



Operations Research and Analytical Modeling Applications to Obtain Robust Solutions in the Automotive Industry

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Abstract

Analytical modeling and other operations research techniques play an important role in the design and operation of manufacturing systems in the automotive industry. They are also critical in implementing technology for automotive products. This talk will present examples of stochastic modeling applications for decision-making in the areas of assembly line cross-training, production system throughput analysis, and real-time traffic information. The examples show how the models can be used to gain insight into system performance and to obtain solutions that are robust to system changes and uncertain conditions.

Biography

Dennis Blumenfeld is a staff research scientist at the General Motors R&D Center. He previously held faculty positions at Princeton University and University College London. He has a B.Sc. in mathematics and M.Sc. in statistics and operations research from Imperial College, London, and a Ph.D. in civil engineering from University College London. He is a member of the Institute for Operations Research and the Management Sciences, and a fellow of the Royal Statistical Society. He is author of a recent reference book on OR results, *Operations Research Calculations Handbook*, and has published articles on transportation modeling, traffic flow and queueing, inventory control, and production systems. He was an Edelman Award finalist for implementation of logistics network modeling, and has served on the editorial advisory board of *Transportation Research*.

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