

**SEMINAR**  
**Co-Sponsored by the University of California  
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**Friday, February 28, 2014  
12:00 – 1:15 pm  
Seminar Room 4080 AIR Building**

**MODELS FOR THE SUPPLY-CHAIN MANAGEMENT OF  
CONTAINERIZED IMPORTS FROM ASIA TO NORTH AMERICA**

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**Abstract**

Two analytical models are introduced for predicting the allocation to ports and transportation channels of containerized goods imported from Asia to North America. Assuming fixed distributions for container flow-times, the Long-Run Model heuristically solves a mixed integer non-linear program to determine the least-cost supply-chain strategies for importers. The Short-Run Model uses estimates of the flow times as a function of traffic volumes on fixed infrastructure to iteratively develop the best near-term strategies.

The models allocate imports to alternative ports and logistics channels so as to minimize total transportation and inventory costs for each importer. Alternative logistics channels include direct shipment of marine containers via truck or rail, and trans-loading cargoes in the hinterlands of the ports of entry from marine containers into domestic trailers or containers.

The models are calibrated on industrial data. Minimum volume requirements and capacities for ports and landside channels are considered. The results are analyzed, and are used to describe the mix of supply-chain strategies utilized by various types of importers and the consequent trends in import flows by port and landside channel. Policy recommendations for governments, transportation and logistics service providers, and importers are also provided. (Joint work with Rob Leachman at U.C. Berkeley)

*Payman Julia is an Associate Professor at Beedie School of Business, Simon Fraser University (SFU), Vancouver, Canada, where he teaches courses related to operations management, and decision making under uncertainty. Payman has a PhD in Industrial Engineering and Operations Research from University of California at Berkeley. His research interests are in transportation and logistics, and applications of operations management in the manufacturing and service industries. Payman has studied the economics of Asia - North America supply chains, and today will present his work in this area.*