

School of Engineering

#### Industrial & Systems Engineering: Ph.D. Dissertation Topics

#### **2021 Dissertation Titles**

- Some Bandit Problems, Principal Investigator (P.I): Sheldon Ross, Professor
- A Series of Longitudinal Analyses of Patient-Reported Outcomes to Further the Understanding of Care-Management of Comorbid Diabetes and Depression in a Safety-Net Healthcare System, P.I: Shinyi Wu, Associate Professor

## **2020 Dissertation Titles**

- A Series of Longitudinal Analyses of Patient-Reported Outcomes to Further the Understanding of Care-Management of Comorbid Diabetes and Depression in a Safety-Net Healthcare System, P.I: Shinyi Wu, Associate Professor
- Hybrid Vat Photopolymerization: Methods and Systems, P.I: Yong Chen, Professor
- Stochastic Games with Expected-Value Constraints, P.I: Jong-Shi Pang, Professor

## **2019 Dissertation Titles**

- A Series of Longitudinal Analyses of Patient-Reported Outcomes to Further the Understanding of Care-Management of Comorbid Diabetes and Depression in a Safety-Net Healthcare System, P.I: Shinyi Wu, Associate Professor
- The Warehouse Traveling Salesman Problem and Its Application, P.I: John Carlsson, Associate Professor

#### **2018 Dissertation Titles**

- Multi-scale Biomimetic Structure Fabrication Based on Immersed Surface Accumulation, P.I: Yong Chen, Professor
- The Fusion of Predictive and Prescriptive Analytics via Stochastic Programming, P.I: Suvrajeet Sen, Professor
- Scalable Polymerization Additive Manufacturing: Principle and Optimization, P.I: Yong Chen, Professor
- Landscape Analysis and Algorithms for Large Scale Non-Convex Optimization, P.I: Meisam Razaviyayn, Assistant Professor
- Solving the Empty Container Problem using Double-Container Trucks to Reduce Vehicle Miles, P.I: Maged Dessouky, Professor
- Multi-Armed Bandit Problems with Learned Rewards, P.I: Sheldon Ross, Professor
- Making Terrorism Risk Assessments More Useful for Decision-Making, P.I: Detlof von Winterfeldt, Professor
- Learning Enabled Optimization for Data and Decision Sciences, P.I: Suvrajeet Sen, Professor
- Selective Separation Shaping (SSS) Large Scale Fabrication Potentials, P.I: Behrokh Khoshnevis, Professor
- 3D Printing of Polymeric Parts using Selective Separation Shaping (SSS), P.I: Behrokh Khoshnevis, Professor

# **2017 Dissertation Titles**

- Difference-of-convex learning: optimization with non-convex sparsity functions, P.I: Jong-Shi Pang, Professor
- The Next Generation of Power-System Operations: Modeling and Optimization Innovations to Mitigate Renewable Uncertainty, P.I: Suvrajeet Sen, Professor
- Calibration uncertainty in model-based analyses for medical decision making with applications for ovarian cancer, P.I: Julia Higle, Professor
- Topics in Algorithms for New Classes of Non-cooperative Games, P.I: Jong-Shi Pang, Professor
- Applications of Wasserstein Distance in Distributionally Robust Optimization, P.I: John Carlsson, Associate Professor
- Package Delivery with Trucks and UAVs, P.I: John Carlsson, Associate Professor
- Asymptotic analysis of the generalized traveling salesman problem and its application, P.I: John Carlsson, Associate Professor
- Statistical Modeling and Machine Learning for Shape Accuracy Control in Additive Manufacturing, P.I: Qiang Huang, Associate Professor
- Human and Organizational Factors of PTC Integration in a Railroad System and Developing an HRO-centric Methodology for Aligning Technological and Organizational Change, P.I: Najmedin Meshkati, Professor
- Cost-Sharing Mechanism Design for Freight Consolidation, P.I: Maged Dessouky, Professor
- Investigation of Health System Performance: Effects of Integrated Triple Element Method of High Reliability, Patient Safety, and Care Coordination, P.I: Najmedin Meshkati, Professor
- An Online Cost Allocation Model for Horizontal Supply Chains, P.I: Maged Dessouky, Professor
- Developing an Agent-based Simulation Model to Evaluate Competition in Private Healthcare Markets with an Assessment of Accountable Care Organizations, P.I: Shinyi Wu, Associate Professor
- Routing Problems for Fuel Efficient Vehicles, P.I: Maged Dessouky, Professor
- Train Routing and Timetabling Algorithms for General Networks, P.I: Maged Dessouky, Professor
- Dynamic Programming-Based Algorithms and Heuristics for Routing Problems, P.I: Maged Dessouky, Professor