

Monday, 3 July 2023

Registration

Opening Ceremony (Room Sentient Hubs)

Keynote Talk: Deltares: Ghada El Serafi (Room Sentient Hubs)

Coffeebreak & Networking

| Room Sentient Hubs Agent Based Simulation I CHAIR: Idalia Flores | | | |
|---|---------|---|---|
| Session | Paper # | Title | Authors |
| 11h30 | 387 | The Impact of Adding Interaction-Driven Evolutionary Behavior to the Schelling's Model | Yakup Turgut and Sanja Lazarova-Molnar |
| 11h50 | 4071 | A Methodology for Limit Cycle Detection in Simulation Models | Francesco Bertolotti and Luca Mari |
| 12h10 | 8550 | An Agent-Based Model for exploring behaviour change policies for improving waste separation at SMEs | Kasper Lange, Sabine Kerssens, Gjsbert Korevaar and Martijn Warrier |
| 12h30 | 2055 | Impact of power and CO2 emissions on parking sustainability: comparative analysis between automated and traditional systems | Felipe Haro, Joaquin Guzman and Soheila Antar |

| Room Wolfram Simulation and Healthcare I CHAIR: Maria Papanikou | | | |
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| Paper # | Title | Authors | |
| 981 | Data-based Model Identification of the Hypothalamus-Pituitary-Thyroid Complex | Clara Horvath, Andreas Körner and Corinna Modiz | |
| 1734 | Online Appointment Scheduling of Patients in a Resource Constrained Facility | Simran Lakhani, Ashutosh Mahajan, Akshay Baheti and Suyash Kulkarni | |
| 3595 | Analysis of the Notification Process for Medical Device Safety, Using Queuing Theory and Simulation | José Luis Dorbecker Saunders et al. | |
| 7377 | Contributions of Process Mining and Simulation to the Process Management Lifecycle using the Example of Healthcare Case Studies | Marianne Schmolke | |

| Room IGAMT Multimodal Transport CHAIR: Ashish Verma | | | |
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| Paper # | Title | Authors | |
| 1845 | A Novel Simulation Based Approach for User-Based Redistribution in Bike-Sharing System | Milan Mathew Thomas, Ashish Verma, Sai Kiran Mayakuntla and Aitichya Chandra | |
| 2241 | Evaluating logistical concepts with simulation: A case study of increasing freight train length at ports | Pawel Kolodziejczyk, Cornelis Versteeg and Michele Fumarola | |
| 4093 | Modelling passengers in air-rail multimodality | Luis Delgado, Tatjana Bolic, Andrew Cook, Elham Zareian, Ernesto Gregori and Annika Paul | |
| 7747 | Design of robust business processes using multimodel approach | Katarina Samoylova and Elena Zamyatina | |

Lunch break (Canteen Wibauthuis)

Keynote talk: Pr. Gabriel Wainer (Room Sentient Hubs)

| Room Sentient Hubs Simulation & Supply Chain: Margarita Bagamanova | | | |
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| Session | Paper # | Title | Authors |
| 14h45 | 1140 | A multi-paradigm simulation-based approach for resilient and sustainable supply chains in the process industry | Ana Silva, Catarina Marques and Jorge Sousa |
| 15h05 | 656 | Evaluating The Optimal Facility Location For Additive Manufacturing Service Bureau | Sagar Ghuge, Milind Akarte and Rohit Kumar |
| 15h25 | 7462 | A Monte Carlo Simulation Methodology for Uncertainty Analysis in Product Recall Management | Jean P. Morán-Zabala and Juan M. Cogollo-Florez |
| 15h45 | 4617 | A simulation framework to support maintenance management in the design of biomass supply chains | Henrique Piqueiro, Romão Santos, Reinaldo Gomes and Jorge Sousa |

| Room Wolfram Simulation in Education CHAIR: Cristina Ruiz Martin | | | |
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| Paper # | Title | Authors | |
| 9884 | MCSimulRisk: an educational tool for quantitative risk analysis | Fernando Acebes et al. | |
| 1689 | Technology-supported Teaching of Modeling and Simulation in Inverted Classroom Format | Alexander Edthofer et al. | |
| 8176 | Simulation model to the online course advising | Alejandro Felipe Zárate Pérez and Idalia Flores de la Mota | |
| 3947 | Simulation-based learning in aviation management studies using SIMIO software | Viktor Trasberg and Allan Nömmik | |

