I3M Multiconference Program

I3M: The 16th International Multidisciplinary Modelling & Simulation Multiconference

General co-Chairs
Agostino G. Bruzzone - DIME - University of Genoa, Italy
Miquel Angel Piera - Autonomous University of Barcelona, Spain

Program Co-Chairs
Francesco Longo - MSC-LES, DIMEG, University of Calabria, Italy
Yuri Merkuryev - Department of M&S, Riga TU, Latvia

EMSS: The 31st European Modelling & Simulation Symposium,

EMSS General co-Chairs:
Francesco Longo, MSC-LES, DIMEG, University of Calabria, Italy
Guilherme A. B. Pereira, University of Minho, Portugal

EMSS Program Chair:
Michael Affenzeller, Upper Austria University of Applied Sciences, Austria

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HMS: The 21st International Conference on Harbour, Maritime & Multimodal Logistics Modelling and Simulation

HMS General co-Chairs:
Agostino Bruzzone, DIME, University of Genoa, Italy
Yury Merkuryev, Riga Technical University, Latvia

HMS Program co-Chairs:
Eleonora Bottani, University of Parma, Italy
Miquel Angel Piera - Autonomous University of Barcelona, Spain

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MAS: The 18th International Conference on Modelling & Applied Simulation

MAS General co-Chairs:
Marina Massei, Liophant Simulation, Italy
Adriano Solis, York University, Canada

MAS Program Chairs:
Fabio De Felice, University of Cassino, Italy
Luis M.S. Dias, University of Minho, Portugal

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IMAACA: The 12th International Conference on
Integrated Modeling & Analysis in Applied Control & Automation

IMAACA Geneal co-Chairs
Sergio Junco, Universidad Nacional de Rosario, Argentina
Genevieve Dauphin-Tanguy, École Centrale de Lille, France

IMAACA Program Chair
Loucas S. Louca, University of Cyprus

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DHSS: The 9th International Defense and Homeland Security Simulation Workshop

DHSS General Chair:
Agostino Bruzzone, MITIM DIME, University of Genoa, Italy

DHSS Program Chair
Robert Sottilare, Army Research Laboratory, USA

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I_WISH: The 8th International Workshop on Innovative Simulation for Health Care

I_WISH General co-Chairs:
Marco Frascio, University of Genoa, Italy
Vera Novak, BIDMC, Harvard Medical School, USA

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SESDE: The 7th International Workshop on Simulation for Energy, Sustainable Development & Environment

SESDE General co-Chairs:
Janos Sebestyen Janosy, MTA EK Centre for Energy Research Hungarian Academy of Sciences, Hungary
Gregory Zacharewicz, IMS Université Bordeaux, France

SESDE Program Chair:
Letizia Nicoletti, CAL-TEK Srl, Italy

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FOODOPS: The 5th International Food Operations and Processing Simulation Workshop

FOODOPS General Chair:
Giuseppe Vignali, University of Parma, Italy

FOODOPS Program Chair:
Francesco Longo, Unviersity of Calabria, Italy

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VARE: The 5th International Conference on Virtual and Augmented Reality in Education

VARE General Chair:
Egils Ginters, Riga Technical University, Latvia

VARE Program co-Chairs:
Jorge Martin Gutierrez, Universidad de La Laguna, Spain
Eduardo González Mendívil, Instituto Tecnológico de Monterrey, Mexico.

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I3M: The International Multidisciplinary Modelling & Simulation Multiconference involves EMSS, MAS, HMS, IMAACA, DHSS, I_WISH, SESDE, FOODOPS, VARE and related Workshops and Special Sessions; All Sessions are open to all I3M Attendees

EMSS: European Modelling & Simulation Symposium, 31st Edition, Part of I3M2019

MAS: The International Conference on Modelling & Applied Simulation, 18th Edition, Part of I3M2019

IMAACA: The International Conference on Integrated Modeling and Analysis in Applied Control and Automation, 12th Edition, Part of I3M2019

HMS: The International Conference on Harbour, Maritime & Multimodal Logistics Modelling and Simulation, 21st Edition, Part of I3M2019

DHSS: The International Defense and Homeland Security Simulation Workshop, 9th Edition, Part of I3M2019

I_WISH: The International Workshop on Innovative Simulation for Healthcare, 8th Edition, Part of I3M 2019

SESDE: The International Workshop on Simulation for Energy, Sustainable Development & Environment, 7th edition, Part of I3M2019

FOODOPS: The International Food Operations and Processing Simulation Workshop, 5th Edition, Part of I3M 2019

VARE: The International Conference on Virtual & Augmented Reality in Education, 5th Edition, Part of I3M2019

Special Session: I3M Special Session freely open to all the attendees (i.e. Plenary Joint Opening, I3M 2019 Special session, etc.)

I3M Event: Special I3M Events (I3M Gala Dinner and I3M Welcome Ceremony) are open to I3M / DHSS/ EMSS/ HMS/ IMAACA/ MAS/IWISH/SESDE/FOODOPS/VARE Attendees

Social Activities: Social Activities organized for all I3M Attendees (check in the program for further information)

Wednesday 2019-09-18 9:00-10:30
Joint I3M Opening, Room - EUROPA
Welcome Address I3M, Prof.Agostino G. Bruzzone, DIME, University of Genoa, Italy

Conferences, Societies and Networks Welcome
- Welcome to Lisbon - Prof. Guilherme Pereira, Universidade do Minho, Portugal
- EMSS Conference - Prof. Francesco Longo, MSC-LES, University of Calabria, Italy
- HMS Conference - Prof. Yuri Merkuryev, Riga Technical University, Latvia
- MAS Conference - Prof. Adriano Solis, York University, Canada
- IMAACA Conference - Sergio Junco, Universidad Nacional de Rosario, Argentina
- DHSS Workshop - Prof. Agostino Bruzzone, University of Genoa, Italy
- I_WISH Workshop - Prof. Vera Novak, Harvard Medical School, USA
- SESDE Workshop - Prof. Janos Sebestyen Janosy, Centre for Energy Research, Hungary
- FOODOPS Workshop - Prof. Giuseppe Vignali, University of Parma, Italy
- VARE Conference - Prof. Egils Ginters, Riga Technical University, Latvia
- Liophant - Dr. Marina Massei, University of Genova, Italy
- M&S Societies (IMCS, MISS, MSNet) - Prof. Idalia Flores, UNAM, Mexico
- Simulation Team. Prof. Emilio Jimènez, La Rioja University, Spain
- I3M 2020 and Conference Updates, Prof. Agostino Bruzzone, University of Genoa, Italy

Wednesday 2019-09-18 10:30-11:00
COFFEE BREAK Co-Sponsored by CAL-TEK, MAST, LIO-TECH, SIM4FUTURE

Wednesday 2019-09-18 11:00-12:30
Joint I3M Opening, Room - EUROPA

Plenary Speeches
Lin Zhang, Beihang University, China
Modeling and Simulation for Cloud Manufacturing

Luigi D'Oriano, Renato Magliacani, Baker Hughes General Electric, Italy
BHGE TPS Supply Chain: our Journey into the IoT Space

Luís Miguel Silva Dias, University of Minho, Portugal
Building the Digital Twins and generating models: a specific simulation tool approach

Wednesday 2019-09-18 12:30-14:00
LUNCHEON Co-Sponsored by CAL-TEK, MAST, LIO-TECH, SIM4FUTURE

Wednesday 2019-09-18 14:00-15:30
Room: Roma I
EMSS: Industry 4.0 and AI - Session I
Chair(s): Michael Affenzeller, University of Applied Sciences Upper Austria

EMSS_22: Software frameworks for artificial intelligence: comparsion of low-level and high-level approaches
Michael Bogner, Florian Weindl, Franz Wiesinger
University of Applied Sciences Upper Austria - Austria

EMSS_23: Artificial intelligence: concept overview, methodological approaches and choice metrics
Michael Bogner, Martin Steiger, Franz Wiesinger
University of Applied Sciences Upper Austria - Austria

EMSS_25: Optical quality control using deep learning
Franz Wiesinger, Daniel Klepatsch, Michael Bogner
University of Applied Sciences Upper Austria - Austria

