

MA-01 Opening session (R5) 09:00 – Welcome addresses [Chair: Anders Gullhav]

MB-01 Plenary session (R5) 09:30 – Leveraging Operations Research to drive innovation in Healthcare Systems – *Nadia Lahrichi* [Chair: Anders Gullhav]

| MC-01 Simulation 1 (R5) 11:00                                                                                                                                                                        | MC-02 Implementation (R8) 11:00                                                                                                                                     | MC-03 Staff scheduling (R9) 11:00                                                                                                             |
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| Comparative analysis of parametric and nonparametric probability distributions for uncertainty quantification in simulation studies – <i>Sara Garber</i>                                             | Condorcet ranking for developing co-designed outcome measures in clinical research under the "Tournament Methods" framework – <i>Hannah Johns</i>                   | Operating room scheduling under limited turnover staff – <i>Gabriela Pinto Espinosa</i>                                                       |
| Optimizing Healthcare Resources through AI-Enhanced Diabetic Foot Screening: A Long-Term Cost-Effectiveness Analysis – <i>Yan Sun</i>                                                                | A systematic review of studies that mention the implementation of OR in health services – <i>Guillaume Lamé</i>                                                     | Nurse to patient ratios in South Africa and its impact on nurse and patient outcomes – <i>Siedine Coetzee</i>                                 |
| Managing the Ripple Effect: Dynamic Waiting Lists, Resource Constraints, and Adaptive Hospital Case Mix Planning for Internal Management and External Influence – <i>Sebastian Kraul</i>             | Perinatal mental health plan assessment in Ile de France region (IDF) – <i>Catherine Crenn-Hebert</i>                                                               | An automated doctor rostering decision support tool for Knysna Hospital – <i>Klara Engelbrecht</i>                                            |
| How different drivers can influence patients' decisions – <b>Roberto Aringhieri</b>                                                                                                                  | From models to implementation: the impact of embedded OR research in a Dutch hospital – <b>Gréanne Leeftink</b>                                                     | Healthcare staffing using split shifts – <b>David Ajit Kirpekar-Sauer</b>                                                                     |
| MD-01 Home healthcare (R5) 13:30                                                                                                                                                                     | MD-02 Patient to room (R8) 13:30                                                                                                                                    | MD-03 ED & ICU (R9) 13:30                                                                                                                     |
| Barriers to Participation in Personalised Home Care: A COM-B-Informed Review of Self-Directed Support and International Models – <i>Shafkat Ibrahimy</i>                                             | Generating realistic patient data – <i>Tabea Brandt</i>                                                                                                             | Addressing Emergency Department Overcrowding through Efficient Queue Management: a Deep Reinforcement Learning Approach – <i>Luca Zattoni</i> |
| Enabling Efficient Telemedicine: The Potential of OR/OM Applications in Healthcare Delivery – <i>Ali Ghavamifar</i>                                                                                  | Allocating Patients to Rooms under Uncertainty: An MDP-Based Approach – <i>Philipp Pelz</i>                                                                         | ICU capacity management: An AI-based transparent scoring model for integrated clinical decision support – <i>Christina Bartenschlager</i>     |
| Multi-Objective Models for Efficient and Patient-Centered Home Healthcare Routing and Scheduling – <i>Soumen Atta</i>                                                                                | Trade-off analysis of different objective functions for the patient-to-room assignment problem – <i>Johanna Leweke</i>                                              | Keep Waiting or Leave Without Being Seen? The Impact of Early Assessment in Emergency Departments – <i>Chiara Morlotti</i>                    |
| Investigating the Incorporation of Circular Economy, Resilience, and Sustainability Concepts in Healthcare Supply Chain Modelling: A Narrative Review with Expert Insights – <b>Fatemeh Alidoost</b> | Optimizing Case-Mix Planning at the Territorial Level: A Pathway-Centered and Resource-Aware Approach – <b>Thierry Garaix</b>                                       | Dynamic Predictive Modeling for Decision Support and Patient Management in Intensive Care Units – <b>Daniel García-Vicuña</b>                 |
| ME-01 Access and EMS (R5) 15:30                                                                                                                                                                      | ME-02 Cancer and personalised care (R8) 15:30                                                                                                                       | ME-03 Appointment scheduling (R9) 15:30                                                                                                       |
| Understanding the Impact of Accessibility on Hemodialysis Outcomes in India – <i>Sachin Bodke</i>                                                                                                    | From Theory to Clinic: Operationalizing Evolutionary Cancer Therapy for Metastatic Non-Small Cell Lung Cancer – <i>Arina Soboleva</i>                               | Predictive decision-support tool for improved nurse scheduling through the application of artificial intelligence – <i>Agita Solzemniece</i>  |
| Using queueing games and contract theory to improve access to care: The case of the Ontario Autism Program – <b>Felipe Rodrigues</b>                                                                 | An Online Algorithm for Integrated Scheduling of Pre-Treatment and Treatment Appointments in Radiotherapy using Deep Reinforcement Learning – <i>Maxim Frankish</i> | Warm-Starting Outpatient Appointment Scheduling Using Historical Solutions – <i>Sara Cambiaghi</i>                                            |
| On Surgery Ward Resilience: Quantitative Concepts, Evaluation, and Analysis – <i>Gabriela Ciolacu</i>                                                                                                | Distributionally Robust Chance Constraints for VMAT Treatment Planning – <i>Houra Mahmoudzadeh</i>                                                                  | An Integrated Scheduling Model for Optimal Management of Medical Examinations in Tertiary Hospitals – <i>Jingshan Li</i>                      |
|                                                                                                                                                                                                      | Innovative Approaches to Managing Demand and Capacity in Mental Health – <b>Christos Vasilakis</b>                                                                  | The impact of forecasting: Dynamic appointment scheduling with elective and semi-urgent patients – <b>Jedidja Lok - Visser</b>                |