| Room IGAMT Simulation Optimization CHAIR: Mario Ruz | | | |
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| Paper # | Title | Authors | |
| 2706 | A method for efficient simulation of production lines through software-supported cooperation between production and simulation experts | Walter Wincheringer and Marek Kexel | |
| 6543 | A new Simheuristics procedure for stochastic combinatorial optimization | Joost Berkhout | |
| 7363 | Simulation applied to a consulting team assignment problem | Gabriel A. Rios-Esparza and Esther Segura-Pérez | |
| 1737 | Estimating Wind and Emission Parameters in an atmospheric transport model | Andres Yarce Botero, Olga Lucia Quintero Montoya and Arnold Heemink | |

Coffeebreak & Networking

| Room Sentient Hubs Agent Based Simulation II CHAIR: Sahil Besare | | | |
|---|---------|--|---|
| Session | Paper # | Title | Authors |
| 16h30 | 4360 | Pilot simulation for public passenger transport energy consumption | Carmen Angelina García Cerrud et al. |
| 16h50 | 5563 | Learning Explanatory Coherence Models from Agent-Based Simulation Experiments | Levent Yilmaz |
| 17h10 | 5635 | Simulating patient outmigration based on regional-level healthcare quality: an agent-based modeling approach | Moo Hyuk Lee and Young Kyung Do |
| 17h30 | 6870 | On the Relationship between Model Complexity and Decision Support in Agent-based Modeling and Simulation | Ruhollah Jamali and Sanja Lazarova-Molnar |

| Room Wolfram Simulation in Manufacturing and Agriculture CHAIR: Idalia Flores | | | |
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| Paper # | Title | Authors | |
| 6557 | Simulation analysis of flow patterns inside a cyclone bag separator at increasing clogging levels | Federico Solari et al. | |
| 7625 | Simulation-Optimization of Job Shop Scheduling using Reinforcement Learning | Sahil Belsare and Mohammad Deghani | |
| 8005 | An AI-Enabled Simulation: Applying Neural Network in a Flexible Flow Shop Problem | Soeb Hussain, Yash Nema and Mohammad Deghani/mohammadabadi | |
| 8864 | Modeling Dynamics of the Biogas Process under Uncertainty: A Fuzzy Set Theory Approach | Zahir Barahmand and Gamunu Samarakoon | |

| Room IGAMT Industrial Case Studies I CHAIR: Abdel El Makhlofi | | | |
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| Paper # | Title | Authors | |
| 2475 | Reward Calculation in Real-time Scheduling Based on Simulation and Q-learning | Shufang Xie, Tao Zhang and Oliver Rose | |
| 3140 | Simulation, a tool to improve the medical equipment production line | Federico Miguel Vázquez Trejo, Eduardo Herrera Jacobo and Ricardo Torres Mendoza | |
| 4489 | Optimizing Electric Arc Furnace Operations through an Intuitive User Interface on Siemens MindSphere: A Decision Support System | Simon Tomažič and Vito Logar | |

Cocktail and poster session

Tuesday, 4 July 2023

Registration

Keynote Talk: Sanja Lazarova-Molnar (Room Sentient Hubs)

Coffeebreak & Networking

| Room Sentient Hubs Agent Based Simulation and Control CHAIR: Igor Škrjanc | | | |
|--|---------|---|---|
| Session | Paper # | Title | Authors |
| 10h00 | 8439 | Evaluation of Government Incentive Policy on Industrial Waste Utilization by Agent-based Simulation of Industrial Symbiosis Network | Shufang Xie, Tao Zhang, Tobias Uhlig and Oliver Rose |
| 10h20 | 8099 | Exploring the Use of Urban Consolidation Centers for Efficient Last-Mile Delivery Using Agent Based Modelling and Simulation | Aitor Ballano, Anas Al-Rahamneh, Adrian Serrano and Javier Faulin |
| 10h40 | 3369 | Error-Model Predictive Control of Wheeled Mobile Robots for Minimum-Time Trajectory Tracking | Martina Benko Loknar, Andrej Zdešar, Sašo Blažič and Igor Škrjanc |
| 11h00 | 5934 | Optimal Active Generator Torque Control Strategies for Tower Lateral Load Reduction in the IEA 15 MW Wind Turbine | Manuel Lara, Mario L. Ruz, Iñaki Sandua, Francisco Vázquez and Juan Garrido |