EMSS_46: Multi-objective optimization for a scheduling problem in the steel industry
Viktoria A. Hauder, Andreas Beham, Sebastian Raggl, Michael Affenzeller
University of Applied Sciences Upper Austria; Johannes Kepler University Linz - Austria

Wednesday 2019-09-18 14:00-15:30
Room: Roma II
EMSS: Simulation & Optimization Approaches in Transportation - Session I
Chair(s): Idalia Flores, University of Mexico; Miguel Mújica Mota, Amsterdam University of Applied Sciences

EMSS_33: Investigating the influence of fixed assignment of platform tracks to trains on the resulting station capacity using simulation
Michael Bažant, Josef Bulíček, Petr Veselý
University of Pardubice - Czech Republic

EMSS_6: Hybrid simulation model supporting efficient computations within rail traffic simulations
Radek Novotný, Antonín Kavička
University of Pardubice - Czech Republic

EMSS_62: Utilization of computer simulation for detection non-standard situations within single-track lines
Jan Fikejz, Jan Merta
University of Pardubice - Czech Republic

EMSS_30: Complex network analysis: Mexico´s City metro system
Olivia Sashiko Shirai Reyna, Idalia Flores de la Mota
National Autonomous University of Mexico - México

Wednesday 2019-09-18 14:00-15:30
Room: Milào I

HMS: Modeling & Simulation of Logistic Systems
Chair(s): Eleonora Bottani, University of Parma

HMS_2: Examination of logistics systems of concentrated sets of urban delivery points by simulation
Dávid Lajos Sárdi, Krisztián Bóna
Budapest University of Technology and Economics - Hungary

HMS_6: An algorithm for the capacitated vehicle routing problem for picking application in manual warehouses
Eleonora Bottani, Giorgia Casella, Caterina Caccia, Roberto Montanari
University of Parma - Italy

HMS_12: Stochastic floating quay crane scheduling on offshore platforms: a simheuristic approach
Dimitris Souravlias, Mark Duinkerken, Sander Morshuis, Dingena Schott, Rudy Negenborn
Delft University of Technology; Mocean Offshore BV - The Netherlands

HMS_14: A multi-agent system with blockchain for container stacking and dispatching
Lawrence Henesey, Yulia Lizneva, Mahwish Anwar
Blekinge Institute of Technology - Sweden

Wednesday 2019-09-18 14:00-15:30
Room: Milào II

EMSS-IWISH: Modeling & Simulation in Healthcare
Chair(s): Vera Novak, Harvard Medical School

EMSS_3: Representation of a convolutional neuronal network as a High Level Paralel Composition applied to the recognition of DNA sequences
Mario Rossainz-López, Sarah Zúñiga-Herrera, Manuel Capel-Tuñón, Ivo Pineda-Torres
Autonomous University of Puebla; University of Granada - México/ Spain

EMSS_7: A 0-D model to predict the relationship between resistance and compliance in pulmonary arterial hypertension
Claudio De Lazzari, Silvia Marconi, Massimo Capoccia, Silvia Papa, Roberto Badagliacca, Carmine Dario Vizza
National Research Council; National Institute for Cardiovascular Research; Royal Brompton Hospital; Sapienza University of Rome - Italy/ UK

IWISH_5: Towards an adaptive decision-support system for Type I Diabetes treatment based on simulation and machine learning
Iván Castilla-Rodríguez, Rafael Arnay, José M. González-Cava, Juan A. Méndez, Amado Rivero-Santana, Lidia García-Pérez
University of La La guna; FUNCANIS; REDISSEC - Spain

EMSS_40: Fast approximations by machine learning:predicting the energy of dimers using convolutional neural networks
Dylan Hennessey, Mariusz Klobukowski, Paul Lu
Unviversity of Alberta - Canada

IWISH_15: A prospective study on the efficacy of patient simulation in heart and lung auscultation
Stella Bernardi, Fabiola Giudici, Maria Fontana Leone, Giulia Zuolo, Stefano Furlotti, Renzo Carretta, Bruno Fabris
University of Trieste - Italy

Wednesday 2019-09-18 14:00-15:30
Room: Bruxelas
IMAACA: Robotics & Mechanical Systems
Chair(s): Sergio Junco, Universidad Nacional de Rosario

IMAACA_4: Mechanical verification of dynamic musculoskeletal model with Muscle – Tendon Complex at jumping motion by bond graph
Katsuya Suzuki, Yukio Oida, Tatsuya Fukuoka, Yasumi Ito, Tetsuya Nemoto
Cyukyo University; University of Yamanashi; National Center for Geriatrics and Gerontology - Japan

IMAACA_10: Bond Graphs based formation control of holonomic robots
Matías Nacusse, Martín Crespo, Sergio Junco
National University of Rosario; CONICET - Argentina

IMAACA_25: Comparison of trajectory tracking and obstacle avoidance strategies for a multi-agent dynamic system
Martín Crespo,Matías Nacusse, Sergio Junco
National University of Rosario; CONICET - Argentina

IMAACA_15: Automation and cognition: a methodological process for human-centred design to minimize errors
Jean-Marc Mercantini
Aix-Marseille Université; Université de Toulon - France

Wednesday 2019-09-18 15:30-16:00
COFFEE BREAK Co-Sponsored by CAL-TEK, MAST, LIO-TECH, SIM4FUTURE

Wednesday 2019-09-18 16:00-17:30
Room: Roma I
EMSS-MAS: Industry4.0 and Digital Factory/Twin
Chair(s): Lin Zhang, Beihang University

EMSS_35: Combining simulation and optimization models on a production line problem: A case study
António A.C. Vieira, Edgar Guilherme, José A. Oliveira, Luís M.S. Dias, Guilherme A.B. Pereira
University of Minho; ALGORITMI Research Center - Portugal

EMSS_28: Closed-Loop-Engineering – enabler for swift reconfiguration in plant engineering
Janek Bender, Jana Deckers, Simon Fritz, Jivka Ovtcharova
FZI Research Center for Information Technology - Germany

EMSS_4: Knowledge based modelling framework for Flexible Manufacturing System
Syed Imran Shafiq, Cesar Sanin, Edward Szczerbicki
Aligarh Muslim University; The University of Newcastle; Gdansk University of Technology - India/ Australia/ Poland

MAS_18: Leveraging on the Digital Twin for improving retail store daily operations management
Yasmina Maizi, Ygal Bendavid, Janosch Ortmann
Université du Québec à Montréal - Canada

Wednesday 2019-09-18 16:00-17:30
Room: Roma II
EMSS: Modeling & Simulation in Logistics
Chair(s): Eleonora Bottani, University of Parma

EMSS_26: Proactive demand and capacity management for automotive logistics using an efficient information model
Lisanne Temur, Daniel Fruhner, Katja Klingebiel
Volkswagen Nutzfahrzeuge; Dortmund University of Applied Sciences and Arts - Germany

EMSS_31: Complexity analysis of the future car for automotive logistics
Konrad Pawlikowski, Michael Toth
Bochum University of Applied Sciences - Germany

EMSS_32: Demand forecasting in an automotive company: an artificial neural network approach
Letizia Tebaldi, Sara Pindari, Eleonora Bottani
University of Parma - Italy

EMSS_57: Modelling and simulation tools for integrating forward and reverse logistics: a literature review
Giulio Paolo Agnusdei, Valerio Elia, Maria Grazia Gnoni, Fabiana Tornese
University of Salento - Italy

Wednesday 2019-09-18 16:00-17:30
Room: Milào I
HMS: Modeling & Simulation of Logistic Systems
Chair(s): Yuri Merkuryev, Riga Technical University

HMS_10: A generic terminal macro simulation model for measuring operational performance
Sonja M. Protic, Manfred Gronalt
University of Natural Resources and Life Sciences Vienna - Austria

HMS_15: Extended Reality, Intelligent Agents and Simulation to improve Efficiency, Safety and Security in Harbors and Port Plants
Agostino Bruzzone, Marina Massei, Kirill Sinelshchikov, Paolo Fadda, Gianfranco Fancello, Giuliano Fabbrini, Marco Gotelli
Simulation Team University of Genoa; Simulation Team Central Labs, Sim4Future - Italy

HMS_5: Conceptual model of supply chain in risky environment: case study
Peter Mensah, Yuri Merkuryev, Jelena Pecherka, Francesco Longo
Riga Technical University; University of Calabria - Latvia/ Italy

HMS_4: Realization of food defense and food security standards in Polish maritime transport
Barbara Kaczmarczyk, Izabela Nowicka, Sławomir Paterak
Military University of Land Forces in Wrocław - Poland

Wednesday 2019-09-18 16:00-17:30
Room: Milào II
IWISH-EMSS: Education & Learning in Healthcare
Chair(s): Vera Novak, Harvard Medical School

IWISH_29: 3D software simulator for primary care training
Alessandro De Gloria, Marco Chirico, Claudio Launo, Riccardo Berta, Francesco Bellotti, Giuseppe Gioco, Ivan Carmosino
DITEN; SimAv; Genoa University; Wondertech - Italy

IWISH_20: Physician/patient relationship following hospital discharge – new methods of therapeutic and care continuity
Rossella Ciliberti, Alessandro Bonsignore, Liliana Lorettu, Maurizio Eraldo Secchi, Michele Minuto, Pierluigi Santi, Ilaria Baldelli
University of Genoa; University of Sassari; Exprivia-Italtel - Italy

EMSS_24: Grasp laparoscopic surgery basic skills: a highly interactive online course model here
Marco Frascio, Anna Siri, Francesca Mandolfino, Marco Chirico, Gianni Vercelli
University of Genoa - Italy

EMSS_41: Sustainable technologies for health education in Low and Middle Income Countries
Elisa Ferrara, Silvana Dellepiane, Marco Frascio
University of Genoa - Italy

Wednesday 2019-09-18 16:00-17:30
Room: Bruxelas
IMAACA: Modelling, simulation and control of physical systems - Session I
Chair(s): Aziz Naamane, Aix Marseille Université; Abdelhamid Rabhi, Université Picardie Jules Verne

IMAACA_14: Defender-attacker-target game: first-order defender and attacker dynamics
Vladimir Turetsky, Valery Y. Glizer
Ort Braude College of Engineering - Israel

IMAACA_21: Component approach based on Petri Nets for the design of the automatic control for railway system
Armand Toguyéni
University Lille Nord de France - France

IMAACA_24: IDA-PBC controller for dc-dc power electronic converters with nonlinear load enhanced with additive disturbance estimation
Juan Tomassini, Sergio Junco, Alejandro Donaire
CONICET; National University of Rosario; University of Newcastle - Argentina/ Australia

IMAACA_19: Adaptive estimation of the thermal behavior of CPU-GPU SoCs for prediction and diagnosis
Oussama Djedidi, Nacer K. M'Sirdi, Aziz Naamane
Aix Marseille University; Université de Toulon - France

Thrusday 2019-09-19 9:00-10:30
Room: Roma I
EMSS-MAS: Industry 4.0 and AI - Session II
Chair(s): Agostino Bruzzone, University of Genoa

MAS_34: Wearable mixed reality solutions for industrial plants and production lines
Agostino Bruzzone, Marina Massei, Kirill Sinelshchikov, Francesco Longo, Matteo Agresta, Luciano Di Donato, Cesare Di Francesco
Simulation Team; University of Genoa; University of Calabria; Liophant Simulation; INAIL - Italy

EMSS_71: Machine Learning to support Industrial Digitalization and Business Transformation
Agostino Bruzzone, Marina Massei, Kirill Sinelshchikov, Giuliano Fabbrini, Marco Gotelli, Alberto Molinari
Simulation Team Genoa University; SIM4Future; Liophant Simulation - Italy

EMSS_59: Evaluation of a Self-Organizing Migrating Algorithm applied to discrete event simulation optimization
Pavel Raska, Zdenek Ulrych
University of West Bohemia - Czech Republic

EMSS_43: Simulation improves efficiency and quality in shoe manufacturing
Mohan Mano Hassan, Sai Priyanka Kalamraju, Sandeep Dangeti, Sirisha Pudipeddi, Edward J Williams
University of Michigan - USA

Thrusday 2019-09-19 9:00-10:30
Room: Roma II
EMSS-MAS: Simulation & Optimization Approaches in Transportation- Session II
Chair(s): Idalia Flores, University of Mexico; Miguel Mújica Mota, Amsterdam University of Applied Sciences

EMSS_16: Analysis of a university parking lot system through the use of discrete-event simulation
Ricardo Torres, Jenaro Nosedal-Sanchez
National Autonomous University of Mexico; CONACYT-UAEMex - México

MAS_9: Fuel-optimal path finding algorithm using traffic information at urban intersection
Jooin Lee, Hyeongcheol Lee
Hanyang University - Korea

EMSS_36: A novel application of pre-signals to improve the performance of signalized intersections: evaluation through simulation
António A. C. Vieira, Luís M. S. Dias, Guilherme A. B. Pereira, José A. Oliveira
University of Minho; ALGORITMI Research Center - Portugal

EMSS_37: Simulation of the delivery system for the Bicipuma bike-sharing system in UNAM-Mexico
Carmen Garcia Cerrud, A. Moises Perez Silva, Veronica Olvera Rodriguez, Francis I. Soler Anguiano, Idalia Flores de la Mota
National Autonomous University of Mexico - México

Thrusday 2019-09-19 9:00-10:30
Room: Milào I

MAS-EMSS: Industry 4.0 applications
Chair(s): Antonella Petrillo, Parthenope University of Naples

MAS_32: Integrated ergonomic and productivity analysis for process improvement of panelised floor manufacturing
Chelsea Ritter, Regina Dias Barkokebas, Xinming Li, Mohamed Al-Hussein
University of Alberta - Canada

MAS_27: Internet of things and industrial automation approach application for beekeeping processes automation
Anatolijs Zabasta, Nadezda Kunicina, Kaspars Kondratjevs, Leonids Ribickis
The Riga Technical University - Latvia

MAS_10: Machine learning techniques applied to industrial engineering: a multi criteria approach
Fabio De Felice, Marta Travaglioni, Giuseppina Piscitelli, Raffaele Cioffi, Antonella Petrillo
University of Cassino and Southern Lazio; University of Naples "Parthenope" - Italy

EMSS_15: Modeling of service correlation for service composition in cloud manufacturing
Fei Wang, Yuanjun Laili, Lin Zhang, Chi Xing, Liqin Guo
Beihang University; Beijing Simulation Center; Beijing Institute of Electronic System Engineering - China

Thrusday 2019-09-19 9:00-10:30
Room: Milào II

IWISH: Training in Healthcare
Chair(s): Marco Frascio, University of Genoa

IWISH_9: Training system for first response medical emergency groups to guide triage procedures
Jan Nikodem, Maciej Nikodem, Paweł Gawłowski, Ryszard Klempous
Wrocław University of Science and Technology - Poland

IWISH_12: Puppet mentoring: a new simulation scenario for learning surgical abilities
Marco Frascio, Gianni Vercelli, Gregorio Santori, Simone Marcutti, Marco Chirico, Cesare Stabilini, Rosario Fornaro, Domenico Soriero, Gianluca Marcocci, Michele Minuto
University of Genoa - Italy

IWISH_18: Model of a tracheobronchial tree for the training of bronchoscopy examinations
Simone Bazurro, Raffaela Caddori, Clelia Capurro, Serena Ricci, Simone Marcutti, Francesca Vigo, Giorgio Carlini, Marco Chirico, Fabio Solari, Maura Casadio, Manuela Chessa
University of Genoa - Italy

IWISH_19: Implementation of a sensorized neonatal head model for gynechological training
Serena Ricci, Simone Marcutti, Andrea Pani, Marco Chirico, Giancarlo Torre, Massimo Cordone, Maura Casadio, Gianni Vercelli
University of Genoa - Italy

Thrusday 2019-09-19 9:00-10:30
Room: Bruxelas
DHSS: Defense & Homeland Security Simulation - Session I
Chair(s):Chamnan Kumsap, Thailand Ministry of Defence

