

8th Stochastic Modelling Meeting (STOCHMOD 2024)

Milan, 5-7 June 2024

Detailed Program (Update: May 26th, 2024)

From	To	Wed 5th June			Thu 6th June			Fri 7th June			
9:00	9:30	Conference Registration			Markovian Decision Process in Operations Management	Finance and Risk Management	Optimization I	Optimization II	Strategic Customers in Queuing Systems II		
9:30	10:00	Conference Opening and Welcome									
10:00	10:30	Stochastic Models in Manufacturing	Strategic Customers in Queuing Systems I		Coffee & Tea Break			Coffee & Tea Break			
10:30	11:00				Artificial Intelligence and Big Data Analytics in Operations and Supply Chain Management I			Stochastic processes	Service Systems Management	Keynote Session Prof. Ger Koole	
11:00	11:30									Conference Closure	
11:30	12:00										
12:00	12:30	Lunch			Lunch			Light Lunch			
12:30	13:00										
13:00	13:30	Keynote Session Prof. Kannan Govindan			Keynote Session Prof. Michael Grieves						
13:30	14:00										
14:00	14:30	Stochastic Models in Healthcare	Transportation Management	Queueing Networks I	Smart warehouses	Stochastic models					
14:30	15:00										
15:00	15:30										
15:30	16:00	Coffee & Tea Break			Coffee & Tea Break						
16:00	16:30	Inventory management	Queueing Networks II	Pricing	Queueing Networks III	Artificial Intelligence and Big Data Analytics in Operations and Supply Chain Management II					
16:30	17:00										
17:00	17:30	LAB TOUR									
17:30	18:00										
18:00	18:30										
18:30	19:00										
19:00	20:30										
20:30	-	SOCIAL DINNER at MUSEO DELLA SCIENZA E DELLA TECNICA									

*all times in Central Europe Time (Brussels).

Wed 5th June		
<i>Time</i>	<i>Description</i>	<i>Location</i>
9:00 - 09:30	Conference Registration	Hall
09:30 - 10:00	Conference Opening and Welcome	Aula Magna Carassa e Dadda
10:00 - 12:00	Parallel Technical Sessions	
10:00 - 12:00	Strategic Customers in Queuing Systems I	Aula Magna Carassa e Dadda
	Chair: Refael Hassin	
10:00 - 10:20	Title: On Strategic Customers in the Group-Merging Israeli Queue; Authors: Gabi Hanukov, Efrat Perel and Nir Perel	
10:20 - 10:40	Title: The Israeli Queue with a Capacitated Server: Modeling and Approximations; Authors: Nir Perel, Efrat Perel and Mor Kaspí	
10:40 - 11:00	Title: Foresee the Next Line: Customer Strategies and Information Disclosure in Tandem Queues; Authors: <u>Ran Snitkovsky</u> , Ricky Roet Green and Jingwei Ji	
11:00 - 11:20	Title: Strategic reneging in a Markovian queueing system with server replacement; Authors: Dimitrios Logothetis and Odysseas Kanavetas	
11:20 - 11:40	Title: The effect of server competition on priority purchasing customer behavior; Authors: Binyamin Oz and Elisheva Zur Schwarz	
11:40 - 12:00	Title: Queueing Networks with Strategic Customers: Recursive Computation of Equilibrium and Optimal Strategies; Authors: <u>Apostolos Burnetas</u>	
10:00 - 11:40	Stochastic Models in Manufacturing	BL28.1.1
	Chair: Nicla Frigerio	
10:00 - 10:20	Title: Optimal Capacity Allocation to an Automotive OEM Facing Service-dependent Demand and Market Exit Risk; Authors: Govind Kumawat, Debjit Roy and <u>Felix Papier</u>	
10:20 - 10:40	Title: Exploring the Benefits of Dynamic Scheduling in Complex Manufacturing Settings; Authors: Jan-Niklas Dörr, <u>Alexander Pahr</u> and Martin Grunow	
10:40 - 11:00	Title: Robust Energy-aware Scheduling of Jobs on Parallel Batch Processing Machines; Authors: Jens Rocholl and <u>Lars Moench</u>	
11:00 - 11:20	Title: Dynamic dispatching and batching in the diffusion work area of semiconductor manufacturing systems; Authors: <u>Roberto Rosario Corsini</u> , Antonio Costa, Giuseppe Oriti, Daniele Vinciguerra, Marco Stefano Scroppo and Daniele Pagano	
11:20 - 11:40	Title: A Simulation-Based Cut Generation Method for Integer Resource Allocation in Production Networks; Authors: <u>Andrea Matta</u> , Menghyi Zhang and Arianna Alfieri	
12:00 - 13:00	Lunch	Catering area