| Room Wolfram Simulation and Healthcare II CHAIR: Maria Papanikou | | | |
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| Paper # | Title | Authors | |
| 5677 | Towards a hospital-wide simulation framework | Melanie Reuter-Oppermann, Michael O'Sullivan, Cameron Walker and Ilze Ziedins | |
| 5450 | Analysis of Covid-19 Transmission Using Complex Networks | Sashiko Shirai, Orosefía Sanchez, Carmen A. García-Cerrud and Idalia Flores-De la Mota | |
| 7693 | Permutation Entropy as a Conceptual Model to Analyse Brain Activity in Sleep | Alexander Edthofer et al. | |
| 3305 | Identifying Flight Schedule Characteristics Increasing Pilots Absenteeism at an Airline Using a Data Mining and Simulation Approach | Thomas Nibbering and Alejandro Murrieta Mendoza | |

| Room IGAMT Industrial Case Studies II CHAIR: Esko Juuso | | | |
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| Paper # | Title | Authors | |
| 7612 | The use of simulation throughout the lifecycle of advanced software algorithms – a case study | Yvo Saanen, Zack Lu and Gjsbert Bast | |
| 9738 | Architecture based on Cloud Services to boost cultural and heritage tourism in the department of Cesar, Colombia | Paola Patricia Ariza Colpas et al. | |
| 1602 | Application Of Digital Twin Simulation In Deploying AGV/ARV System To Hi-Tech Industry | Harikrishnan K, David Gyulai and Niranjana C To Hi-Tech Industry | |
| 8742 | Validation of Data-Driven Reliability Models in Manufacturing - Work in Progress | Jonas Friederich and Sanja Lazarova-Molnar | |

Coffeebreak & Networking

| Room Sentient Hubs Aviation I : Alejandro Murrieta | | | |
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| Time | Paper # | Title | Authors |
| 11h45 | 7311 | Network Effects from Local Performance Improvements in Europe's Air Transport System | Daniel Lubig, Hartmut Fricke and Bruno Desart |
| 12h05 | 7520 | A Causal STAM Model to Increase Airspace Network Capacity | Gonzalo Martin and Miquel Angel Piera |
| 12h25 | 4772 | Simulation-Optimisation-based decision support system for managing airport security resources | Geoffrey Scozzaro, Miguel Mujica Mota, Daniel Delahaye and Catherine Mancel |
| 12h45 | | | |

| Room Wolfram Simulation & Digital Twins CHAIR: Antonio Padovano | | |
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| Paper # | Title | Authors |
| 3651 | Digital Twins for Operations and Supply Chain Management from Data Engineering Point of View | Amir Ghasemi, Radhia Azzouz and Cathal Heavey |
| 4370 | Modeling of Logistics Networks with Labeled Property Graphs for Simulation in Digital Twins | Alexander Wuttke, Joachim Hunker, Anne Antonia Scheider and Markus Rabe |
| 5601 | Sustainable Simulation-based Digital Twin: an Application Portfolio Management tool to Minimize Digital Waste and Maximize Useful Life | Antonio Padovano et al. |
| 6358 | Enhancing Smart Manufacturing Systems: A Digital Twin Approach employing Simulation, Flexible Robots and Additive Manufacturing Technologies | Romão Santos, Rui Dias, Cláudia Rocha and João Quintas |

| Room IGAMT SPONSORS SESSION CHAIR: Paolo Scala | | |
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| INCONTROL: New simulation platform: Enterprise Resource Simulator (ERS) - Fred Jansma | | |
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Lunch break (Canteen Wibauthuis)