DHSS_12: Modeling realistic 3D trees using materials from field survey for terrain analysis of tactical training center
Ornprapa P. Robert, Chamnan Kumsap, Sibsan Suksuchano
Silpakorn University; Defence Technology Institute; Mahidol University - Thailand

DHSS_9: European sensor system for CBRN applications
Magdalena Dobrowolska-Opała, Grzegorz Gudzbeler
University of Warsaw - Poland

DHSS_11: Soft Target assessment software
Lucia Mrazkova Duricova, Roman Jašek, Jan Mrazek, Martin Hromada
Tomas Bata University in Zlin - Czech Republic

DHSS_6: Deep learning of virtual-based aerial images: increasing the fidelity of serious games for live training
Dean Reed, Troyle Thomas, Shane Reynolds, Jonathan Hurter, Latika Eifert
University of Central Florida; U.S. Army Futures Command - USA

Thrusday 2019-09-19 10:30-11:00
COFFEE BREAK Co-Sponsored by CAL-TEK, MAST, LIO-TECH, SIM4FUTURE

Thrusday 2019-09-19 11:00-12:30
Room: Roma I
EMSS-MAS: Industrial Engineering Modeling & Simulation
Chair(s): Marina Massei, University of Genoa

EMSS_51: Neither push nor pull: state-feedback control for production systems
Gašper Mušič, Juliana Keiko Sagawa
University of Ljubljana; Federal University of São Carlos - Slovenia/ Brazil

EMSS_47: Modeling for component relations in robotic disassmebly
Xiang Li, Yuanjun Laili, Lin Zhang, Lei Ren
Beihang University - China

EMSS_12: Influence of emergency lay-bys on smoke stratification in case of fire in bi-directional tunnel: parallel simulation
Peter Weisenpacher, Lukas Valasek, Jan Glasa
Slovak Academy of Sciences - Slovakia

MAS_25: A simulation tool for mass transfer inside compressed air vessel for water networks pressurisation
Andrea Volpi, Eleonora Bottani
University of Parma - Italy

Thrusday 2019-09-19 11:00-12:30
Room: Roma II

EMSS-MAS: Simulation & Optimization Approaches in Transportation- Session III
Chair(s): Idalia Flores, University of Mexico; Miguel Mújica Mota, Amsterdam University of Applied Sciences

EMSS_50: Simulation of baggage delivery management for an increase in demand in a Mexican airport
Karla Elizabeth Brambila Loza, Ann Godelieve Wellens, Sonia Karina Pérez Juárez
National Autonomous University of Mexico - México

EMSS_61: VRP complex network analysis and simulation
Gabriel Policroniades Chípuli, Idalia Flores de la Mota, Javier Lara de Paz, Sashiko Sihirai Reyna
National Autonomous University of Mexico - México

EMSS_69: Modelling of the ground connection between two airports in a multi-airport system: case Santa Lucia - Mexico City
Miguel Mujica Mota, Paolo Scala, Danny Spit, Reyhan Tasdelen
Amsterdam University of Applied Sciences - The Netherlands

MAS_16: Avio-refueling process simulation in an airport environment
Pasquale Carotenuto, Stefano Giordani, Jacopo Ponticelli
Consiglio Nazionale delle Ricerche; Università di Roma "Tor Vergata" - Italy

Thrusday 2019-09-19 11:00-12:30
Room: Milào I

MAS-EMSS: Inventory Management, Warehouse and Supply Chain Simulation
Chair(s): Adriano Solis, York University

MAS_5: Simulation model of supply networks development
Petr Fiala, Martina Kuncová
College of Polytechnics Jihlava - Czech Republic

MAS_6: Modelling of supply network design
Renata Majovská, Petr Fiala
University of Finance and Administration; University of Economics - Czech Republic

MAS_14: Simulation-based analysis of inventory levels for low demand spare parts in a cooperative inventory pooling-system
Yannic Hafner, Christian Looschen, Johannes Fottner
Technical University of Munich - Germany

MAS_22: Simulated operating concepts for wholesale inventory optimization at Naval Supply Systems Command
Sean Teter, Emily Craparo, Javier Salmerón
Naval Postgraduate School - USA

Thrusday 2019-09-19 11:00-12:30
Room: Milào II
IWISH: Innovative ICT for Healthcare and Computer Aided Diagnostics
Chair(s): Marco Frascio, University of Genoa

IWISH_17: Design and production of custom-made prosthetic implants in pectoral reconstruction in patients with Poland Syndrome using integrated CAD/CAM systems
Ilaria Baldelli, Alessio Rovina, Lorenzo Mellini, Rosagemma Ciliberti, Pierluigi Santi
University of Genoa; University of Ferrara - Italy

IWISH_21: Smart platform-based IoT-modules for applications in health care and rehabilitation
Volkhard Klinger
University of Applied Science Hannover - Germany

IWISH_4: Evaluating kinect V1 and V2 for chest wall surface scanning and assessment
Nahom Kidane, Mohammad F. Obeid, Cierra Hall, Ntiana Sakioti, Robert E. Kelly, Frederic D. McKenzie
Old Dominion University Norfolk; Shenandoah University; Children's Hospital of The King's Daughters and Eastern Virginia Medical School - USA

IWISH_11: Cost analysis of electrocardiographic screening in a population of non-competitive athletes
Giuseppe Molinari, Martina Molinari
Telemedico-Telecardiology Center - Italy

IWISH_14: Serious game, lectures or simulation-based mastery learning course which is the best method for training students about cardiac arrest management?
Giuliana Scarpati, Paolo Remondelli, Ornella Piazza
University of Salerno - Italy

Thrusday 2019-09-19 11:00-12:30
Room: Bruxelas
Special Session: STRATEGOS, New Education Opportunities with Strategic Engineering
Chair(s): Agostino Bruzzone, University of Genoa

SS_1: The STRATEGOS Special Session will introduce the Strategic Engineering as a new Science and Art for winning Decision Making in the 3rd Millenium. All the I3M attendees are invited to attend the session

Thrusday 2019-09-19 12:30-14:00
LUNCHEON Co-Sponsored by CAL-TEK, MAST, LIO-TECH, SIM4FUTURE

Thrusday 2019-09-19 14:00-15:30
Room: Roma I
FOODOPS: Modelling & Simulation of Food Processing
Chair(s): Giuseppe Vignali, University of Parma

FOODOPS_4: Impact of RFID-TTI technologies on the efficiency of perishable products logistics
Elvezia Maria Cepolina, Edoardo Cangialosi, Ilaria Giusti, Donato Aquaro, Gabriella Caroti, Andrea Piemonte
University of Genova; University of Pisa - Italy

FOODOPS_6: A testing procedure of a digital application for safety improvement in a beverage plant
Giuseppe Vignali, Nicolas Guareschi, Letizia Tebaldi, Francesco Longo, Luciano Di Donato, Alessandra Ferraro, Eleonora Bottani
University of Parma; University of Calabria; INAIL - Italy

FOODOPS_8: Life cycle assessment of organic Parmesan Cheese considering the whole dairy supply
Giulia Borghesi, Giuseppe Vignali
University of Parma - Italy

FOODOPS_7: Modelling the growth kinetic of spoilage microorganisms in a packaged cow's ricotta processed with high pressure
Roberta Stefanini , Giuseppe Vignali, Fabio Coloretti
University of Parma; Alma Mater Studiorum Università di Bologna - Italy

Thrusday 2019-09-19 14:00-15:30
Room: Roma II
MAS-EMSS-SESDE: Simulation for Energy, Sustainable Development and Environment
Chair(s): Janos Sebestyen Janosy, Centre for Energy Research

SESDE_7: Optimizing energy efficiency in distributed mHealth networks
Philipp Skowron, Michael Aleithe, Bogdan Franczyk
Leipzig University; Wroclaw University of Economics - Germany/ Poland

MAS_26: An integrated simulation-based construction crew allocation and trade-off with energy and carbon footprint
Hadia Awad, Mustafa Gül, Osama Mohsen, Simaan AbouRizk
University of Alberta - Canada

