I3M Multiconference Program

I3M: The 10th International Multidisciplinary Modelling & Simulation Multiconference

General Chair
Agostino G. Bruzzone - DIME - University of Genoa, Italy
Yuri Merkuryev - Department of M&S, Riga TU, Latvia

Program Chair
Francesco Longo - MSC-LES, DIMEG, University of Calabria, Italy

EMSS: The 25th European Modelling & Simulation Symposium,

EMSS General Chairs:
Francesco Longo, MSC-LES, DIMEG, University of Calabria, Italy
Emilio Jimenez, University of La Rioja

HMS: The 15th International Conference on Harbour, Maritime & Multimodal Logistics Modelling and Simulation

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

HMS Program Chair:
Manfred Gronalt, University of Natural Resources and Life Sciences Vienna, Austria
MAS: The 12nd International Conference on Modelling & Applied Simulation

MAS General Chairs:
Michael Affenzeller, Upper Austria University of Applied Sciences, Austria
Marina Massei, Liophant Simulation, Italy

MAS Program Chairs:
Fabio De Felice, University of Cassino, Italy
David Del Rio Vilas, University of a Coruna, Spain

IMAACA: The 7th International Conference on Integrated Modeling and Analysis in Applied Control and Automation

IMAACA Conference Chairs:
Sergio Junco, Universidad Nacional de Rosario, Argentina
Geneviève Dauphin-Tanguy, Ecole Centrale de Lille, France

DHSS: The 3rd International Defense and Homeland Security Simulation Workshop

DHSS General Chairs:
Agostino Bruzzone, MITIM DIME, University of Genoa, Italy
John A. Sokolowski, Virginia Modeling, Analysis and Simulation Center, VA, USA

DHSS Program Chair:
Wayne Buck, HQ Supreme Allied Commander Transformation, NATO
Robert Sottilare, US Army, USA

I_WISH: The 2nd International Workshop on Innovative Simulation for Health Care

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

I_WISH Program Chair:
Werner Backfrieder, Upper Austrian University of Applied Sciences, Austria

SESDE: The 1st International Workshop on Simulation for Energy, Sustainable Development & Environment

SESDE General Chairs:
Francesco Longo, MSC-LES, M&SNet Center, University of Calabria, Italy
Janos Sebestyen Janosy, MTA EK Centre for Energy Research Hungarian Academy of Sciences

SESDE Program Chair:
Gerson Cunha, Grupo de Realidade Virtual Aplicada - LAMCE/COPPE/UFRJ, Brasil
Terry Bossomaier, Charles Sturt University, Australia

I3M: The International Multidisciplinary Modelling & Simulation Multiconference is involving EMSS, MAS, IMAACA, HMS, DHSS, I_WISH, SESDE and Workshops; All Sessions are open to all I3M Attendees

Workshops: Special Sessions

JS: Joint Session I3M/DHSS/EMSS/HMS/IMAACA/MAS/IWISH/SESDE freely open to all the attendees (i.e. Plenary Joint Opening)

I3M Event: A Special I3M Event (I3M Gala Dinner) is open to I3M / DHSS/ EMSS/ HMS/ IMAACA/ MAS/IWISH/SESDE Attendees

Wednesday 2013-09-25 8:30-10:00
Joint I3M Opening - Olympia
Welcome Address I3M, Prof.Agostino G. Bruzzone, DIME, University of Genoa, Italy

Conferences, Societies and Networks Welcome
- EMSS - Prof. Francesco Longo, MSC-LES, University of Calabria, Italy
- HMS - Prof. Yuri Merkuryev, Riga Technical University, Latvia
- MAS Conference - Prof.Michael Affenzeller, Upper University of Applied Science, Austria
- IMAACA - Prof. Sergio Junco, Rosario University, Argentina
- DHSS - Prof. Riszard Klempous, Wroclaw University of Technology, Poland
- I_WISH Address - Prof.Vera Novak Harvard Medical School, USA
- SESDE Address - Prof. Janos Sebestyen Janosy MTA EK, Hungary
- I_M_CS - Prof.Emilio Jimenez, La Rioja University, Spain
- Liophant - Dr. Marina Massei, University of Genova, Italy
- Simulation Team - Prof. Miquel Angel Piera, UAB, Spain
- MISS - Prof. Gerson Cunha, LAMCE/COPPE/UFRJ, Brasil
- M&S Net - Prof. Stefano Saetta, University of Perugia, Italy
- National Russian Simulation Society - Prof. Boris Sokolov, SPIIRAS, Academy of Sciences, Russia
Conference Updates

