

KRISHNA C. JHA, Vice President - Research & Development

Krishna Jha is Vice President of Research & Development at Innovative Scheduling. He earned his B.S. in Mechanical Engineering from Bihar Institute of Technology, Sindri, India, his M.S. in Industrial and Management Engineering from Indian Institute of Technology, Kanpur, India, and his Ph.D. in Industrial and Systems Engineering from the University of Florida, Gainesville. His Ph.D. dissertation involved cutting-edge research on *Very Large-Scale Neighborhood Search*, a powerful and robust technique for solving complex decision problems. Krishna's strengths center on efficiently solving highly constrained combinatorial optimization problems. Krishna is an expert in network optimization and heuristic techniques. He has a successful track record of designing and deploying products that are tailored to customers' needs. Customers appreciate his attention to detail, his adherence for project budgets, and his success in meeting deadlines.

Krishna has been working at Innovative Scheduling since its inception and has led the design and implementation of several decision support systems, including the train scheduling optimizer, the crew scheduling optimizer and yard simulation system. Prior to joining Innovative Scheduling, he worked as an industrial engineer and as a supply executive for four years at Tata Steel, the largest private steel manufacturer in India. While at Tata Steel, Krishna completed projects in workforce planning, incentive planning, performance improvement, benchmarking, capital schemes evaluation, supply-chain management, and total quality management.



PROFESSIONAL EXPERTISE

- Mathematical modeling of planning and scheduling problems arising in logistics and transportation
- Developing custom algorithms for complex network optimization problems
- Well versed in using optimization techniques including LP, MIP, Network Flows, and Heuristics
- Significant programming expertise in C#, C++, VBA for Excel, VBA for Access, Concert Technology, and CPLEX
- Proficient in VB .NET, ASP .NET, SQL Server, ArcMap, and ArcGIS Server
- Design of planning and real-time decision support systems

AWARDS

- 2003 First Prize in RASIG Paper Contest given by INFORMS to the best paper of Operations Research in Railroad Applications for the paper, *New Approaches for Solving the Block-to-Train Assignment Problem*.
- 2006 Daniel H. Wagner Award given by INFORMS for Excellence in Operations Research Practice for the paper, *Solving Real-Life Railroad Blocking Problems*.
- 2007 Koopman Prize given by INFORMS for outstanding contribution to the Military Operations Research for the paper, *Exact and Heuristic Algorithms for the Weapon-Target Assignment Problem*.

SELECTED PROJECTS

- Leading development of Hump Yard Simulation System
- Consulting to improve CSX's train plan
- Implementing train-friendly blocking algorithm for BNSF Railway
- Developing crew scheduling formulations and algorithms
- Development of train scheduling decision support systems for BNSF Railway
- Product Manager for web-enabled decision support system for train scheduling
- National Science Foundation projects on railroad blocking and train scheduling