Gainesville, FL, April, 2011.
  - Risk Management and Stochastic Programming in Natural Gas and Power Systems, INFORMS Annual Meeting, Austin, TX, 2010.
- **Conference Co-organizer and Board Member of**
  - Scientific Committee, PanOptiC View on Global Optimization, Gainesville, March 9th – 10th, 2023.

- Technical Programme Committee Member of The 1st International Conference on Mathematical Research for Blockchain Economy, Santorini, Greece, May 6th-9th, 2019.
- Organizer of Blockchain & Energy Systems (BEST2019) Conference, Orlando FL, January 18th – 20th, 2019.
- Co-organizer of 6th Annual Meeting of the AFRL Mathematical Modeling and Optimization Institute, Eglin AFB, FL, July 31st – August 2nd, 2018.
- Co-organizer of 5th Annual Meeting of the AFRL Mathematical Modeling and Optimization Institute, Eglin AFB, FL, August 1st – August 3rd, 2017.

- Academic Society Member of
  - Mathematical Optimization Society (MOS, formerly MPS),
  - INFORMS,
  - IEEE, Power and Energy Society,
  - International Society of Global Optimization,

STUDENTS

Graduated PhD Students (as the Chair of the Committee)

- Jennifer Qiang (PhD at UCF) graduated in May 2022.
  Dissertation Title: Social Media Network Learning and Decision Making.
  First Placement: Research Scientist at Amazon.
- Andrea Valencia (PhD at UCF) graduated in May 2022.
  Dissertation Title: Improving Urban Resilience and Sustainability via Multi-Scale Urban Food-Energy-Water-Waste Nexus Analysis.
- Shimaa Al-Quradaghi (PhD at UCF) graduated in August 2021.
  Dissertation Title: Optimal Design of Eco-Industrial Park for End-Of-Life Vehicles.
  First Placement: Assistant Professor at Qatar University.
  Current Position: Director of Qatar Transportation and Safety Center, and Assistant Professor at Qatar University.
- Mengnan Chen (PhD at UCF) graduated in December 2019.
  Dissertation Title: Stochastic Optimization and Applications with Endogenous Uncertainties via Discrete Choice Models.
  First Placement: Data Scientist at Expedia.
- Guanxiang Yun (PhD at UCF) graduated in December 2019.
  Dissertation Title: Multi-Level Optimization and Applications with Non-Traditional Game Theory.
  First Placement: Operation Research Analyst at Disney.
- Alaleh Razmjoo (PhD at UCF) graduated in August 2018.
  Dissertation Title: Methods for Online Feature Selection for Classification Problems.
  First Placement: Postdoc at University of California at San Francisco Medical Research Center.
  Current position: Research Scientist at Meta
- Yiduo Zhan (PhD at UCF) graduated in May 2017.
  Dissertation Title: Optimization Approaches for Electricity Generation Expansion Planning Under Uncertainty.
  First Placement: Monsanto Company.

Current Position: Research Scientist at Meta

- Ramazan Unlu (PhD at UCF), graduated in Spring 2017.
  Dissertation Title: Weighting Policies for Robust Unsupervised Ensemble Learning.
- Zhouchun Huang (PhD at UCF) graduated in August 2016.
  Dissertation Title: Modeling and Solving Large-scale Stochastic Mixed-integer Problems in Transportation and Power Systems.
  First Placement: Sabre Corporation.
  Current Position: Associate Professor at Nanjing University of Aeronautics and Astronautics.
- Yuping Huang (PhD at UCF) graduated in December 2014.
  Dissertation Title: Stochastic Optimization for Integrated Energy System with Reliability Improvement Using Decomposition Algorithms.
  First Placement: Monsanto Company.
  Current Position: Senior Research Scientist at Chinese Academy of Science, Guangzhou Institute of Energy Conversion.

Graduated Master Students with Thesis

- Burak Sen (at UCF) graduated in May 2019.
  Thesis Title: "Hybrid Life-Cycle Sustainability Assessment-Based Multi-Objective Optimization: A Case for Sustainable Transit Bus Fleet Mix."
- Nuri Onat (at UCF) graduated in August 2015.
  Thesis Title: "A Macro-Level Sustainability Assessment Framework for Optimal Distribution of Alternative Passenger Vehicles."
- Yixin (Justin) Du (M.S. at WVU) graduated in August 2014.
  Thesis title: "Optimal Scheduling of Power Plant Maintenance with Gas Portfolio."
- Yeh Ern Poh (M.S. WVU) graduated in August 2013.
  Thesis title: "Discrete Time Dynamic Traffic Assignment Models with Lane Reversals for Evacuation Planning."
- Yuping Huang (M.S. WVU) graduated in August 2011.
  Thesis title: "Optimal Scheduling for Enhanced Coal Bed Methane Production through CO2 Injection."