Wednesday 2013-09-25 10:00-10:30
COFFEE BREAK Co-Sponsored by CAL-TEK, LIO Tech, MAST, SIM4FUTURE - Kallirroie

Wednesday 2013-09-25 10:30-12:00
Joint I3M Opening - Olympia
Plenary Speeches:

Prof. Peter Groumpos, University of Patras

Lt. Gen. Leonidas Mazarakis, President AFCEA, Hellenic Chapter
Hellenic Views of Modelling and Simulation in Security and Defense

Prof. Vera Novak, BIDMC, Harvard Medical School
Innovative Simulations to Overcome Global Healthcare Challenges

All Around for I3M Conference Pictures

Wednesday 2013-09-25 12:00-13:30
LUNCH Co-Sponsored by Lio-Tech, CAL-TEK, MAST, SIM4FUTURE

Wednesday 2013-09-25 13:30-15:00
Room: Room 1
EMSS: Agent Directed Simulation - Session I
Chair(s): Juan Ignacio Latorre, Public University of Navarre

EMSS_130: Modelling swarms of unmanned autonomous fighters for identification and analysis of new strategies and technological enablers
Agostino Bruzzone, Alberto Tremori, Simonluca Poggi, Luciano Dato, Angelo Ferrando, Antonio Martella
University of Genoa - Italy

EMSS_97: State space analysis for model plausibility validation in multi agent system simulation of urban policies
Miquel Angel Piera, Roman Buil, Egils Ginters
Universitat Autònoma de Barcelona; Vidzeme University of Applied Sciences - Spain/ Latvia

EMSS_18: RETSIM: A shoe store agent-based simulation for fraud detection
Edgar Alonso Lopez-Rojas, Stefan Axelsson, Dan Gorton
Blekinge Institute of Technology; KTH Royal Institute of Technology - Sweden

EMSS_98: A MAS approach based on coloured Petri net formalism for urban policy design
Roman Buil, Miquel Angel Piera
Universitat Autònoma de Barcelona - Spain

EMSS_72: Exploring unknown networks using a cooperative mas-based approach
Pedro Simeão Carvalho, Rosaldo José Fernandes Rossetti, Ana Paula Rocha, Eugénio da Costa Oliveira
University of Porto - Portugal
Wednesday 2013-09-25 13:30-15:00
Room: Room 2
**EMSS-MAS: Discrete/Combined and Parallel/Distributed Simulation- Session I**
*Chair: Gasper Music, University of Ljubljana; Thomas Wiedemann, HTW Dresden FB Informatik*

EMSS_92: SIMPHONY: at the pinnacle of next generation simulation modeling environments for the construction domain
Ronald Ekyalimpa, Stephen Hague, Simaan AbouRizk
University of Alberta - Canada

EMSS_60: A systems engineering approach to modeling and simulating software training management efforts
Asli Soyler Akbas, Waldemar Karwowski
University of Central Florida - USA

EMSS_19: A stochastic approach to security software quality management
Vojo Bubevski
TATA Consultancy Services Ltd - United Kingdom

EMSS_41: Process-interaction modeling and simulation: a Java-based approach
Brahim Belattar, Abdelhabib Bourouis
University Colonel El Hadj Lakhdar; University Larbi Ben M'Hidi - Algeria

MAS_22: A parallel approach of interest management in exascale simulation systems
Elvis S. Liu
University College Dublin; IBM Research - Ireland

Wednesday 2013-09-25 13:30-15:00
Room: Room 3
**MAS: Production Systems Design, Planning and Supply Chain Inventory Management - Session I**
*Chair(s): Adriano Solis, York University*