Keynote talk: Wolfram (Room Sentient Hubs)

Panel Session: "The importance of Simulation for a Sustainable Future" - Miquel Piera, Sanja Lazarova-Molnar, Jan Brugards, Ashish Verma, David Lucido (Room Sentient Hubs)

Coffeebreak & Networking

| Room Sentient Hubs Monitoring and Control I CHAIR: Igor Škrjanc | | | |
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| Time | Paper # | Title | Authors |
| 16h00 | 1635 | Identification of Hybrid Systems by Fuzzy C-regression Clustering | Saso Blazic and Igor Škrjanc |
| 16h20 | 1874 | Closed-loop workload input-output control of production systems: A hybrid simulation study | Gasper Music and Juliana Keiko Sagawa |
| 16h40 | 2830 | Evolving Neuro-Fuzzy Design of Experiments: A Novel Approach of Nonlinear Process Identification | Miha Ožbot and Igor Škrjanc |
| 17h00 | 5104 | Uncertainty processing based on Nonlinear Scaling for the TCP-100 solar thermal power plant | Esko Juuso and Luis Yebra |

| Room Wolfram Simulation and Machine Learning CHAIR: Mohammad Dehghani | | |
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| Paper # | Title | Authors |
| 912 | Integration of Reinforcement Learning and Discrete Event Simulation Using the Concept of Experimental Frame | Thorsten Pawletta and Jan Bartelt |
| 7544 | Supervised machine learning for input modelling of an agent-based simulation model for autonomous on-demand shuttle services. | Maylin Wartenberg et al. |
| 6302 | Modeling Social behavior on energy consumption – An agent-based with multivariate regression approach | Felipe Haro and Altaf Mazhar Soomro |
| 4302 | Combined Integration of Simulation and Machine Learning in a Design Methodology for Agile Production Networks | Willian Vent and Markus Rabe |

| Room IGAMT Environment and Sustainable Applications I CHAIR: Luis Fernandez | | |
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| Paper # | Title | Authors |
| 647 | Irrigation Efficiency using a Systems Dynamics Model: A Case Study of a Pepper Crop in La Merced - Peru | Seleni Lara Jauregui et al. |
| 1365 | Simulation and optimization in cross-sectoral water: a review | Adrielly Nahomee Ramos Alvarez, Idalia Flores de la Mota and Francisca Irene Soler Anguiano |
| 4763 | The experience of implementation of augmented reality in the "Parque Adalinda Sierra", municipality of La Paz, Cesar, Colombia | Paola Patricia Ariza Colpas et al. |
| 7543 | Water management improvements through strategic engineering combining simulation & genetic algorithms | Agostino Bruzzone et al. |

Gala Dinner (Restaurant Pilek)

Wednesday, 5 July 2023

Keynote Talk: Deltares: Igor Škrjanc (Room Sentient Hubs)

Coffeebreak & Poster Session

| Room Sentient Hubs Aviation II & Transportation CHAIR: Stavros Stomatatos | | | |
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| Time | Paper # | Title | Authors |
| 11h30 | 966 | Digital Twin Development with Agent-based Model to Support Aircraft Ground Operations in Total Airport Management | Mingchuan Luo, Hartmut Fricke, Michael Schultz and Bruno Desart |
| 11h50 | 7153 | Simulation-based Allocation and Routing Optimization: A Case Study of Single Versus Team Driving | Sajjad Amrollahi Blyouki, Chinedu Ufodike, Xuping Li, Hoon Hwangbo and John Bell |
| 12h10 | 1939 | U-space strategic: deconflicting service impact on Very Low Level airspace capacity | Zhiqiang Liu, Jose Luis Muñoz Gamarra and Juan José Ramos Gonzalez |
| 12h30 | | Open-LAQS: An Open Airport Local Air Quality Studies tool. | Stavros Stomatatos |

