Research Profile

RESEARCH PHILOSOPHY

My research philosophy is that of being problem motivated—that is, given a relevant, interesting, real-world application, develop and analyze mathematical models for the related problem. Of particular interest is the creation of novel, innovative application areas for Operations Research techniques. My solid Engineering background coupled with an excellent, in-depth knowledge of a broad range of Operations Research techniques give me the tools that are necessary for effectively performing this type of research activity.

Current Research Summary

I am active in the following research areas:

Scheduling of Spatially Distributed Degrading Jobs

Job degradation of spatially scattered jobs has many real-world applications. These include pothole repair, emergency service response, and controlling forest fires. My current area of interest is in satellite scheduling for reconnaissance tasks.

Hazardous Materials Routing/Logistics

Controlling the risk of hazardous materials transportation has significant societal impact. My current area of interest is in appropriate routing of vehicles and incorporation of road closures and curfews.

Routing/Scheduling for Search Missions

Routing/scheduling for search missions is an important area that has applications in both the military domain and the humanitarian operations domain. My current area of interest includes elements of prize collection and movement planning between uncertain areas.

Electric Vehicle Routing and Location of Charging Stations

The problem of modeling charging station capacity when considering routing of electric vehicles and location of charging stations is a highly relevant problem as we transition to EVs. My current area of interest includes optimal assignment of additional charging bays to an existing charging station infrastructure.
Overall Statistics for Published (or Accepted) Journal Papers

Total count = 157

Accident Analysis and Prevention: 2
Annals of Operations Research: 8
Central European Journal of Operations Research: 1
Computers and Industrial Engineering: 3
Computers and Operations Research: 20
Decision Sciences: 1
EURO Journal of Transportation and Logistics: 1
European Journal of Operational Research: 21
Geographical Analysis: 2
Human Factors and Ergonomics in Manufacturing: 1
IIE Transactions: 5
Information Systems and Operational Research: 1
INFORMS Journal on Computing: 1
Interfaces: 2
International Journal of Mathematics of Operations Research: 1
International Journal of Operational Research: 3
International Journal of Production Research: 4
Journal of Defense Modeling and Simulation: 1
Journal of Geographical Systems: 1
Journal of Simulation: 2
Journal of Intelligent Transportation Systems: 1
Journal of the Operational Research Society: 4
Journal of Transportation Security: 2
Management Science: 3
Military Operations Research: 9
Naval Research Logistics: 2
Submitted Papers:

