

Schedule as of June 1, 2024

Schedule ECMS'2024: 4th - 7th June 2024

Tuesday 4 June 2024

05:00 PM - 07:00 PM	Registration Office (GIL gallery, 1st floor, Czytelnia room)
05:00 PM - 07:00 PM	Social Event - Welcom Party (GIL gallery, 1st floor, Czytelnia room)

Wednesday 5 June 2024

08:00 AM - 12:30 PM	Registration Office (Kotłownia)			
08:30 AM - 09:00 AM	Welcome & Opening Session (Kotłownia) - <i>Daniel Grzonka</i>			
09:00 AM - 10:00 AM	Keynote 1 (Kotłownia) - Complex Systems Approach to Natural Language - <i>Stanislaw Drozd</i>			
10:00 AM - 10:30 AM	Coffee Break (Kotłownia)			
	<b>Session DTSM</b> (Kotłownia) Chair: <i>Giovanni Lugaresi</i>	<b>Session MathMo</b> (S1 - GIL gallery) Chair: <i>Natalia Rylko</i>	<b>Session DIS</b> (S2 - GIL gallery) Chair: <i>Armando Tacchella</i>	<b>Session FES</b> (S3 - GIL gallery) Chair: <i>Agnes Vidovics-Dancs</i>
10:30 AM - 10:55 AM	<b>DTSM-21: Soft Body Simulation of Fish in Fish Processing Factories</b> <i>(Paul Steffen Kleppe, Benjamin Karlsen, Fridtjof Pedersen Lersveen, Lars Andre Giske)</i>	<b>MathMo-2: Computation of Temperature Distribution in the Integrated Thermal Protection System for Reusable Launch Vehicle</b> <i>(Edyta Hetmaniok, Rafal Brociek, Damian Slota)</i>	<b>DIS-50: Bound Block Elimination Algorithm for Accurate Visibility Computation in Point Cloud Analysis</b> <i>(Adrian Widlak, Pawel Ozimek, Piotr Labeledz, Jerzy Orlof)</i>	<b>FES-36: Analysis of the Housing Market Dynamics using NARX Neural Network</b> <i>(Grazyna Suchacka, Daria Wotzka, Lukasz Mach, Pawel Fracz, Marzena Stec, Joachim Foltys)</i>
10:55 AM - 11:20 AM	<b>DTSM-76: Digital Twin Driven Assembly Line Re-balancing and Decision Support</b> <i>(Giovanni Lugaresi, Kornel Tamas, Kovacs Laszlo)</i>	<b>MathMo-67: Multiscale Characteristics of Sentence Length Variability in Hopscotch by Julio Cortázar</b> <i>(Michal Dolina, Stanislaw Drozd, Jakub Dec, Jaroslaw Kwapien, Tomasz Stanisz)</i>	<b>DIS-90: Ensemble Models for Predicting CO Concentrations: Application and Explainability in Environmental Monitoring in Campania, Italy</b> <i>(Lelio Campanile, Luigi Piero Di Bonito, Francesco Di Natale, Mauro Iacono)</i>	<b>FES-37: Impact of the Volume of Developer Housing Units on Real Estate Prices in Poland: Correlation and Coherence Analysis</b> <i>(Daria Wotzka, Pawel Fracz, Marzena Stec, Ireneusz Dabrowski, Lukasz Mach, Bartosz Chorkow)</i>
11:20 AM - 11:45 AM	<b>DTSM-14: Speech-To-Jobshop: An Ontology-driven Digital Assistant for Simulation Modeling</b> <i>(Heiner Ludwig, Vincent Betker, Thorsten Schmidt, Mathias Kuehn)</i>	<b>MathMo-60: Intersections among Cluster Inclusions in Multi-phase Polydispersed Structures</b> <i>(Vladimir Mityushev, Daniel Grzonka)</i>	<b>DIS-79: Evaluating the Effects of Nudging and Deterrence on Users' Behavior for Privacy-By-Design</b> <i>(Mauro Iacono, Michele Mastroianni)</i>	<b>FES-32: How the Family Tax Allowances Have Affected Child Poverty in the Visegrad Countries 2005-2020</b> <i>(Erzebet Terez Varga)</i>
11:45 AM - 12:10 PM		<b>MathMo-44: Invariant Properties of Contrast Parameters of Plane Elastic Composites</b> <i>(Vladimir Mityushev)</i>	<b>DIS-86: 3D Weather Radar Network Cartesian Products Generation Framework</b> <i>(Piotr Szuster, Joanna Kolodziej)</i>	<b>FES-45: Women in Atypical Careers – Labour Market Analysis in the CEE Countries</b> <i>(Agnes Vaskovi, Anna Horvath)</i>