MAS_52: Applying modeling and simulation to evaluate statistical accuracy and inventory control performance of lumpy demand forecasting methods
Adriano Solis, Francesco Longo, Letizia Nicoletti, Aliaksandra Yemialyanava
York University; University of Calabria - Canada/Italy

MAS_50: The impact of external disturbances on the performance of a cellular manufacturing system
Sameh M Saad, Carlos R. Gómez, Nabil Gindy
Sheffield Hallam University; Nottingham University - United Kingdom

MAS_37: Comparing material flow control mechanisms using simulation optimization
Manuela André, Luís Dias, Guiherme Pereira, José Oliveira, Nuno Fernandes, Silvio Carmo-Silva
University of Minho; Polytechnic Institute of Castelo Branco; Algoritmi Research Center - Portugal

MAS_35: A data collection methodology to perform DHMS-based ergonomic analysis of manufacturing tasks
Nadia Rego-Monteil, Mariangela Suriano, Diego Crespo Pereira, David del Rio Vilas, Rosa Rios Prado, Francesco Longo
University of Coruña; University of Calabria - Italy

MAS_21: Looking for the equilibrium of the shields production system via simulation model
Wednesday 2013-09-25 13:30-15:00

**Room: Room 4**

**HMS: Transportation Systems and Services - Session I**

*Chair(s): Manfred Gronalt, Boku University; Elvezia M. Cepolina, University of Pisa*

**HMS_9: Modelling of intermodal networks**

Karl Etlinger, Edith Schindlbacher, Manfred Gronalt  
University of Natural Resources and Life Sciences - Austria

**HMS_13: An optimization methodology for the consolidation of urban freight boxes**

Elvezia Maria Cepolina, Alessandro Farina  
University of Pisa - Italy

**HMS_11: A new robotized vehicle for urban freight transport**

Aiko Dinale, Rezia Molfino, Penghui Huang, Matteo Zoppi  
University of Genova - Italy

**HMS_28: Model development for the assessment of an international railway corridor – methodological overview**

Rosa Rios Prado, Diego Crespo Pereira, David del Río Vilas, Nadia Rego Monteil, Óscar De Gregorio Vicente  
University of A Coruna - Spain

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Wednesday 2013-09-25 13:30-15:00

**Room: Room Ground**

**SESDE: M&S for Environmental Sustainability - Session I**

*Chair(s): Janos Sebestyen Janosy, MTA EK*

**SESDE_9: Environmental performance of global supply chains observed through extended material requirements planning simulation model**

Danijel Kovacic, Marija Bogataj  
MEDIFAS - Slovenia

**SESDE_11: Complementing life cycle assessment by integrated hybrid modeling and simulation**

Bochao Wang, Séverin Brême, Young Moon  
Syracuse University; Institut Supérieur de l'Aéronautique et de l'Espace - USA/ France

**SESDE_34: Developing a sustainability assessment tool for socio-environmental systems: a case study of systems simulation and participatory modelling**

Luisa Perez-Mujica, Terry Bossomaier, Roderick Duncan, Andrea Rawluk, Max Finlayson, Jonathon Howard  
Charles Sturt University - Austria

**SESDE_45: A new generic model for greenhouses using fuzzy cognitive maps**

Vasiliki K. Bouga, Peter P. Groumpos  
University of Patras - Greece

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Wednesday 2013-09-25 15:00-15:30

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**COFFEE BREAK Co-Sponsored by CAL-TEK, LIO Tech, MAST, SIM4FUTURE - Kallirrooe**

**Wednesday 2013-09-25 15:30-17:00**

*Room: Room 1*

**EMSS: Agent Directed Simulation - Session II**

*Chair(s): Emilio Jiménez, University of La Rioja*

EMSS_8: Modeling interactions in a mixed agent world  
Wafa Johal, Julie Dugdale, Sylvie Pesty  
University of Grenoble - France

EMSS_36: An agent-based electronic market simulator enhanced with ontology matching services and emergent social networks  
Virginia Nascimento, Maria João Viamonte, Alda Canito, Nuno Silva  
Polytechnic of Porto - Portugal

EMSS_45: Agenda-based behavior in pedestrian simulation  
Eric Kolstad, John M. Usher  
Mississippi State University - USA

EMSS_13: On agents negotiation in a trading company simulation  
Roman Šperka, Marek Spišák  
Silesian University in Opava - Czech Republic

**Wednesday 2013-09-25 15:30-17:00**

*Room: Room 2*

**EMSS: Warehouse and Inventory Management Modeling & Simulation - Session I**

*Chair(s): Adriano Solis, York University*

EMSS_52: Safety storage assignment in AS/RS  
Giovanni Davoli, Andrea Govoni, Sergio Amedeo Gallo, Erika Bortoli, Riccardo Melloni  
University of Modena and Reggio Emilia - Italy

EMSS_126: A simulation approach for spare parts demand forecasting and inventory management optimization  
Mattia Armenzoni, Roberto Montanari, Vignali Giuseppe, Eleonora Bottani, Gino Ferretti, Federico Solari, Marta Rinaldi  
University of Parma - Italy

EMSS_107: Simulation based evaluation of concepts and strategies for automated storage and retrieval systems with multiple i/o points  
Daniel Lantschner, Thomas Atz, Willibald A. Günthner  
Technische Universität München - Germany

EMSS_108: Modeling, simulation and optimization of the main packaging line of a brewing company  
Natalia Basán, Lucila Ramos, Mariana Coccola, Carlos Alberto Méndez  
INTEC (UNL - CONICET) - Argentina

**Wednesday 2013-09-25 15:30-17:00**

*Room: Room 3*
MAS: Workshop on Modeling and Simulation of Food Processing and Operations - Session I
Chair(s): Eleonora Bottani, Roberto Montanari, University of Parma; Andrea Grassi, University of Modena and Reggio Emilia

MAS_30: Simulating continuous time production flows in food industry by means of discrete event simulation
Fabio Bursi, Andrea Ferrara, Andrea Grassi, Chiara Ronzoni
Università di Modena e Reggio Emilia; Logistics & Automation Consulting srl - Italy

MAS_51: Modelling fresh goods supply chain contamination
Agostino Bruzzone, Marina Massei, Matteo Agresta, Angelo Ferrando
University of Genoa - Italy

MAS_44: Modelling and multiobjective optimization of the VHP sterilization process of pouch packaging
Matteo Folezzani, Michele Manfredi, Giuseppe Vignali
University of Parma - Italy

MAS_26: Evaluation and modeling the aerodynamic properties of mung bean seeds
Feizollah Shahbazi, Ali Dowlatshah, Saman Valizadeh
Lorestan University - Iran

MAS_33: Performance analysis of a water supply system of a dairy company by means of advanced simulative methods
Davide Marchini, Marta Rinaldi, Roberto Montanari, Eleonora Bottani, Federico Solari
Parco Area delle Scienze; University of Parma - Italy

Wednesday 2013-09-25 15:30-17:00
Room: Room 4

HMS: Logistic Networks, Supply Chains and e-Mobility - Session I
Chair(s): Tobias Reggelin, Univ. of Magdeburg; Alejandro Garcia, La Coruna Univ., Michael Affenzeller, Univ. of Applied Sciences

HMS_14: Resource allocation in mesoscopic logistics networks simulation
Til Hennies, Yvonne Boersch, Juri Tolujew, Tobias Reggelin
IFF and Otto-von-Guericke University Magdeburg - Germany

HMS_27: The network design of China’s northeast cold chain
Nam Kyu Park, Woo Young Choi, Jian Hui
Tongmyong University - Republic of Korea

HMS_23: Analysis of the applicability of the public Upper Austrian transport graph for solving a location-allocation problem
Andreas Pell, Andreas Meingast, Stefan Rotter, Markus Pajones
University of Applied Sciences Upper Austria - Austria

HMS_17: Design of the SEEWOP software prototype
Thomas Kern, Tanja Peschetz, Gerald Petz
University of Applied Sciences Upper Austria - Austria

