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Canadian Operational Research Society
Société canadienne de recherche opérationnelle

Tuesday, March 11th, 2025
9:00 – 10:00 a.m. EST

CORS Micro-Event (online): Container Terminal Operations: Research and Developments

Presented by
René B.M. de Koster, Professor, Erasmus University



Dr. René (M.) B.M. de Koster is a professor of Logistics and Operations Management at Rotterdam School of Management, Erasmus University. He holds or has held guest professorships in various universities and is the 2018 honorary Francqui Professor at Hasselt University. His research interests are warehousing, material handling, terminal operations, and behavioral operations. He is the founder of the Material Handling Forum and is author / editor of 8 books and over 250 papers in academic journals and books. He was recently mentioned as “the most influential researcher” in material handling. He is associate editor of Transportation Science and Operations Research and member of the editorial boards of International Journal of Production Research and Transportation Research-E.

Abstract

Container terminals have changed over the last decades. They have increased in size, in variety of processes handled, in information processing ability, in internal transport systems used, and in degree of automation. In this talk, I focus on developments in container terminal operations, how such operations can be modelled, and the insights that can be obtained from such models. New developments include, for example, faster quay cranes with multiple trolleys, new types of transport vehicles capable of automated driving and lifting of containers, automated stacking cranes with multiple cranes sharing the rails, extended gates, and appointment and identification systems for trucks. The models that have been developed over time focus on aspects like layout planning, berth allocation, ship stowage planning, scheduling of quay cranes, transport vehicles, and stack cranes, and stack assignment. In spite of all modelling efforts, the progress of technology requires a sustained effort of researchers to evaluate and compare strategies, operating policies, and system choices.

Register at: <https://forms.gle/LAFY813oSfwLDwq9>

Questions? Email: president@cors.ca

Organized by: Anjali Awasthi, President CORS, and CORS Montreal Local Section



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CORS Micro-Event (online): Large Language Models in Supply Chain Operations Presented by

Manoj Kumar Tiwari, Professor, Indian Institute of Management, Mumbai



Prof. Manoj Kumar Tiwari ((FNAE, FNASc, FIIE, FIIESE) has been the Founding Director of the Indian Institute of Management, Mumbai (formerly NITIE), since August 2023, and also holds the additional charge as Vice Chancellor of the Tata Institute of Social Sciences (TISS), Mumbai, since September 2023. Under his leadership, the institute's national ranking in management improved from 29th to 6th. Previously, he served as a Professor with Higher Academic Grade, Head of Department, Board of Governors Member, and Dean of Planning & Coordination at the Indian Institute of Technology (IIT), Kharagpur. His research and teaching interests focus on modelling manufacturing processes and operations analysis in supply chain networks. He employs optimization, simulation, and computational intelligence techniques to automate decision support systems for complex and large-scale problems in manufacturing and logistics systems. His research has been supported by several national and international funding agencies and industries. He has co-authored over 385 research articles in premier academic journals and maintains an H-index of 88. He also serves as an associate or senior editor for top-tier journals, including IJPR, POMS, EJOR, IIE Transactions, TRE, JIM, IEEE-SMCA, INS, and CAIE. In recognition of his contributions to the field, he was honoured with the David F. Baker Distinguished Research Award from the IIE Society, USA, in 2023.

Abstract

The rapid advancement of Large Language Models (LLMs) is revolutionizing supply chain operations through intelligent automation, real-time decision-making, and data-driven insights. These AI-powered models optimize demand forecasting, streamline logistics, improve supplier collaboration, and enhance risk management. This talk explores how LLMs transform traditional supply chain processes by leveraging natural language processing (NLP), predictive analytics, and automation. Key applications include AI-driven chatbots for procurement, automated contract analysis, real-time inventory monitoring, and intelligent supply chain documentation management. The discussion also covers key challenges such as data security, system integration, and model transparency, along with strategies for effective implementation.

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