12:10 PM - 12:35 PM		<b>MathMo-61: Application of Structural Sums to Study Collective Behavior of Bacteria</b> <i>(Tomasz Ligocki)</i>		<b>FES-9: PLS-SEM Multigroup Analysis of Industry 5.0 Specific Human Capital Performance in Manufacturing Companies</b> <i>(Ilija Chernenko, Veronika Zemzulina) - online</i>
12:35 PM - 01:35 PM	Lunch Break (Kotłownia)			
	<b>Session DTSM</b> (Kotłownia) Chair: <i>Kovacs Laszlo</i>	<b>Session SecMoS</b> (S1 - GIL gallery) Chair: <i>Joanna Kolodziej</i>	<b>Session SIMO</b> (S2 - GIL gallery) Chair: <i>Georgi Kostov</i>	<b>Session FES</b> (S3 - GIL gallery) Chair: <i>Agnes Vaskovi</i>
01:35 PM - 02:00 PM	<b>DTSM-78: How to Evaluate Process Discovery for Digital Twins in Industry 4.0? Process Discovery, Hypothesis Testing and Conformance Analysis</b> <i>(Juliano Yoshiro Nishiura, Paulo Victor Lopes, Filipe Alves Neto Verri, Anders Skoogh)</i>	<b>SecMoS-91: Human-centric Cybersecurity: Trends – SecMoS Invited Talk</b> <i>(Joanna Kolodziej)</i>	<b>SIMO-12: An Adaptive Approach for Parallel Discrete Event Simulation Thread Pool Prediction</b> <i>(JiMing Su, Yiping Yao, Feng Zhu)</i>	<b>FES-31: The Prospects of Financial Opening-up in China in Light of the Trilemma of International Finance</b> <i>(Eszter Boros, Gabor Sztano)</i>
02:00 PM - 02:25 PM	<b>DTSM-77: Process Mining and Production Routing Fast Profiling for Data-Driven Digital Twins</b> <i>(Paulo Victor Lopes, Giovanni Lugaresi, Filipe Alves Neto Verri, Anders Skoogh)</i>	<b>SecMoS-48: Expressing Impact of Vulnerabilities: An Expert-filled Dataset and Vector Changer Framework for Modelling Multistage Attacks, based on CVE, CVSS and CWE</b> <i>(Tomasz Machalewski, Marcin Szymanek, Adam Czubak, Tomasz Turba)</i>	<b>SIMO-6: Modeling and Design of Fermentation Processes Part 1. Culture Medium Optimization and General Parameters of the Fermentation Process</b> <i>(Georgi Kostov, Vesela Shopska, Rositsa Denkova-Kostova, Kristina Ivanova)</i>	<b>FES-43: Hedging the FX Risk: The Role of Correlation</b> <i>(Agnes Vidovics-Dancs)</i>
02:25 PM - 02:50 PM	<b>DTSM-42: System and Management Interpretation of the Processes of Creation and Use of Digital Twins of Complex Technical Objects</b> <i>(Oleg V. Kofnov, Valerii V. Zakharov, Vladislav A. Sobolevsky, Boris V. Sokolov)</i>	<b>SecMoS-71: Security of Containerization Platforms: Threat Modelling, Vulnerability Analysis, and Risk Mitigation</b> <i>(Andrzej Mycek, Maryna Lukaczyk)</i>	<b>SIMO-40: Application of Artificial Neural Network for Predicting Nutrient Release from Neem (Azadirachtaindica) Coated Urea</b> <i>(Manish Vashishtha, Gaurav Yadav, Meenu Suhag, Shiv Om Meena)</i>	<b>FES-41: A Simulation-based Framework for Planning Dental Caries Prevention Programmes</b> <i>(Maria Hajlasz, Bozena Mielczarek)</i>
02:50 PM - 03:15 PM		<b>SecMoS-49: RFCA: Efficient, Robust and Flexible Cipher Algorithm For FPGA Implementation</b> <i>(Raphael Couturier, Hassan Noura)</i>	<b>SIMO-39: Dashboard Use Case for Supply Chain Resilience Management and Future Research Direction</b> <i>(Angela Sekulovska, Frank Morelli, Frank Schaeffer)</i>	<b>FES-73: Assessment the Effect of Green Bonds on Green Innovation</b> <i>(Emilia Nemeth-Durko) - online</i>
01:40 PM - 03:40 PM	ECMS Board Meeting (206B - GIL gallery)			
03:15 PM - 03:40 PM	Coffee Break (Kotłownia)			
05:15 PM - 07:45 PM	Social Event - Site Tour (Guided Tour of Cracow) - meeting at 05:00 PM at Kotłownia			