13:00 - 14:00	Keynote Session Prof. Kannan Govindan Chair: Antonis Economou	Aula Magna Carassa e Dadda
14:00 - 15:30	Parallel Technical Sessions	
14:00 - 15:20	Queueing Networks I	Aula Magna Carassa e Dadda
	Chair: Rein Nobel	
14:00 - 14:20	Title: Queues with Service Resetting; Authors: <u>Uri Yechiali</u> , Ofek Lauber-Bonomo and Shlomi Reuveni	
14:20 - 14:40	Title: Impact of retrial distribution in stationary and time-dependent queues; Authors: Ömer Özümerzifon, Benjamin Legros and <u>Raik Stolletz</u>	
14:40 - 15:00	Title: A Strategic Double-Ended Queueing Model for Shared Transportation; Authors: <u>Refael Hassin</u> and Yuval Brief	
15:00 - 15:20	Title: On the Value of Service Age Information; Authors: Yoav Kerner, <u>Ricky Roet-Green</u> and Lin Zang	
14:00 - 15:00	Transportation Management	BL28.1.1
	Chair: Elena Tappia	
14:00 - 14:20	Title: An integrated approach to synchronize transportation and warehousing activities; Authors: Maximiliano Cubillos, Ola Jabali, <u>Elena Tappia</u> and Tea Castellucci	
14:20 - 14:40	Title: Selecting the best carrier for each delivery: a machine learning based approach; Authors: <u>Matteo Mascheroni</u> , Emilio Moretti, Alessandro Del Fabbro, Elena Tappia and Marco Melacini	
14:40 - 15:00	Title: Time-Dependent Shipment Options and Shipment Fees for E-Commerce Fulfillment Centers; Authors: <u>Uta Mohring</u> , Melvin Drent, Ivo Adan and Willem van Jaarsveld	
14:00 - 15:20	Stochastic Models in Healthcare	BL28.1.2
	Chair: Binyamin Oz	
14:00 - 14:20	Title: Using simulated machine learning to evaluate robust decision-making policies: an application to hospital staff rostering; Authors: Martina Doneda, Pieter Smet, Giuliana Carello, <u>Ettore Lanzarone</u> and Greet Vanden Berghe	
14:20 - 14:40	Title: Allocation of Persons to Mental Health Homes by Knapsack-Based Routing; Authors: Rebekka Arntzen, René Bekker and <u>Rob van der Mei</u>	
14:40 - 15:00	Title: Advance Scheduling for Chronic Care Under Online or Offline Revisit Uncertainty; Authors: <u>Xiaoxiao Shen</u> , Shichang Du, Yan-Ning Sun, Poly Z. H. Sun, Rob Law and Edmond Q. Wu	
15:00 - 15:20	Title: Are No-Shows All That Bad? Strategic Double-Booking and When to Intervene; Authors: Opher Baron, <u>Olga Bountali</u> , Arseniy Gorbushin and Binyamin Oz	
15:20 - 16:00	Coffee & Tea Break	Catering area
16:00 - 17:20	Parallel Technical Sessions	