MAS_8: Optimal hybrid drive system architecture exploration considering performance index of 48V mild
Yonghyeok Ji, Taeho Park, Hyeongcheol Lee
Hanyang University; Korea Automotive Technology Institute - Korea

MAS_15: Study on fuel economy and generating energy of 48V MHEV with two motors
Seongmin Ha, Hyeongcheol Lee
Hanyang University - Korea

Thrusday 2019-09-19 14:00-15:30
Room: Milào I
IMAACA: Modelling, simulation and control of physical systems - Session II
Chair(s): Aziz Naamane, Aix Marseille Université; Abdelhamid Rabhi, Université Picardie Jules Verne

IMAACA_18: A new proposed shepherd model of a Li-ion open circuit battery based on data fitting
Hanane Hemi, Nacer K M'Sirdi, Aziz Naamane
Aix Marseille University - France

IMAACA_20: An overview of State of Charge(SOC) and State of Health(SOH) estimation methods of Li-ion batteries
Khadijah Saqli, Houda Bouchareb, Mohammed Oudghiri, Kouider Nacer M'Sirdi
Sidi Mohamed Ben Abdellah University; Aix Marseille University - Morocco/ France

IMAACA_11: Full modelling and sliding mode control for a quadrotor UAV in visual servoing task
Choukri Bensalah, Nacer K. M'Sirdi, Aziz Naamane
Aix Marseille University; University of Tlemcen - France/ Algeria

IMAACA_12: Path tracking for the convoy of autonomous vehicles based on a non-linear predictive control
M. Mahmoud Mohamed Ahmed, Aziz Naamane, Nacer K. M'Sirdi
Aix Marseille University - France

Thrusday 2019-09-19 14:00-15:30
Room: Milào II
IWISH-MAS: New Advances in Healthcare
Chair(s): Jonata Fragomeni, University of Catanzaro

IWISH_8: A multi-modal data model for morphological segmentation in 3D dosimetry
Werner Backfrieder
University of Applied Sciences Upper Austria - Austria

IWISH_25: ELECTROCHEMOTHERAPY: A novel treatment option for unresectable tumors.
Matteo Mascherini, Stefano Di Domenico, Franco De Cian
University of Genoa - Italy

IWISH_26: Continuous glucose monitoring in acute stroke
Laura Aponte-Becerra , Rodrigo C. Quispe, Laura Mendez-Pino, Vera Novak, Magdy Selim, Vasileios-Arsenios Lioutas
Harvard Medical School - USA

IWISH_28: Modifiers of cardiovascular risk score on disability in the elderly
Laura Aponte-Becerra , Jorge A. Trevino, Stephanie Buss, Long Ngo, Regina McGlinchey, Catherine Fortier, Peter Novak, Christos Mantzoros, Vera Novak
Harvard Medical School, Boston - USA

IWISH_27: Strategies for nose-to-brain drug delivery
Rodrigo C. Quispe, Jorge A. Trevino, Faizan Khan, Vera Novak
Harvard Medical School - USA

Thrusday 2019-09-19 14:00-15:30
Room: Bruxelas
EMSS-MAS: Modeling & Simulation in Industrial Engineering
Chair(s): Antonio Padovano, University of Calabria

EMSS_48: A new solution encoding for simulation-based multi-objective workforce qualification optimization
Johannes Karder, Viktoria A. Hauder, Andreas Beham, Klaus Altendorfer, Michael Affenzeller
University of Applied Sciences Upper Austria; Johannes Kepler University - Austria

EMSS_49: A simulation model for estimating human error probability
Anastasia Angelopoulou, Konstantinos Mykoniatis, Nithisha Reddy Boyapati
Columbus State University; Auburn University - USA

MAS_35: Intelligent autonomous system devoted to improve efficiency and safety in industrial plants
Agostino Bruzzone, Matteo Agresta, Kirill Sinelshchikov, Marina Massei
Simulation Team; SIM4Future - Italy

EMSS_56: Mixed Discrete-Events and Agent-Based Modeling of a complex automatic warehouse for copper tubes bundles
Marcello Braglia, Marco Frosolini, Roberto Gabbrielliì, Leonardo Marrazzini, Luca Padellini
Università di Pisa - Italy

Thrusday 2019-09-19 15:30-16:00
COFFEE BREAK Co-Sponsored by CAL-TEK, MAST, LIO-TECH, SIM4FUTURE

Thrusday 2019-09-19 16:00-17:30
Room: Roma I
VARE-MAS: VR/AR for Education and Learning
Chair(s): Egils Ginter, Riga Technical University

VARE_8: Evacuation training using scenario-based augmented reality game
Hiroyuki Mitsuhara, Masami Shishibori
Tokushima University - Japan

VARE_9: Lessons learned about language learning and extended reality frameworks
Saverio Iacono, Gianni Vercelli
University of Genoa - Italy

VARE_1: Synergy of digital art, architecture and design using video-mapping in a combined classroom
Héctor Quintero, Nora Aguilera, Pablo Ramirez, Samira Hosseini
Tecnologico de Monterrey - Mexico

VARE_2: Augmented Reality - A curatorial tool
Nina Lyons, Matt Smith
TU Dublin - Ireland

MAS_3: Towards the semi-automatic adaptation of simulated virtual laboratory experiments
Athanasios Sypsas, Dimitris Kalles
Hellenic Open University - Greece

Thrusday 2019-09-19 16:00-17:30
Room: Roma II
HMS: Ports and Terminals Modelling & Simulation
Chair(s): Lawrence Henesey, Blekinge Institute of Technology

HMS_7: A conceptual model for assessing the impact of Internet-of-Things technologies for people with reduced mobility in airports
Juan José Herrera Martín, Iván Castilla Rodríguez
Universidad de La Laguna - Spain

HMS_11: Research on one-way channel conversion strategy of coastal ports based on system simulation
Zijian Guo, Zicheng Xia, Wenyuan Wang
Dalian University of Technology - China

HMS_13: Simulation based evaluation of the capacity of Liuheng LNG Terminal
Guolei Tang, Ming Qin, Ningning Li, Jingjing Yu, Zhuoyao Zhao, Yue Qi, Xiang Li
Dalian University of Technology; Dalian Neusoft University of Information; Ministry of Transport - China

HMS_3: Towards a simulation-based decision support tool for container terminal layout design
Mohamed Nezar Abourraja, Abdelaziz Benantar, Naoufal Rouky, Dalila Boudebous, Jaouad Boukachour, Claude Duvallet
Normandy University; IUT Le Havre - France

Thrusday 2019-09-19 16:00-17:30
Room: Milào I
IMAACA: Fault Diagnosis and Failure Prognosis of Dynamic Systems
Chair(s): Wolfgang Borutzky, Bonn-Rhein-Sieg University of Applied Sciences; Mohand Djeziri, Aix-Marseille University

IMAACA_1: A combined bond graph-based – data-based approach to failure prognosis
Wolfgang Borutzky
Bonn-Rhein-Sieg University of Applied Sciences - Germany

IMAACA_2: Failure prognosis of embedded systems based on temperature drift assessment
Oussama Djedidi, Mohand A. Djeziri, Samir Benmoussa
Université de Toulon; University Badji Mokhtar Annaba - France/ Algeria

IMAACA_6: Detection of stator winding inter-turn short circuit fault in induction motor using LS-SVM
M'hamed Birame, Sid Ahmed Bessedik, Aziz Naamane
University Of Laghouat; LSIS - Laboratory Paul Czanne University - Algeria/ France

IMAACA_7: Time series model improving with automatic Savitzky-Golay filter for Remaining Useful Life estimation
Youssouf Diaf, Samir Benmoussa, Mohand Djeziri
Agence Spatiale Algérienne; University Badji Mokhtar Annaba; LSIS - Algeria/ France

Thrusday 2019-09-19 16:00-17:30
Room: Milào II
IWISH: Mathematical Modeling and Technology Assessment for Healthcare
Chair(s):Werner Backfrieder, Upper Austria UAS

IWISH_3: CFD analysis of peripheral ECMO cannulation
Gionata Fragomeni, Michele Rossi
"Magna Graecia" University; Grande Ospedale Metropolitano "Bianchi-Melacrino-Morelli" - Italy