**Thursday 6 June 2024**

08:00 AM - 12:30 PM & 01:30 PM - 02:00 PM	<b>Registration Office (Kotłownia)</b>			
09:00 AM - 10:00 AM	<b>Keynote 2 (Kotłownia) - Formal Theory of Quantifiers in Natural Language and Their Syllogisms - Vilem Novak</b>			
10:00 AM - 10:30 AM	<b>Coffee Break (Kotłownia)</b>			
	Session BPMI (Kotłownia) Chair: <i>Romeo Bandinelli</i>	Session MathMo (S1 - GIL gallery) Chair: <i>Vladimir Mityushev</i>	Session DIS (S2 - GIL gallery) Chair: <i>Mauro Iacono</i>	Session FES (S3 - GIL gallery) Chair: <i>Kata Varadi</i>
10:30 AM - 10:55 AM	BPMI-72: <b>Combined Use of AI Techniques and Simulation To Support Production Scheduling: Evidence From Empirical Research</b> <i>(Romeo Bandinelli, Virginia Fani)</i>	MathMo-16: <b>Structural Analysis of Hybrid Electro-Hydraulic Power Steering System – A Bond Graph Approach</b> <i>(Amine Laaribi, Damien Eberard, Wilfrid Marquis-Favre, Jean-Marc Blond, Jerome Chaudet)</i>	DIS-84: <b>Investigating Reliability of Machine Learning Results depending on a Method and the Feature Pre-processing – the Case of E-customer Session Classification</b> <i>(Jacek Iwanski, Grazyna Suchacka)</i>	FES-34: <b>Studying the Interrelations between USALI Parameters and GOP through Wavelet Coherence Analysis</b> <i>(Lukasz Labanowski, Pawel Fracz, Daria Wotzka, Ireneusz Dabrowski)</i>
10:55 AM - 11:20 AM	BPMI-22: <b>Design, Testing and Operation of Fish Processing Lines – Can Simulation Tools and Artificial Intelligence Be a Gamechanger?</b> <i>(Irina-Emily Hansen, Ola Jon Mork, Paul Steffen Kleppe)</i>	MathMo-57: <b>Analyze the Encryption and Decryption Methods using the Catalan Sequence</b> <i>(Lukasz Walusiak, Natalia Rylko, Maciej Zdanski)</i>	DIS-85: <b>Lung Operation Training in Low-Cost Virtual Reality Simulation Environments</b> <i>(Pietro Piazzolla, Marco Gribaudo, Marco Domenico Buttiglione, Francesco Guerrera, Giorgio Colombo)</i>	FES-35: <b>Application of the Nonlinear Autoregressive Model with Exogenous Inputs for Predicting the Gross Operating Product based on USALI Data</b> <i>(Lukasz Labanowski, Pawel Fracz, Daria Wotzka, Joachim Foltys)</i>
11:20 AM - 11:45 AM	BPMI-23: <b>Sustainable Technology and Business Development: Application of Simulation Platforms in Norwegian Marine Industries</b> <i>(Irina-Emily Hansen, Ola Jon Mork, Paul Steffen Kleppe)</i>	MathMo-74: <b>Structural Investigation of Clouds</b> <i>(Natalia Rylko, Karolina Szymanska)</i>	DIS-20: <b>Improving Abstract Propagation for Verification of Neural Networks</b> <i>(Stefano Demarchi, Andrea Gimelli, Armando Tacchella)</i>	FES-38: <b>Valuing a Compound Exchange Option by Monte Carlo Method</b> <i>(Kata Varadi, Janos Szaz, Patricia Becsky-Nagy)</i>
11:45 AM - 12:10 PM	BPMI-65: <b>Machine Learning In Agile Manufacturing; A Usecase from Offshore Wind Turbine Product Lifecycle Management (Plm) System</b> <i>(Mehrnoosh Nickpasand, Henrique M. Gaspar, Hassan El Jaafari)</i>	MathMo-51: <b>Anisotropy Coefficient in 2D Polydisperse Model of Composite Structures</b> <i>(Krzysztof Barczak, Edyta Hetmaniok, Julia Kita, Joanna Warycha)</i>	DIS-88: <b>VGGISH for Music/Speech Classification in Radio Broadcasting</b> <i>(Salvatore Serrano, Marco Lucio Scarpa, Omar Serghini)</i>	FES-33: <b>GDP Influence on the ESG Risk Framework Disclosure of the Visegrad Four Banks</b> <i>(Zsuzsanna Tamasne Voneki, Gabriella Lamanda)</i>