16:00 - 17:00	Inventory Management	Aula Magna Carassa e Dadda
	Chair: Baris Balcioglu	
16:00 - 16:20	Title: Fair and Profitable When Serving Different Customer Profiles; Authors: <u>Baris Balcioglu</u> and Sinan Dede	
16:20 - 16:40	Title: Joint Discount and Replenishment Parametric Policies for Perishable Products.; Authors: <u>Edoardo Fadda</u> , Paolo Brandimarte and Francesca Maggioni	
16:40 - 17:00	Title: Planning with Supply Yield Uncertainty: On the Optimality of Linear Policies; Authors: <u>Riccardo Mogre</u> and Jan A. Van Mieghem	
16:00 - 17:20	Queueing Networks II	BL28.1.1
	Chair: Pascal Moyal	
16:00 - 16:20	Title: Quality Versus Quantity in Dynamic Matching with Impatient Agents; Authors: <u>Angela Kohlenberg</u> and Itai Gurvich	
16:20 - 16:40	Title: A single-server delay/retrial model with two phases of service and non-preemptive priority for the queued customers; Authors: <u>Rein Nobel</u> and Hylke Muntinghe	
16:40 - 17:00	Title: Dynamic programming for the general stochastic matching model; Authors: Jean Loïc and <u>Pascal Moyal</u>	
17:00 - 17:20	Title: Finite number of random priority levels; Authors: Moshe Haviv and <u>Binyamin Oz</u>	
16:00 - 17:00	Pricing	BL28.1.2
	Chair: Benjamin Legros	
16:00 - 16:20	Title: Pigouvian taxation for socially responsible queueing in Naor's model; Authors: <u>Benjamin Legros</u> and Johan van Leeuwen	
16:20 - 16:40	Title: Learning and pricing in queues with unobserved balking; Authors: Shreehari Bodas, Michel Mandjes and <u>Liron Ravner</u>	
16:40 - 17:00	Title: Job pricing with online platforms; Authors: Kaiyue Yang, Oualid Jouini and <u>Benjamin Legros</u>	
17:00 - 17:20	Title: Dynamic Pricing with Finite Price Sets via Upper Confidence Bounds; Authors: <u>Thanos Avramidis</u>	

Thu 6th June		
<i>Time</i>	<i>Description</i>	<i>Location</i>
09:00 - 10:20	Parallel Technical Sessions	
09:00 - 10:20	Finance and Risk Management	Aula Magna Carassa e Dadda
	Chair: Ad Ridder	
09:00 - 09:20	Title: A Simulation Analysis for the Role of Counting Distributions in Estimating Extreme Loss Events of Insurance Claims; Authors: Shaul Bar Lev, <u>Ad Ridder</u> and Tomer Shushi	
09:20 - 09:40	Title: Procurement Portfolio Management for Resilient Supply Chains: Value of Information for Risk Averse Decision Making; Authors: <u>Yasemin Merzifonluoglu</u>	
09:40 - 10:00	Title: Exploring Copula Methods for Advanced Financial Modelling: A Critical Analysis; Authors: <u>Mohammed Ahnouch</u> and Erwan Lesaout	
10:00 - 10:20	Title: Optimal adaptive control for Markov Decision Processes (MDP) under side constraints; Authors: Apostolos Burnetas, <u>Odysseas Kanavetas</u> and Michael Katehakis	
09:00 - 10:20	Markovian Decision Process in Operations Management	BL28.1.1
	Chair: Nicla Frigerio	
09:00 - 09:20	Title: Scheduling of Firm-Initiated Field Appointments with Customer Choice; Authors: Yanlu Zhao and <u>Felix Papier</u>	
09:20 - 09:40	Title: A Bi-objective Integrated Design and Dynamic Maintenance Approach to the Redundancy Allocation Problem; Authors: Luke Fairley, Robert Shone, Jefferson Huang and Peter Jacko	
09:40 - 10:00	Title: An MDP Approach to Operate Two-product Circular Manufacturing Systems; Authors: <u>Yunlei Song</u> , Nicla Frigerio, Oktay Karabag and Baris Tan	
10:00 - 10:20	Title: Optimal service control under controller vacations: the supermarket manager model.; Authors: Camiel Koopmans, <u>Odysseas Kanavetas</u> and Floske Spieksma	
09:00 - 10:20	Optimization I	BL28.1.2
	Chair: Oualid Jouini	
09:00 - 09:20	Title: Efficient Heuristics to Minimize Total Completion Time with Separate Setup Times; Authors: <u>Harun Aydilek</u> , Ali Allahverdi, Asiye Aydilek and Muberra Allahverdi	
09:20 - 09:40	Title: A New Simheuristic Approach for Stochastic Runway Scheduling; Authors: <u>Rob Shone</u> , Kevin Glazebrook and Konstantinos Zografos	
09:40 - 10:00	Title: Multi-agent Tourist Trip Planning; Authors: Jesse Nagel, Joris Slootweg and <u>Rob van der Mei</u>	
10:00 - 10:20	Title: A bivariate two-moments fit and its application in appointment scheduling; Authors: Bharti Bharti, <u>Rene Bekker</u> and Michel Mandjes	
10:20 - 11:00	Coffee & Tea Break	Catering Area