Wednesday 2013-09-25 15:30-17:00
Room: Room Ground

SESDE: M&S for Environmental Sustainability - Session II
Chair(s): Janos Sebestyen Janosy, MTA EK

SESDE_31: Options for switching modes of transport in Vienna
Gerda Hartl, Gabriel Wurzer
Vienna University of Technology - Austria

SESDE_6: Electro-thermal simulation of lithium ion batteries for electric and hybrid vehicles
Zul Hilmi Che Daud, Daniela Chrenko, Fabien Dos Santos, El-Hassane Aglzim, Luis Le Moyn
University of Technology Malaysia; University of Burgundy - Malaysia/ France

SESDE_7: Optimization of racing series hybrid electric vehicle using dynamic programming
Zainab Asus, El-Hassane Aglzim, Daniela Chrenko, Zul-Hilmi Che Daud, Luis Le Moyn
University of Technology Malaysia; University of Burgundy - Malaysia/ France

SESDE_30: Simplified strategy for modeling the performance of a novel multi house heating schemes
John Rogers
University of Bath - United Kingdom

Thursday 2013-09-26 8:30-10:00
Room: Room 1
EMSS: Advanced Simulation for Logistics Systems - Session I
Chair(s): Maria Pia Fanti, Polytechnic of Bari, Chrysostomos Stylios, Tech. Ed. Institute of Epirus, Walter Ukovich, University of Trieste

EMSS_128: Cooperative training for ships and tugboats pilots based on interoperable simulation
Francesco Longo, Letizia Nicoletti, Alessandro Chiurco
University of Calabria - Italy

EMSS_129: Drivers and Parkers Training in Car Terminals
Francesco Longo, Letizia Nicoletti, Alessandro Chiurco, Adriano Solis, Francisco Spadafora
University of Calabria - Italy

EMSS_78: A model based decision support system for logistics management
Valentina Boschian, Maria Pia Fanti, Giorgio Iacobellis, George Georgoulas, Chrysostomos Stylios, Walter Ukovich
University of Trieste; Polytechnic of Bari; Technological Educational Institute of Epiru - Italy/ Greece

EMSS_112: Modeling and simulation of an electric car sharing system
Monica Clemente, Maria Pia Fanti, Giorgio Iacobellis, Walter Ukovich
University of Trieste; Polytechnic of Bari - Italy

EMSS_119: The famous transportation of Thailand and Japan logistics
Nollaphan Foongkiatcharoen, Fumio Akagi
Fukuoka Institute of Technology - Japan

Thursday 2013-09-26 8:30-10:00
Room: Room 2
EMSS: Industrial Processes Modeling & Simulation - Session I
Chair: Miquel Angel Piera, Autonomous University of Barcelona, Spain
EMSS_115: Advanced tool for predictive diagnosis and maintenance using case-based reasoning and fuzzy logic
Nikolinka Christova, Atanas Atanassov
University of Chemical Technology and Metallurgy - Bulgaria

EMSS_100: Predictive monitoring of production line efficiency
Tomi Zebić, Boštjan Hauptman, Peter Rogelj, Gašper Mušič
Metronik d.o.o; Trimo d.o.o; University of Ljubljana - Slovenia

EMSS_77: A pipe spool fabrication simulation model
Ramzi Labban, Simaan M. Abourizk, Haddad Zuhair, Amr El-Sersy
University of Alberta; Consolidated Contractors Group - Canada/Greece

EMSS_33: Modeling, simulation and analysis applied to a naphtha stabilizer tower
Felipe Sanchez Nagata, Wilson Hideki Hirota, Roberto Nasser Junior, Rosimeire Aparecida Jerônimo
UNIFESP; UNIFEI - Brasil

EMSS_47: Evaluation of the agribusiness chain of panela process using hierarchical analysis: case study colombian andean region
Gabriela Leguizamon, Nelson V Yepes Gonzalez, Maria Victoria Cifuentes
Antonio Nariño University - Colombia