| Room Wolfram Simulation and Circular Economy CHAIR: Amir Ghasemi | | |
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| Paper # | Title | Authors |
| 5221 | Investigation of syngas production potential from gasification of coffee wastes using a computational particle fluid dynamic simulation | Rajan Kumar Thapa, Sunil Prasad Lohani, Roshan Shaht and Rajan Jaiswal |
| 7212 | Enhanced Hydrogen production from gasification of waste feedstock in a fluidized bed reactor | Rajan Jaiswal et al. |
| 7804 | Optimizing Portfolio Selection Strategy for Purchasing and Supply in Healthcare Considering Circular Economy Principles - Case: Isolation Gowns | Amir Ghasemi, Lori DiVito, Zita Ingen-Housz and S. Ali Torabi |
| 7966 | Application of augmented reality in the Plaza Simón Bolívar in Manauare, department of Cesar Colombia, as a strengthening of tourism and culture | Paola Patricia Ariza Colpas et al. |

| Room IGAMT Environment and Sustainable Applications II CHAIR: Marta Varo | | |
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| Paper # | Title | Authors |
| 9951 | Emission-based Production and Inventory Control System: A stability-based analysis for system cost and service level | Rishav Deval and Jayendra Venkateswaran |
| 9255 | A survey-based system dynamics analysis of commercializing biomass supply chains in Iran | Davoud Hosseini-zhad, Foorooz Goodarzi and Cathal Heavey |
| 7390 | Applying Simulation System to Compare the Use of Electric and Diesel Truck Fleets | Irina Yatskiv, Juris Tolujevs, Vladimirs Petrovs and Aleksejs Vesjolis |
| 8589 | Surrogate Assisted Simulation-based Grey Wolf Optimization for energy-efficient Supply Chain Configuration | Lucas Schreiber and Dennis Wilk |

Lunch break (Canteen Wibauthuis)

Keynote Talk: U Crowds : Roland Geraerts (Room Sentient Hubs)

Coffeebreak & Networking

| Room Sentient Hubs Monitoring and Control II CHAIR: Igor Škrjanc | | | |
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| Time | Paper # | Title | Authors |
| 15h30 | 2648 | Nonlinear control of a helio-crane laboratory device | Goran Andonovski, Martin Porenta and Igor Škrjanc |
| 15h50 | 6820 | Inventory control in MSMEs using Monte Carlo Simulation | Juan Genaro Chip Dominguez, Guillermo Pérez Camacho and Sonia Karina Pérez Juárez |
| 16h10 | 9631 | Resilience Analysis of Large-scale Food Flow Networks with an Optimization-based N-1 Contingency Approach | Sissi Adeli Bazan Santos and Sebastian Albrecht |
| 16h30 | 7176 | Deep Neural Input-Filtered Gaussian Process Model | Tadej Krivec and Juš Kocijan |

| Room Wolfram Simulation & Human Behaviour CHAIR: Geoffrey Scozzaro | | |
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| Paper # | Title | Authors |
| 295 | Modelling and simulating serpentine group behaviour in crowds using modified social force model | Gayathri Harihara Subramanian, Nipun Choubey and Ashish Verma |
| 1588 | Analyzing the sensitivity of pedestrian behaviour using a pedestrian simulation model | Nipun Choubey, Karthika P S and Ashish Verma |
| 275 | Discrete-Event Modeling of Human Behavior for Spread of Diseases on University Campuses | Hazel Griffith, Cristina Ruiz-Martin and Gabriel Wainer |

| Room IGAMT Simulation and Data: Arnold Heemink | | |
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| Paper # | Title | Authors |
| 4743 | Use of simulation to determine line production capacity in MSMEs | Yazmin Galvan, Susana Tellez and Ricardo Torres |
| 4647 | Backward-Oriented Decision and Planning Approaches in Production Scenarios: A Systematic Literature Review and Potential Solution Approach | Madlene Leißau and Christoph Laroque |
| 7031 | truck shuttle simulation between production plant and logistics centre: data acquisition and preparation | Marec Kexel and Walter Wincheringer |
| 6209 | Augmented reality applied to the "Baños de Paso de la Danta" in Manauare Cesar, an interactive experience of ICT and cultural heritage. | Paola Patricia Ariza Colpas et al. |

Closing Ceremony (Gerard van Haarlem Room)