IWISH_13: A model of pilot study to assess the risk of exposure to surgical smokes for operating room personnel
Marco Frascio, Matteo Mascherini, Paola Batistotti, Katia Cortese, Rosario Fornaro
Ospedale Policlinico IRCCS San Martino Genova; University of Genoa - Italy

MAS_29: Agent-model based on flame GPU for assessing pupal productivity of the transmitting vector of Aedes aegypti infectious diseases
Erica Montes de Oca, Remo Suppi, Laura De Giusti, Marcelo Naiouf
National University of La Plata; School of Engineering
 - Argentina/ Spain

MAS_13: Simulation and analysis of a multi-scale tumor model using agent clustered network
Ghazal Tashakor, Remo Suppi
Universitat Autònoma de Barcelona - Spain

Thrusday 2019-09-19 16:00-17:30
Room: Bruxelas
EMSS: Workshop on Modeling and Simulation in Advanced Physics Technologies (MoSAPT) - Session I
Chair(s): Alexander S. Sigov, Moscow Technological University; Mikhail E. Belkin, Moscow State Technological University

EMSS_17: On estimation errors when dealing with the problems of optical telecommunications
Oleg V. Chernoyarov, Yury A. Kutoyants, Aleksandr V. Zyulkov
National Research University "Moscow Power Engineering Institute"; National Research Tomsk State University; Maikop State Technological University; Le Mans University; Voronezh State University - Russia/ France

EMSS_20: Model selection method for efficient signals processing from discrete data
Evgeny A. Pchelintsev, Serguei M. Pergamenshchikov
Tomsk State University; University of Rouen Normandy - Russia/ France

EMSS_45: Models of terahertz and infrared devices based on graphene/black-AsP heterostructures
Maxim Ryzhii, Taiichi Otsuji, Victor Ryzhii, Vladimir Leiman, Vladimir Mitin, Michael S. Shur
University of Aizu; Tohoku University; Moscow Institute of Physics and Technology; University at Buffalo; Rensselaer Polytechnic Institute - Japan/ Russia/ USA

EMSS_54: Selecting an optimal computer software to design microwave-bandwidth optoelectronic devices of a fiber-optics link
Mikhail E. Belkin, Tatiana Bakhvalova, Vladislav Golovin, Yuriy Tyschuk, Alexander S. Sigov
Russian Technological University; Sevastopol State University (SevSU) Sevastopol - Russia

EMSS_68: Comparative computer-aided design of millimeter-wave-to-optical converters for fifth-generation communication network
Mikhail Belkin, Tatiana Bakhvalova, Alexander S. Sigov
Russian Technological University - Russia

Social Event

Thrusday 2019-09-19 18:30-23:00
20:00, I3M Gala Dinner @ Casa do Alentejo, R. das Portas de Santo Antão 58, 1150-062 Lisbon

During Gala Dinner the I3M Best Paper Awards will be presented

Friday 2019-09-20 9:00-10:30
Room: CONFERENCE DESK
Special Session: I3M 2020 and MISS-MSNet Board of Directors Meeting
Chair(s): Francesco Longo, University of Calabria; Yuri Merkuryev, Riga Technical University

SS_2: The I3M 2020 Special Session will introduce the next location for I3M 2020 that will be held in Athens, Greece. All the I3M attendees are invited to attend the session and to share ideas for promoting and enlarging the conference. Authors that are willing to take an active role in the organization of the I3M conference (trough the organization of tracks and special sessions) are strongly encouraged to participate in this session. The session is also an opportunity for MISS/MSNet Directors to meet and share advances of their own centres.

Friday 2019-09-20 9:00-10:30
Room: Roma II
VARE: VR, AR and MR environments development and applications
Chair(s): Egils Ginter, Riga Technical University

VARE_3: A mobile visual analytics approach for instant trend analysis in mobile contexts
Dirk Burkhardt, Kawa Nazemi, Arjan Kuijper, Egils Ginters
Darmstadt University of Applied Sciences; TU Darmstadt; Riga Technical University - Germany/ Latvia

VARE_4: The concept of augmented reality application for putting alignment in golf
Egils Ginters, Dirk Burkhardt, Kawa Nazemi, Yuri Merkuryev
Riga Technical University; Sociotechnical Systems OU; Darmstadt University of Applied Sciences - Latvia/ Estonia/ Germany

VARE_5: Virtual reality poststroke rehabilitation with localization algorithm enhancement
Małgorzata Marzec, Michał Olech, Ryszard Klempous, Jan Nikodem, Konrad Kluwak, Christopher Chiu, Anna Kołcz
Wrocław University of Science and Technology; Regional Specialized Hospital in Wrocław - Poland

VARE_7: The impact of virtual visualisation: perception and design of spaces in ethnographic projects
Juan Carlos Márquez Cañizares, Juan-Carlos Roja
Tecnologico de Monterrey - Mexico

VARE_10: Intelligent navigation of linked data with a graphical interface based on semantic similarity
Pedro Fonseca-Ortiz, Hector Ceballos
Tecnologico de Monterrey - Mexico

Friday 2019-09-20 9:00-10:30
Room: Milào I
SESDE: Simulation for Energy, Sustainable Development and Environment
Chair(s): Janos Sebestyen Janosy, Centre for Energy Research

SESDE_3: Modeling and analysis of the impact of texturing angles on doping profiles in ion implanted N-type solar cells
Abderrazzak El Boukili
Al Akhawayn University in Ifrane - Morocco

SESDE_4: Electricity supplier selection by a household in the Czech Republic in 2017 and 2018 – Monte Carlo simulation approach
Martina Kuncova
University of Economics Prague - Czech Republic

SESDE_5: Study about the rigor of tightness tests and the existance of an empirical constant to validate theoretical simulations to approximate the real model
João Arthur da Cruz Nunes, Angelo Roncalli Oliveira Guerra, Kleiber Lima de Bessa, Carlos Magno de
Universidade Federal do Rio Grande do Norte - Brazil

SESDE_6: Pollution routing problem with time window and split delivery
Sameh M. Saad, Ramin Bahadori
Sheffield Hallam University - UK

Friday 2019-09-20 9:00-10:30
Room: Milào II

DHSS-HMS: Defense & Homeland Security Simulation - Session II
Chair(s): Agostino Bruzzone, University of Genoa

DHSS_8: Establishing a mesh communication backbone for disaster management: proof of concept
Chamnan Kumsap, Somsarit Sinnung, Suriyawate Boonthalarath
Defence Technology Institute - Thailand

DHSS_10: An ontology for threat modeling and simulation of Small Unmanned Aerial Vehicles
Bharvi Chhaya, Shafagh Jafer, Paolo Proietti, Bruno Di Marco
Embry-Riddle Aeronautical University; Leonardo S.p.A.; Consorzio S3log - USA/ Italy

DHSS_13: Agent-based simulation of a fire department's response to emergency incidents: an updated model
Adriano O. Solis, Jenaro Nosedal-Sánchez, Ali Asgary, Francesco Longo, Deryn Rizzi, Kevin Plested, Antonio Briga, Antonella Castagna, Beatrice Zaccaro
York University; Universidad Autónoma del Estado de México; University of Calabria; Vaughan Fire and Rescue Service; University of Genoa - Canada/ México/ Italy

Friday 2019-09-20 9:00-10:30
Room: Bruxelas

EMSS: Workshop on Modeling and Simulation in Advanced Physics Technologies (MoSAPT) - Session II
Chair(s): Alexander S. Sigov, Moscow Technological University; Mikhail E. Belkin, Moscow State Technological University

EMSS_8: Quickest change-point detection in time series with unknown distributions
Serguei M. Pergamenshchikov, Alexander G. Tartakovsky
Université de Rouen Moscow Institute of Physics and Technology - France/ USA

EMSS_9: Simulation of the spectral characteristics of the photosensitive elements based on the polycrystalline lead sulfide
Boris N. Miroshnikov, Denis A. Zezin, Alexander A. Makarov, Alexander N. Faulgabe
National Research University "Moscow Power Engineering Institute"; Russian Academy of Science; National Research Tomsk State University - Russia