Thursday 2013-09-26 8:30-10:00
Room: Room 3
EMSS: Simulation Optimization Approaches in Industry, Services and Logistics Processes - Session I
Chair(S): Idalia Flores, University of Mexico; Miguel Mújica Mota, Universitat Autonoma de Barcelona

EMSS_23: Information security incidents simulation for risk analysis in the national autonomous university of Mexico
Israel Andrade Canales
UNAM - Mexico

EMSS_123: A machine learning approach for modeling and its applications
Shuxiang Xu, Yunling Liu, Byeong-Ho Kang, Wanlin Gao
University of Tasmania; China Agricultural University - Australia/China

EMSS_20: Production capacity and investment policy for a manufacturing company using simulation and integer programming
Jorge Andrés García-Hernández
UNAM - Mexico

EMSS_64: A model based on artificial neural network for risk assessment to polycyclic aromatic hydrocarbons in workplace
Francesco Facchini, Giorgio Mossa, Giovanni Mummolo
Polytechnic of Bari - Italy

EMSS_42: Towards large scale road traffic simulation experiment
Marek Małowidzki, Tomasz Dalecki, Przemysław Bereziński, Michał Mazur
Military Communication Institute - Poland

Thursday 2013-09-26 8:30-10:00
MAS: Decision Support Systems Applications - Session I
Chair(s): Fabio De Felice, University of Cassino, Antonella Petrillo, University of Cassino

MAS_27: Using analytic hierarchy process to evaluate human performance
Fabio De Felice, Antonella Petrillo, Michele Tricarico
University of Cassino; Horseracing Italian Agency - Italy

MAS_18: A flexible decision support tool for maintenance float systems - a simulation approach
Francisco Peito, Guilherme Pereira, Armando Leitão, Luís Dias, José Oliveira
Polytechnic Institute of Bragança; University of Minho; University of Porto - Portugal

MAS_11: Proposal of agent simulation methodology for the prospective analysis of mineral commodities markets
Fenintsoa Andriamasinoro, Bruno Martel-Jantin
BRGM - France

MAS_23: SimUse: modeling recreational polydrug use through an agent-based model
Francois Lamy, Terry Bossomaier, Pascal Perez
CRiCS (CSU); Clerésé (USTL); HEMA Consulting/DPMP; CRiCS (CSU); SMART Infrastructure Facility (UoW); HEMA Consulting/DPMP - Australia

MAS_38: The use of simulation as a tool to support decision-making in a piston manufacturing system
Alexandre Massote, Bruno Ignácio
Centro Universitário da Fei; Fundação Armando Alvares Penteado - Brazil

Thursday 2013-09-26 8:30-10:00
Room: Room Ground
DHSS-EMSS: Defense and Homeland Security Simulation - Session I
Chair(s): Ryszard Klempous, Wroclaw University of Technology

DHSS_19: Human factors’ simulation models military relevance
Francesco Nasca, Alberto Tremori
NATO MSCOE; University of Genoa - Italy

EMSS_127: Modeling cyber warfare in heterogeneous networks for protection of infrastructures and operations
Agostino Bruzzone, Diego Merani, Marina Massei, Alberto Tremori, Christian Bartolucci, Angelo Ferrando
University of Genoa - Italy

DHSS_18: 3D terrestrial laser scanner used to replicate a real military vehicle suitable to conduct static and dynamic tests in a virtual scenario
Marco Giorgi, Francesco Longo, Pier Carmine Bosco, Letizia Nicoletti
NATO MSCOE; University of Calabria - Italy

DHSS_10: Modelling intrusion detection in security systems
Zenon Chaczko, Ryszard Klempous, Chris Chiu
University of Technology, Sydney; Wroclaw University of Technology - Australia/Poland

DHSS_9: Weighted attack trees for the cybersecurity analysis of SCADA systems
Andrea Bobbio, Lavinia Egidi, Roberta Terruggia, Ester Ciancamerla, Michele Minichino
Università del Piemonte Orientale - Italy
Thursday 2013-09-26 10:00-10:30
**COFFEE BREAK Co-Sponsored by CAL-TEK, LIO Tech, MAST, SIM4FUTURE - Kallirroe**