| TuA-01 Surgery Scheduling 1 (R5) 09:00                                                                                                                          | TuA-02 EMS and cyber attacks (R8) 09:00                                                                                                                            | TuA-03 Location and logistics (R9) 09:00                                                                        |
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| Operating room scheduling with fairness over time and proper training – <i>Alice Daldossi</i>                                                                   | Mapping and assessing cyberattack propagation through digitally interconnected hospitals – <i>Abhilasha Bakre</i>                                                  | Inventory management for mobile clinics in the Witzenberg region, South Africa – <i>Isabelle Nieuwoudt</i>      |
| Evaluation of the performance of machine learning models for the prediction of the operating room occupation time of non-elective surgeries – <i>Anem Dupré</i> | Quantitatively measuring cyber risk in healthcare – <i>Aiman Zainab</i>                                                                                            | A Novel Cross-Entropy Heuristic for Location-Allocation Problems in Healthcare Applications – <i>Mark Tuson</i> |
| Optimizing OR Efficiency with Just-In-Time Surgical Case Carts: A Combined Simulation and DEA Approach – <i>Joke Borzée</i>                                     | Using simulation modelling to compare the impact of alternative hospital operational policies on patient outcomes following flood disasters – <i>Sorour Farahi</i> | Optimising Department Allocation in Hospital Layouts – <i>Allan Larsen</i>                                      |
| Predicting nurse turnover intention using machine learning algorithms – <i>Jacoba Bührmann</i>                                                                  | Experimental investigation of personality and strategy types of paramedics from the Austrian Red Cross – <i>Marion Rauner</i>                                      | Improving accessibility to basic healthcare services by mobile clinics – <i>Angel Ruiz</i>                      |

**TuB-01 Poster session 1 (R5 and AU1-101) 11:00** [Chair: Joe Viana]

A multiperiod resource minimization model for rural emergency medical services networks with ground and air ambulances – *Lieke Jansen*

Panel Size Management for Enhanced Patient Care: A Data-Driven Simulation Approach – *Mina Moeini*

When Every Minute Counts: Predictive Modeling and Simulation in Organ Donation Management – *Arianna Freda*

Reusable Simulation of Emergency Departments: A Domain-Specific Modelling Language Approach – *BoFan Zhang*

Volatility-stratified surgical portfolios with layered spackling strategy for operating room capacity planning – *Chao Pan*