EMSS_10: The simulation of the time characteristics of the photoresistive structures based on the cadmium lead sulfides
Irina N.Miroshnikova, Boris N. Miroshnikov, Elena V. Zenova, Mikhail Y. Presnjakov, Alexander A. Makarov
National Research University "Moscow Power Engineering Institute"; Russian Academy of Science; National Research Tomsk State University - Russia

EMSS_11: Property control methods of diamond-like silicon-carbon films for micro- and nanoelectronics
Alexey D. Barinov, Anatoly I. Popov, Alexander A. Makarov
National Research University "Moscow Power Engineering Institute"; Russian Academy of Science; National Research Tomsk State University - Russia

EMSS_13: The hardware implementation of the multi-position signal digital demodulators
Oleg V. Chernoyarov, Alexey N. Glushkov, Vladimir P. Litvinenko, Alexander N. Faulgaber, Alexandra V. Salnikova
National Research University "Moscow Power Engineering Institute"; National Research Tomsk State University; Maikop State Technological University; Voronezh Institute of the Ministry of Internal Affairs of the Russian Federation; Voronezh State Technical University - Russia

Friday 2019-09-20 10:30-11:00
COFFEE BREAK Co-Sponsored by CAL-TEK, MAST, LIO-TECH, SIM4FUTURE

Friday 2019-09-20 11:00-12:30
Room: CONFERENCE DESK
EMSS: Simulation in Economics and Finance
Chair(s): Emilio Jemènez, University of La Rioja

EMSS_39: Households Income-Expenses network simulation
Javier Lara de Paz, Idalia Flores de la Mota, Gabriel Policroniades Chipuli, Olivia Sashiko Shirai Reyna
National Autonomous University of Mexico - México

EMSS_52: A simulator for studying automated block trading on a coupled dark/lit financial exchange with reputation tracking
George Church, Dave Cliff
University of Bristol - UK

EMSS_53: A cloud-native globally distributed financial exchange simulator for studying real-world trading-latency issues at planetary scale
Bradley Miles, Dave Cliff
University of Bristol - UK

MAS_28: Simulation-based evaluation of automated trading strategies: a manifesto for modern methods
Dave Cliff
University of Bristol - UK

Friday 2019-09-20 11:00-12:30
Room: Roma II
MAS-EMSS: Modeling & Simulation Theory
Chair(s): Antonio Padovano, University of Calabria

MAS_11: Integration of process mining techniques in simulation results analysis
Irīna Šitova, Jeļena Pečerska
Riga Technical University - Latvia

MAS_31: A simplified probabilistic validation of production flows
Kadir Emir, David Kruml, Jan Paseka, Iveta Selingerová
Masaryk University - Czech Republic

EMSS_19: Computational optimizations of nested simulations utilized for decision-making support
Roman Diviš, Antonín Kavička
University of Pardubice - Czech Republic

EMSS_58: Towards more efficient multiclass AUC computations
Stephan Dreiseitl
University of Applied Sciences Upper Austria - Austria

Friday 2019-09-20 11:00-12:30
Room: Milào I
TUTORIAL: SMARTGRID – accomodating unpredictable power sources
Chair(s): Janos Sebestyen Janosy, Centre for Energy Research

SS_3: Electrical power grids of our time are still operating according to ideas born in the second half of the 19 th century. Nowadays we are getting used to distributed, locally organized, reliable and partly independent services, which are able to survive the crash of the centralized ones. People invest into photovoltaic panels, windmills, etc. and what is indispensable in case of unpredictable sources – significant local energy storage. The tutorial will go through the most effective storage methods and how simulation can be used to check the design and management of SMARTGRID

Friday 2019-09-20 11:00-12:30
Room: Milào II
EMSS-MAS: Modeling & Simulation Software and applications
Chair(s): Emilio Jemènez, University of La Rioja

EMSS_38: A ranking of the most known freeware and open source discrete-event simulation tools
António A.C. Vieira, Luís M.S. Dias, Maribel Y. Santos, Guilherme A.B. Pereira, José A. Oliveira
University of Minho; ALGORITMI Research Center - Portugal

EMSS_64: Estimates of unknown transformation parameters in terrestrial measurements: one simulated problem
Marie Nedvědová , Jaroslav Marek , Pavel Chmelař
University of Pardubice - Czech Republic

MAS_4: Appraisal of OFDM for multi-carrier, high-speed data rate wireless communication networks
Muhammad Bello Abdullahi
Abdu Gusau Polytechnic - Nigeria

MAS_30: Nonparametric frequency polygon estimation for modeling input data
Stephen Hague, Simaan AbouRizk
University of Alberta - Canada

Friday 2019-09-20 12:30-14:00
CLOSING CEREMONY -LUNCHEON Co-Sponsored by CAL-TEK, MAST, LIO-TECH, SIM4FUTURE

Friday 2019-09-20 14:00-15:30
Room: CONFERENCE DESK
Social Activity
The visit to the MARINHA Museum

SA_2: The Marinha Museum tour will be held on Friday 20th September, afternoon at 3.30 pm. Attendees are required to reach the museum address reported below by 3.30 pm. Attendee can buy the museum entrance ticket directly at the museum ticket store. Museum Address: the Museu de Marinha, Praça do Império, 1400-206 Lisboa, Portugal, Tel: +351 21 097 7390.

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I3M Next Year

Be Ready for I3M in Athens
I3M2020
If you are interested in being active in I3M2020, Athens, Greece please visit:
www.msc-les.org/conf/i3m2020
and/or contact the Program Chair Prof..Francesco Longo (f.longo@unical.it)

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International Journal Special Issues for I3M

The I3M Organization has finalized an agreement to publish most interesting I3M papers in International Journals and to provide the opportunity to I3M authors to submit papers on International journals featuring Special Issues on simulation topics. The following Special Issues will include a collection of best papers submitted and presented at I3M or will feature topics in the area of Modeling & Simulation

-International Journal of Simulation and Process Modelling

-International Journal of Privacy and Health Information Management

-International Journal of Food Engineering
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I3M Best Paper Awards
In the I3M Best Paper Awards will be delivered during I3M at the Gala Dinner; these are assigned by the I3M Best Paper Award International Committee and selected among the top quality papers of each Conference based on their originality, scientific quality and impact on each specific domain.

Gianni Cantice Award for Gifted Simulation Students

The "Gianni Cantice Research Award for Gifted Simulation Students" will be announced during the I3M Gala Dinner and attributed to the best simulation student applicants; the Award is entitled to Col.Cantice as recognition for his long activity in Simulation; the Gianni Cantice Award Winner will receive the Award Certificate, a financial contribution (e.g. free registration to the next I3M conference) and the opportunity to spend a period in a M&S Excellence Center world wide, as visiting researcher of the Simulation Team. The Master and PhD students interested, in applying for this competition, need to submit their application, as described on the web site (www.liophant.org/i3m/cantice), to Dr.Marina Massei (massei@itim.unige.it) before the deadline (September 10, 2019). For information about next edition of Gianni Cantice Award, please visit the web site www.liophant.org/i3m/cantice.

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I3M Hotel and Venue

The I3M 2019 multiconference will be held at Altis Grand Hotel, Lisbon, Portugal

Further Information are available on the web site www.msc-les.org/conf/i3m2019

The Altis Grand Hotel
Rua Castilho, nº 13A 1269-072 Lisbon.
 www.altishotels.com
 +351 213 106 000
 reservations@altishotels.com

Directions to Altis Grand Hotel:

AIRPORTS
Lisbon International Airport is about 10 km from the hotel. There are various ways of getting to Altis Grand Hotel.
Shuttle bus service from the airport:
Visit website: https://www.altishotels.com/EN/AirportShuttleBus
Public transport from the airport:
bus and metro
Fee: EUR 2-3
BUS STATIONS
TST Bus Station, Praça de Espanha, 1070-060 - 3 km - 10 min
TRAIN STATIONS
Lisboa - Rossio railway station - 1 km - 10 min on foot
SUBWAY STATIONS
Rato Metro station Am - 500 meters - 5 min on foot
Avenida Metro station Az - 500 meters - 5 min on foot

Information about Hotel Accomodation can be found in the conference website at: http://www.msc-les.org/conf/i3m2019/venue.html

Lunches, coffee breaks and a gala dinner will be provided to all conference attendees with regular full registration.