12:10 PM - 12:35 PM		MathMo-58: <b>Acoustic Manifestations of Symmetry Breaking in Self-Similar Signals</b> <i>(Piotr Zielinski)</i>		FES-69: <b>Hybrid Agent-based Machine Learning Simulation of a Classroom Disruption Model</b> <i>(Khulood Alharbi, Alexandra Cristea) - <a href="#">online</a></i>
12:35 PM - 01:35 PM	<b>Lunch Break (Kotłownia)</b>			
	Session SIMO (Kotłownia) Chair: <i>Chenghao Dai /Maximilian Dilefeld</i>	Session SIMO (S1 - GIL gallery) Chair: <i>Frank Morelli</i>	Session SIMO (S2 - GIL gallery) Chair: <i>Lars Kappertz</i>	Session DIS (S2 - GIL gallery) Chair: <i>Marco Gribaudo</i>
01:35 PM - 01:55 PM	SIMO-13: <b>Analysis of Viscosity Behaviour of Shear-Thinning Hydrogels in 3D-Printing Nozzles</b> <i>(Fatemeh Ardaneh, Eero Immonen, Ashvinkumar Chaudhari, Jani Pelkonen, Santeri Knuutinen)</i>	SIMO-52: <b>Numerical Simulation of Localized Climate Scenarios Impacts on Vegetation CO2 Fluxes in the Madrid Region (Spain) with the WRF/CHEM-VPRM Model</b> <i>(Roberto San Jose, Juan Luis Perez-Camanyo)</i>	SIMO-83: <b>Pairing State Automata and Petri Nets – Simulation of Processes in Logistics</b> <i>(Carlo Simon, Stefan Haag)</i>	DIS-68: <b>Photogrammetric vs. Lidar Methods for Augmented Reality</b> <i>(Krzysztof Skabek, Pawel Ozimek, Dominika Rola)</i>
01:55 PM - 02:15 PM	SIMO-7: <b>Reinforcement Approach using Topology Optimization</b> <i>(Rabia Altunay, Eero Immonen, Jarkko Suuronen, Andreas Rupp, Lassi Roininen)</i>	SIMO-8: <b>Robot Task Assignment in Dynamic Factory Environments</b> <i>(Maximilian Dilefeld, Thorsten Claus, Frank Herrmann, Enrico Teich)</i>	SIMO-18: <b>On the Performance Evaluation of Synchronous and Asynchronous Parallel Particle Swarm Optimisation</b> <i>(Christoph Tholen, Lars Nolle)</i>	DIS-56: <b>Forecasting Energy Consumption in Energy Clusters using Machine Learning Methods</b> <i>(Piotr Jurek, Anna Plichta)</i>
02:15 PM - 02:35 PM	SIMO-70: <b>Simulation-Based Optimization for Driving Innovation in Manual Order Picking for a Wholesale Company</b> <i>(Pasquale Legato, Rina Mary Mazza)</i>	SIMO-11: <b>Multi-Site Aggregate Production Planning with Resilience Consideration</b> <i>(Chenghao Dai, Maximilian Schoen, Thorsten Claus, Frank Herrmann)</i>	SIMO-19: <b>Model Generalisation for Predicting the Amount of Photosynthetically Available Radiation in the Water Column from Freefall Profiler Observations</b> <i>(Christoph Tholen, Lars Nolle, Jochen Wollschlaeger, Frederic Stahl)</i>	DIS-66: <b>Multi-Agent System for Intelligent Scheduling</b> <i>(Eugene Aloeff, Dzmitry Adzinets)</i>
02:35 PM - 03:05 PM	<b>Coffee Break (Kotłownia)</b>			
04:30 PM	<b>Private bus to Wieliczka (Social Event - Wieliczka Salt Mine Tour) - meeting at 04:20 PM at Kotłownia</b>			
07:00 PM - 10:00 PM / 00:00 AM	<b>Social Event - Conference Gala Dinner (Wieliczka Salt Mine - Warszawa Chamber)</b>			

