

# 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:

- Satellite Scheduling for Reconnaissance Tasks
- Hazardous Materials Routing/Logistics
- Routing/Scheduling for Search Missions
- Electric Vehicle Routing and Location of Charging Stations

## **Overall Statistics for Published (or Accepted) Journal Papers**

Total count = 161

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: 21

Decision Sciences: 1

EURO Journal of Transportation and Logistics: 2

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: 2

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

Networks: 4

Networks and Spatial Economics: 2

Operations Research: 8

OR Insight: 4

OR Letters: 1

OR Spectrum: 2

Risk Analysis: 1

SIAM Journal on Applied Mathematics: 1

Socio-Economic Planning Sciences: 12

Sustainability: 1

Theoretical Issues in Ergonomics Science: 1

TOP: An Official Journal of the Spanish Society of Statistics and Operations Research: 2

Transport Policy: 1

Transportation Research B: 1

Transportation Research C: 3

Transportation Research Record: 1

Transportation Science: 11

### **JOURNAL PAPERS UNDER INITIAL REVIEW**

1. E. Jose, N. Oladzad, D. Sudit, M. Sudit and R. Batta, "Kriging-Based Optimization of Satellite-Sensor Coverage for Enhanced Information Collection," submitted to *Military Operations Research*. SATELLITE RECONNAISSANCE
2. H. Caceres, M. Duran, H. Lespay, P. Juan and R. Batta, "School Bus Routing Problems with Open Offer Policy: Incentive Pricing Strategy for Students that Opt Out Using School Bus," submitted to *Computers & Industrial Engineering*. SCHOOL BUS ROUTING

### **REVISED JOURNAL PAPERS**

3. N. Oladzad and R. Batta, "Using Prize-Collection Concepts to Solve Time-Limited Search Problems: A Military and Security Case Study," revision submitted to *Military Operations Research*. SEARCH PROBLEMS
4. N. Oladzad, E. Jose, R. Batta and M. Lejeune, "UAV Search and Routing Planning in a Disaster Area," revision under preparation for *Operations Research*. SEARCH PROBLEMS
5. E. Dasdemir, E. Jose and R. Batta, "Scheduling and Routing with Degradation-Triggered Arrivals: An Application to Forest Fighting with an Unmanned Aerial Vehicle Fleet," revision under preparation for *European Journal of Operational Research*. JOB SCHEDULING