11:00 - 12:40	Parallel Technical Sessions	
11:00 - 12:40	Artificial Intelligence and Big Data Analytics in Operations and Supply Chain Management I	Aula Magna Carassa e Dadda
	Chair: Mohsen A Jafari	
11:00 - 11:20	Title: Predictive Reasoning and Generative AI for Optimal Stochastic Control; Authors: <u>Mohsen A Jafari</u>	
11:20 - 11:40	Title: Managing Ameliorating Food Inventory Using Deep Reinforcement Learning; Authors: <u>Alexander Pahr</u> and Martin Grunow	
11:40 - 12:00	Title: Data-Driven Optimization for Some Single Stage Decision Making Problems under Uncertainty; Authors: Bijan Bibak and <u>Fikri Karaesmen</u>	
12:00 - 12:20	Title: Pricing, Customer Admission and Driver Repositioning in Ride-Hailing Networks: A Deep Reinforcement Learning Approach; Authors: <u>Thomas De Munck</u> , Jean-Sébastien Tancrez and Philippe Chevalier	
12:20 - 12:40	Title: Real-Time Optimization of Microgrids Using TD3 and Deep Reinforcement Learning: Southeast Asia; Authors: <u>Yara Jubran</u> and Romain Migne	
11:00 - 12:20	Stochastic processes	BL28.1.1
	Chair: Rob Van Der Mei	
11:00 - 11:20	Title: Simulation Optimization of Reflected Brownian Motion; Authors: <u>Harsha Honnappa</u> , Raghu Pasupathy and Zihe Zhou	
11:20 - 11:40	Title: Emergence of scale-free cascading failures: Generalized approach across all simple, connected graphs; Authors: <u>Agnieszka Janicka</u> , Fiona Sloothaak and Maria Vlasίου	
11:40 - 12:00	Title: A First-Order Gradient Approach for the Connectivity Analysis of Weighted Graphs; Authors: <u>Christian Franssen</u> , Alessandro Zocca and Bernd Heidergott	
12:00 - 12:20	Title: Generic Measures for Quantifying the Dependency between Random Variables; Authors: Rob van der Mei, Guus Berkelmans, Joris Pries and <u>Sandjai Bhulai</u>	
11:00 - 12:40	Service Systems Management	BL28.1.2
	Chair: Justus Arne Schwarz	
11:00 - 11:20	Title: Co-exposure management in service systems; Authors: <u>Binyamin Oz</u> and Yael Perlman	
11:20 - 11:40	Title: Staffing queuing systems with finite population and deadlines; Authors: <u>Justus Arne Schwarz</u> and Maximilian Kunz	
11:40 - 12:00	Title: Multitasking Service Systems with Many Servers; Authors: <u>René Bekker</u> , Jaap Storm and Wouter Berkelmans	
12:00 - 12:20	Title: Capacity Allocation and Scheduling in Two-Stage Service Systems with Multi-Class Customers; Authors: Zhiheng Zhong, Ping Cao, <u>Junfei Huang</u> and Sean Zhou	
12:40 - 13:40	Lunch	Catering Area

13:40 - 14:40	Keynote Session Prof. Micheal Grieves Chair: Lars Moench	Aula Magna Carassa e Dadda
14:40 - 15:40	Parallel Technical Sessions	
14:40 - 15:40	Smart warehouses	Aula Magna Carassa e Dadda
	Chair: Elena Tappia	
14:40 - 15:00	Title: Case Study on Efficient Material Handling System Through Task Assignment Based on the Health Status of OHT and AMR; Authors: Young Jae Jang and <u>Tae Hoon Kim</u>	
15:00 - 15:20	Title: Swarm or System-directed? Analysis of Human-Robot Matching Policies in Collaborative Order Pick Systems; Authors: <u>Mahdi Ghorashi Khalilabadi</u> , Debjit Roy and Rene de Koster	
15:20 - 15:40	Title: Maximizing the throughput capacity of mixed load multi-deep robotic storage and retrieval systems; Authors: <u>Timo Lehmann</u> and René De Koster	
14:40 - 15:40	Stochastic models	BL28.1.1
	Chair: Maria Rieders	
14:40 - 15:00	Title: Exact measures for quantifying the potential transmission of an epidemic process: A stochastic approach considering imperfect vaccines in an SVIR model; Authors: <u>Maria Gamboa</u> , María Jesús Lopez Herrero and Martin Lopez Garcia	
15:00 - 15:20	Title: Optimal Location of Rabies Vaccination Sites Incorporating Queueing Effects; Authors: <u>Maria Rieders</u> , Sherrie Xie, Ricardo Castillo-Neyra, Bhaswar B. Bhattacharya and Michael Z. Levy	
15:20 - 15:40	Title: Estimation of on- and off-time distributions in a dynamic Erdős-Rényi random graph; Authors: <u>Jiesen Wang</u> and Michel Mandjes	
15:40 - 16:00	Coffee & Tea Break	Catering area
16:00 - 17:00	Parallel Technical Sessions	
16:00 - 17:00	Queueing Networks III	Aula Magna Carassa e Dadda
	Chair: Raik Stolletz	
16:00 - 16:20	Title: On Designing a Fire Emergency Vehicle Fleet; Authors: <u>Yossi Luzon</u> , Opher Baron, Vedat Verter and Oded Berman	
16:20 - 16:40	Title: Two moment approximation of multi-server queues with bulk arrivals and batch service; Authors: <u>Horst Zisgen</u>	
16:40 - 17:00	Title: Consistent delay estimation for queues with arrival rate uncertainty; Authors: Liron Ravner and <u>Binyamin Oz</u>	
16:00 - 17:00	Artificial Intelligence and Big Data Analytics in Operations and Supply Chain Management II	BL28.1.1