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I3M Gala Dinner Venue

The I3M 2019 Gala Dinner will be held at Casa do Alentejo, Lisbon, Portugal on Thrusday, 19th at 8.00 pm.

Information about the Gala Dinner Venue can be found in the conference website at: http://www.msc-les.org/conf/i3m2019/venue.html

I3M Authors attending the Gala Dinner are required to to reach the Casa do Alentejo by 7.30 pm. The Gala Dinner will start at 8.00 pm.

Below you can find information about how to reach the Casa do Alentejo.

The Casa do Alentejo
Rua Portas de Santo Antão, 58
1150-268 Lisboa . PORTUGAL
Tel: +351 213 405 140
Fax: +351 213 405 149
Telm: +351 963 143 906
geral@casadoalentejo.pt

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I3M 2019 Social Activities

The I3M 2019 Organization Committee has arranged a number of different social activities for I3M attendee, including a visit to the Marinha Museum, a TUK TUK tour, the best of Lisbon by foot tour, the Food & Wine Tour. Below you can find detailed information about each tour.

Marinha Museum Tour

The Marinha Museum tour will be held on Friday 20th, afternoon at 3.30 pm. Attendees are required to reach the museum address reported below, by 3.30 pm. Attendee can buy the museum entrance ticket directly at the Museum ticket store.

The Museu de Marinha
Praça do Império,
1400-206 Lisboa, Portugal
Tel: +351 21 097 7390

 geral.museu@marinha.pt

For forther information about the ticket prices please check the museum website at:
https://ccm.marinha.pt/pt/bilhetes

TUK-TUK Tour

The TUK-TUK tour will be held on September 18th, starting at 6.30 pm. The meeting point for the Tour is the ALTIS GRAND HOTEL. Tour reservation can be made through the conference website and must be received before September 10th. The TUK-TUK tour will take place only if the minimum number of 40 persons is reached. In the case that the minimum number of persons is not reached (less than 40 reservations) the tour will not take place and the attendees that have reserved the tour will be refunded within 30 days.

TUK-TUK tour info: http://www.msc-les.org/conf/i3m2019/venue.html
TUK-TUK tour reservation: http://www.cal-tek.eu/I3MRegistration/products.php
TUK-TUK tour meeting point: ALTIS GRAND HOTEL
TUK-TUK tour duration: 2 hours

Best of Lisbon by foot Tour
The Best of Lisbon by foot tour will be held on September 20th, starting at 6.30 pm. The meeting point for the Tour is the ALTIS GRAND HOTEL. Tour reservation can be made through the conference website and must be received before September 10th. The Best of Lisbon by foot tour will take place only if the minimum number of persons is reached (15 persons). In the case that the minimum number of persons is not reached (less than 15 reservations), the attendees that have reserved the tour will be refunded within 30 days.

The Best of Lisbon by Foot tour info: http://www.msc-les.org/conf/i3m2019/venue.html
The Best of Lisbon by Foot tour reservation: http://www.cal-tek.eu/I3MRegistration/products.php
The Best of Lisbon by Foot tour meeting point: ALTIS GRAND HOTEL
The Best of Lisbon by Foot tour duration: 2 hours

The Food & Wine Tour
The Food & Wine tour will be held on September 21th, starting at 10.00 am. The meeting point for the Tour is the ALTIS GRAND HOTEL. Tour reservation can be made through the conference website and must be received before September 10th. The Food & Wine tour will take place only if the minimum number of persons is reached (15 persons). In the case that the minimum number of persons is not reached (less than 15 reservations), the attendees that have reserved the tout will be refunded within 30 days.

Food & Wine tour info: http://www.msc-les.org/conf/i3m2019/venue.html
Food & Wine tour reservation: http://www.cal-tek.eu/I3MRegistration/products.php
Food & Wine tour meeting point: ALTIS GRAND HOTEL
Food & Wine tour duration: 3 hours
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Author and Chair Guidelines for I3M2019
On the I3M web site guidelines for Track / Session Chairs and for Authors / Presenters are available please check them in order to proper deliver your presentation in best way avoiding any inconvenience.
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I3M as Evolving Framework
Dear attendee, the whole I3M Organization is very glad for having you here and for your support to this important event; we really hope you enjoyed the conference, therefore we are looking forward to further develop and improve it; by participating in I3M it is evident that a major stronghold of this Multiconference is its capability to mix very experience people with young blood. So we will be glad if you could consider to be more involved in future events by submitting session or track proposals, by proposing new topics or by providing your availability for being candidate for paper review; in addition you can find on the web site I3M Quality Assessment Forms for providing your feedback, thanks in advance for your support.

I3M2020, Athens, Greece
I3M2020 will be held next year in Athens, Greece. Please consider to be active and to participate in this important event by submitting a paper or even by proposing a track and/or a session to the I3M Organization and Conference Chairs; for further information please check the web site: www.msc-les.org/conf/i3m2020 or write to I3M2020 Program Chair Francesco Longo (f.longo@unical.it)
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Halldale - The Journal of Healthcare, Education, Simulation and Training
Halldale - The Military Simulation and Training Magazine
De Gruyter - International Journal of Food Engineering
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Synergies & Other Opportunities

WAMS 2020
WAMS 2020, the Interntaional Workshop in Applied Modeling & Simulation willl be held in Linz, Austria, co-located with the Smart Manufacturing Matchmaking 2020 and the International Conference on Industry 4.0 and Smart Manufacturing, www.msc-les.org/conf/ism2020). Please consider to be active and to participate in this thematic workshop; for further information please check the web site: http://www.msc-les.org/conf/wams2020 or write to Dr.Marina Massei (marina.massei@liophant.org)

SMM2020 and ISM 2020
The SMM 2020 (Smart Manufacturing Matchmaking 2020) provides an unique opportunity to meet scientists, researchers and company managers who are working in the area of Smart Manufacturing and Industry 4.0. Four International events are co-located (same dates and place): The International Conference on Industry 4.0 and Smart Manufacturing (ISM 2020, www.msc-les.org/conf/ism2020), a Brokerage event organized by the European Enterprise Network, the International Workshop on Innovation in Logistics (WIN-LOG 2020) and the International Workshop on Applied Modeling & Simulation (WAMS 2020, www.msc-les.org/conf/wams2020). So we will be glad if you could consider to be more involved in future events by submitting session or track proposals, by proposing new topics or by providing your availability for being candidate for paper review or by inviting companies and managers to attend the SMM 2020 events.

SIREN M&S Courses
The Modeling & Simulation Professional Courses are organized with scientific sponsorization of MITIM-DIME University of Genoa, Simulation Team, MSC-LES University of Calabria and Liophant. Attendees have the opportunity to select among different M&S courses levels (i.e. Fundamentals, Regular, Advanced Educational Package) and categories (i.e. M&S, VV&A, PM and Interoperability). Each M&S course includes lecturing and exercises provided by world-wide experts, with several years of experience, from major center of excellence, i.e. MITIM-DIME University of Genoa, Virginian Modeling & Simulation Center (VMASC), GrVa Universidad Federal de Rio de Janeiro, LSIS Marseille, MAST, MSC-LES, National Center for Simulation (NSC), NASA, Riga TU, UAB, University of Arizona, etc. If you are interested in next SIREN Courses please visit www.mastsrl.eu/mscourses or contact info@mastsrl.eu

SILENI

SILENI (SImulation LEarning iNItiative) is an initiative devoted to promote M&S applied to real problems with special attention to Defense and Industry; SILENI promotes Seminars, Courses and Lectures on application of M&S. The name SILENI (SImulation LEarning iNItiative) is inspired by Greek mythology where Sileni (companions of Dionysus) were said to possess special knowledge and power of prophecy such as Modeling & Simulation. If you are interested in next SILENI Initiatives and Seminars please visit www.liophant.org/sileni or contact info@liophant.org

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Further details on I3M Conferences are available in www.liophant.org/i3m, www.msc-les.org/conf/i3m2019