The impact of forecasting: Dynamic appointment scheduling with elective and semi-urgent patients – *Jedidja Lok - Visser*

| TuC-01 Analytics & healthcare management (R5) 13:30                                                                                                      | TuC-02 Integrated planning (R8) 13:30                                                                                                        | TuC-03 Optimisation (R9) 13:30                                                                   |
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| Prediction of Diabetic Foot Ulcer Using Bayesian Networks – <i>Malavika Krishnakumar</i>                                                                 | Swap-Stability in Nurse-to-Patient Assignment considering personal preferences – <i>Bianca Lauer</i>                                         | Elective Case Scheduling under Surgery Duration Uncertainty – <i>Sonja Weiland</i>               |
| Measuring the effect of deprivation on primary health care performance using data envelopment analysis and malmquist indices – <i>Holly Merelie</i>      | An Adaptive Large Neighborhood Search Approach for the Integrated Patient-to-Room and Nurse-to-Patient Assignment Problem – <i>Emily Lex</i> | Resilience Optimization of a Network of Hospitals Against Cyberattacks – <i>Stephan Helfrich</i> |
| Optimizing Total Flow Time in Hospital Sterilization Departments Using Column Generation – <i>Robin Schlembach</i>                                       | A Two-Step Matheuristic for the Integrated Healthcare Timetabling Problem – <i>Camille Pinçon</i>                                            | Coin making problem to Outpatient Pharmacy Automation System – <i>Kiok Liang Teow</i>            |
| Hierarchical Bayesian Model for 30-Day Hospital Census Forecasting and Resource Optimization at a Large Academic Medical Center – <i>Thomas Kingsley</i> | The Integrated Healthcare Timetabling Competition 2024 (IHTC-2024) – <i>Sara Ceschia</i>                                                     | Fair planning of out-of-hours service for pharmacies – <i>Christina Büsing</i>                   |

| TuD-01 Blood and sepsis (R5) 15:30                                                                                                       | TuD-02 System dynamics (R8) 15:30                                                                                                                |  |
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| A Discrete-Event Simulation Model to Improve Blood Component Production – <i>Aleya Gürsoy</i>                                            | Using system dynamics to assess the availability of emergency care at a regional level – <i>Matthew Pentecost</i>                                |  |
| Optimising Early Warning Systems: Exploring Enhanced Digital Sepsis Alerts and Equity Challenges in Patient Care – <i>Kate Honeyford</i> | Exploring the drivers of unsustainable pressures in health and social care: A qualitative system dynamics approach – <i>Le Khanh Ngan Nguyen</i> |  |
| Sequential Selection of Biomarkers in Sepsis Risk Scores Using Reinforcement Learning – <i>Anandakrishnan Nandakumar</i>                 | Investigating health policies in childhood obesity using system modelling – <i>Hannah Callaghan</i>                                              |  |
| Facilities Planning at CBS to meet collection targets in the 2030's – <i>John Blake</i>                                                  | Simulation and Optimization Approaches for Pandemic Response: EpiMORPH – <i>Esma Gel</i>                                                         |  |

**ThA-01 Opening session (KA12) 09:15** Welcome address – *Birger Endreseth* [Chair: Thomas Bovim]

**ThB-01 Plenary session (KA12) 09:30** Transforming healthcare delivery through data-driven organizational development and strategic planning – *Lina Grännö* [Chair: Henrik Andersson]

| <b>ThC-01 Innovation 1 (KA12) 11:00</b>                                                    | <b>ThC-02 Innovation 2 (KA11) 11:00</b>                                                                                                                                                                  |
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| Integrated care modelling utilising a shared patient information system – <i>Joe Viana</i> | Balancing waiting lists and workloads in hospitals – <i>Rob Vromans</i>                                                                                                                                  |
| Explainable Optimisation in Healthcare – <i>Felix Engelhardt</i>                           | Activity planning for surgeons with Deepinsight – <i>Arvind Chawla</i>                                                                                                                                   |
| Introducing capacity planning in home care – <i>Annelies van der Ham</i>                   | The last mile of research: How do we spread ORAHS' knowledge and make it stick? – <i>Sebastian Rachuba</i>                                                                                               |
| Algorithmic surgical planning at Oslo University Hospital – <i>Kjartan Klyve</i>           | Developing an Embedded Program for Operations Research Applied to Community Health Services and Public Health in a Canadian Health System: A Discussion of Lessons Learned – <i>Alexander Rutherford</i> |