	Chair: Giovanni Lugaresi	
16:00 - 16:20	Title: Time series forecasting using Large Language Models; Authors: Sandjai Bhulai and <u>Elena Garlati</u>	
16:20 - 16:40	Title: Automated Generation of Digital Models for Production Systems through State Reconstruction and Event Inference; Authors: Lulai Zhu, <u>Giovanni Lugaresi</u> and Andrea Matta	
16:40 - 17:00	Title: Empowering Digital Twin with Artificial Intelligence; Authors: <u>Mohammad Dehghani</u>	
19:00 - 20:30	WELCOME COCKTAIL and MUSEUM VISIT at MUSEO DELLA SCIENZA E DELLA TECNICA	
20:30	SOCIAL DINNER at MUSEO DELLA SCIENZA E DELLA TECNICA	

Fri 7th June		
<i>Time</i>	<i>Description</i>	<i>Location</i>
09:00 - 10:20	Parallel Technical Sessions	
09:00 - 10:20	Optimization II	Aula Magna Carassa e Dadda
	Chair: Alessandro Arlotto	
09:00 - 09:20	Title: Sequential policies and the distribution of their total rewards in dynamic and stochastic knapsack problems; Authors: <u>Alessandro Arlotto</u> , Yun-Tung Kuo and Xinchang Xie	
09:20 - 09:40	Title: Exploring gradient ascent approaches to ranking and selection problems; Authors: <u>Joost Berkhout</u>	
09:40 - 10:00	Title: Data-Driven Distributionally Robust Chance-Constrained Linear Matrix Inequalities; Authors: <u>Fengjie Liang</u> , Jianqiang Cheng and Kai Pan	
10:00 - 10:20	Title: Pooled Testing with Congestion; Authors: <u>Oualid Jouini</u>	
09:00 - 10:20	Strategic Customers in Queuing Systems II	BL28.1.1
	Chair: Fikri Karaesmen	
09:00 - 09:20	Title: Earning from the wait: toll versus advertisement; Authors: <u>Zeynep Aksin</u> , M. Hichame Benbitour, Oualid Jouini, Benjamin Legros, Raik Stolletz and Mohammad Zenouzzadeh	
09:20 - 09:40	Title: Strategic Queueing with Deadlines; Authors: Joris Slootweg, Jesse Nagel and <u>Rob van der Mei</u>	
09:40 - 10:00	Title: Queueing systems with strategic customers who receive information about other customers' decisions; Authors: <u>Antonis Economou</u>	
10:00 - 10:20	Title: Heterogeneous Risk-Averse Strategic Customers: Equilibrium Behavior and Pricing; Authors: Hadi Mahmoudzadeh, Athanasia Manou, <u>Fikri Karaesmen</u> and Pelin Gülşah Canbolat	
10:20 - 11:00	Coffee & Tea Break	Catering Area
11:00 - 12:00	Keynote Session Prof. Ger Koole Chair: Zeynep Aksin	Aula Magna Carassa e Dadda
12:00 - 12:30	Conference Closure	Aula Magna Carassa e Dadda
12:30 - 13:30	Light Lunch	Catering Area