Friday 7 June 2024				
08:00 AM - 11:00 AM	Registration Office (Kotłownia)			
09:30 AM - 10:00 AM	Coffee Break (Kotłownia)			
	<b>Session SIMO</b> (Kotłownia) Chair: <i>Carlo Simon</i>	<b>Session FDEM</b> (S1 - GIL gallery) Chair: <i>Peter T. Zwierczyk</i>	<b>Session OCMS</b> (S2 - GIL gallery) Chair: <i>Henrique M. Gaspar, Yasuo Ichinose</i>	<b>Session SIMO</b> (S3 - GIL gallery) Chair: <i>Christoph Tholen</i>
10:00 AM - 10:25 AM	<b>SIMO-29: Biomechanical Identification and Simulation of Passive Ankle Joints in AnyBody</b> ( <i>Adam Leon Kleppe, Oystein Bjelland, Mohammad Amin Shayestehpour</i> )	<b>FDEM-1: Time History Analysis of Buildings and Structures Design Models in SCAD Software on Multicore Computers</b> ( <i>Sergiy Fialko</i> )	<b>OCMS-55: Urban Lighting Infrastructure Analysis using Topology Density Maps</b> ( <i>Zhicheng Hu, Ricardo da Silva Torres, Claudia Lopez-Alfaro</i> )	<b>SIMO-82: Finite Capacity Multi-Server Job Systems: A Simulation Study</b> ( <i>Muhammad Waqas, Leonardo Maccari, Andrea Marin</i> )
10:25 AM - 10:50 AM	<b>SIMO-15: Fitting Stochastic Lattice Models using Approximate Gradients</b> ( <i>Jan Schering, Sander Keemink, Johannes Textor</i> )	<b>FDEM-26: Development of a 3D DEM Simulation Software for Coupled Simulations</b> ( <i>Jozsef Balazs Graeff, Kornel Tamas, Laszlo Pasty</i> )	<b>OCMS-59: Computer Vision for Reverse Engineering in the Design, Simulation and Operation of Maritime Systems</b> ( <i>Maria Jose Legaz, Henrique M. Gaspar</i> )	<b>SIMO-75: Automated Generation of Decision Trees for Decoding Irregular Instruction Sets</b> ( <i>Lillian Tador</i> )
10:50 AM - 11:15 AM	<b>SIMO-25: Computational Fluid Dynamics Simulation of Sloshing Inside Beverage Cans on a Rotary Filling Machine</b> ( <i>Federico Solari, Natalya Lysova, Roberto Montanari, Federico Scano, Enrico Bedogni, Gabriele Copelli</i> )	<b>FDEM-27: Analytical Validation of the FE Model of a Railway Wheel-Rail Rolling-Sliding Contact</b> ( <i>Sandor Doebrenstei, Peter Tamas Zwierczyk</i> )	<b>OCMS-63: Simulation of Ship Flooding in Open Foam: A Praise for Open Source CFD</b> ( <i>Pedro Paludetto Silva de Paula Lopes, Marcos Maturana, Marcelo Ramos Martins, Henrique M. Gaspar, Kazuo Nishimoto</i> )	<b>SIMO-28: Physics-Based Modelling of a Milk Cooling System for Intelligent Energy Management</b> ( <i>Lars Kappertz, Christof Bueskens</i> )
11:15 AM - 11:40 PM	<b>SIMO-46: Foundational Statistical Methods in Comparative Design for Simulation Experiments</b> ( <i>Maximilian Selmaier, Ahmed Tolba</i> )	<b>FDEM-30: Analysis of Performance Differences of FEM Numerical Integration Algorithm on Two Generations of Intel Xe-LP GPUs</b> ( <i>Filip Kruzal, Mateusz Nytko</i> )	<b>OCMS-64: Graph Databases for Multi-Domain Taxonomies in Maritime Systems</b> ( <i>Janica A. Bronson, Fernando H. P. Luz, Icaro A. Fonseca, Henrique M. Gaspar</i> )	<b>SIMO-54: Simulation of the Complete Operation of a Bus Rapid Transit System Using Cellular Automata</b> ( <i>Oscar Camargo, Miguel Angel Uribe-Laverde</i> )
11:40 AM - 12:05 PM		<b>FDEM-81: Calibration of Discrete Element Method Soil Models based on Penetrometer and Direct Shear Box Tests using a Genetic Algorithm</b> ( <i>Bence Szabo, Taddeus Szabo, Kornel Tamas</i> )		<b>SIMO-24: Global Convergence Limits of Differential Evolution Algorithm</b> ( <i>Roman Knobloch, Jaroslav Mlynek</i> )
12:10 AM - 12:30 PM	Closing Session & Best Paper Award (Kotłownia) - General & Program Chairs			
12:35 PM - 01:35 PM	Lunch Break (Kotłownia)			

All times are given in CET

Rooms S1, S2, S3 and 206B are in GIL gallery building. "Kotłownia" is in a separate building nearby.