**ThD-01 Poster session 2 (KA12) 13:30** [Chair: Aina Goday]

A multiperiod resource minimization model for rural emergency medical services networks with ground and air ambulances – *Lieke Jansen*

Panel Size Management for Enhanced Patient Care: A Data-Driven Simulation Approach – *Mina Moeini*

When Every Minute Counts: Predictive Modeling and Simulation in Organ Donation Management – *Arianna Freda*

Reusable Simulation of Emergency Departments: A Domain-Specific Modelling Language Approach – *BoFan Zhang*

Volatility-stratified surgical portfolios with layered spackling strategy for operating room capacity planning – *Chao Pan*

The impact of forecasting: Dynamic appointment scheduling with elective and semi-urgent patients – *Jedidja Lok - Visser*

**ThE-01 Panel discussion on innovation in healthcare (KA12) 14:00**

Chair: Jarl Reitan

Birger Henning Endreseth, St Olavs Hospital

Kjartan Klyve, KPMG

Gréanne Leeftink, University of Twente

Øystein Døhl, Trondheim Kommune

| <b>ThF-01 Innovation 3 (KA12) 15:30</b>                                                                                         | <b>ThF-02 Innovation 4 (KA11) 15:30</b>                                                                                                                                     |
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| Process Mining in Clinical Pathways: Bridging Challenges and Opportunities – <i>Luca Murazzano</i>                              | Straight Home: An initiative to reduce the number of discharge ready patients – <i>Joe Viana</i>                                                                            |
| Process Mining Electronic Health Records of People with Multiple Sclerosis: A 5-year Longitudinal Study – <i>Märt Vesinurm</i>  | Allocating operating room capacity to non-elective patients improves access and safety for elective patients at Aarhus University Hospital (DK) – <i>Maartje Zonderland</i> |
| Staffing for Flexibility: Dimensioning and Scheduling Nursing Pools - A Case Study from St. Olav's Hospital – <i>Aina Goday</i> | Constructing a polarity lexicon for depression-specific for sentiment analysis of social media posts – <i>Kurt Marais</i>                                                   |
| Automatized nurse rostering at St. Olav's Hospital – <i>Simen Vadseth</i>                                                       | Personnel scheduling in hospital emergency departments – <i>Anniek Pelleboer</i>                                                                                            |

| FA-01 Simulation 2 (R5) 09:00                                                                                                                                                 | FA-02 Surgery scheduling 2 (R8) 09:00                                                                                                        | FA-03 Elderly care (R9) 09:00                                                                                   |
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| Modeling strategic-level decision-making in specialized healthcare using simulation, with a focus on reducing waiting lists in traumatology services – <i>Miguel Baigorri</i> | Simulating the impact of errors on length-of-stay predictions and rescheduling policies on elective surgery planning – <i>Martina Doneda</i> | Care pathway optimisation using Markov chain modelling – <i>Maik Overmars</i>                                   |
| Evaluating the impact of staffing recommendations in maternity units in France: combining simulation and time-and-motion study – <i>Louis Niffoi</i>                          | A kernel based approach for the estimate-then-optimize surgery scheduling problem – <i>Ricardo Otero</i>                                     | Improving access to long-term care – <i>René Bekker</i>                                                         |
| A Generic Framework for Organizational Digital Twins in Healthcare: Application to an Emergency Department – <i>Marius Huguet</i>                                             | Scheduling surgery requests from outdoctors and indoctors under uncertainty – <i>Serhat Gül</i>                                              | Choosing pathways through hospital care for older persons – <i>Yvonne Li</i>                                    |
| A discrete-event simulation model to improve the appointment process and the patient flow of an MRI department – <i>Marie Petit</i>                                           | Shaping Outpatient Surgery Schedules: A Dual-Horizon Approach with Distributional Clustering – <i>Davide Duma</i>                            | Modelling (change in) health status and health care utilization in the 60+ population – <i>Geert-Jan Kommer</i> |

**FB-01 Business meeting (R5) 11:00** [Chairs: Melanie Reuter-Oppermann and Roberto Aringhieri]

**FC-01 Closing (R5) 12:20** [Chair: Anders Gullhav] - May be brought forward depending on the duration of the Business Meeting