Thursday 2013-09-26 10:30-12:00
*Room: Room 1*

**EMSS: M&S Methodologies, Techniques and Applications - Session I**
*Chair(s): Emilio Jimenez, University of La Rioja*

- **EMSS_37:** Creating sorted list for simulink models with graph transformation
  Péter Fehér, Tamás Mészáros, Pieter J. Mosterman, László Lengyel
  Budapest University of Technology and Economics; MathWorks - Hungary/ USA

- **EMSS_109:** Fuzzy cognitive maps modeling and simulation
  Evangelia Bourgani, Chrysostomos D. Stylios, George Manis, Voula C. Georgopoulos
  TEI of Epirus; University of Ioannina; TEI of Western Greece - Greece

- **EMSS_29:** Modeling and simulation of amperometric biosensors acting in flow injection analysis
  Romas Baronas, Darius Baronas
  Vilnius University - Lithuania

- **EMSS_67:** How SMP suits the needs for the European space sector
  Vemund Reggestad, Anthony Walsh
  ESA-ESOC - Germany

- **EMSS_25:** Modelling complex and flexible processes for smart cyber-physical environments
  Ronny Seiger, Christine Keller, Florian Niebling, Thomas Schlegel
  Technische Universität Dresden - Germany

Thursday 2013-09-26 10:30-12:00
*Room: Room 2*

**EMSS-MAS: M&S for Natural Disasters and Human Caused Problems- Session I**
*Chair: Yuri Merkuryev, Riga Technical University*

- **EMSS_70:** Automatization of a process of an inundation area computation
  Pavel Veselý, Štěpán Kuchař, Jan Martinovič, Vít Vondrák
  VŠB - Technical University of Ostrava - Czech Republic

- **EMSS_101:** Advanced river flood forecasting and simulation
  Galina V. Merkuryeva, Yuri A. Merkuryev
  Riga Technical University - Latvia

- **EMSS_81:** Crowdsourcing supported modelling and analysis infrastructure for intelligent monitoring of natural-technological objects
  Andrejs Romanovs, Boris V. Sokolov, Arnis Lektauers, Julija Petuhova
  Riga Technical University; Russian Academy of Sciences - Latvia/ Russia

- **EMSS_114:** A model for irregular phenomena in urban traffic
  Luigi Rarità
  University of Salerno - Italy

- **MAS_47:** A preliminary supply chain model to housing recovery after the occurrence of a natural disaster
  Rafael Diaz, Joshua Behr, Sameer Kumar, Ange Lionel Toba, Francesco Longo, Letizia Nicoletti
  Old Dominion University; Eastern Virginia Medical School; University of Calabria - USA/ Italy
Thursday 2013-09-26 10:30-12:00  
**Room: Room 3**  
**EMSS: Simulation Optimization Approaches in Industry, Services and Logistics Processes - Session II**  
*Chair(S): Idalia Flores, University of Mexico; Miguel Mújica Mota, Universitat Autonoma de Barcelona*

EMSS_54: Solving small TSP according to the principle of minimum action  
Diego D’Urso, Marco Cannemi  
Università degli Studi di Catania - Italy

EMSS_28: Simulation of the design area in a printing company  
Carlos Quintero Aviles, Idalia Flores  
UNAM - Mexico

EMSS_26: Urban transport infrastructure: a state of the art  
Idalia Flores, Ioannis Chatziioannou, Esther Segura, Salvador Hernández  
UNAM; Technological Institute of Celaya - Mexico

EMSS_80: Simulation models to support GALB heuristic optimization algorithms based on resource balancing based on multi objective performance index  
Sergio Amedeo Gallo, Giovanni Davoli, Andrea Govoni, Riccardo Melloni  
University of Modena and Reggio Emilia - Italy

EMSS_89: A Bayesian network analysis for safety management  
Ciro D’Elia, Fabio De Felice, Paola Mariano, Antonella Petrillo, Simona Ruscino  
University of Cassino and Southern Lazio - Italy

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Thursday 2013-09-26 10:30-12:00  
**Room: Room 4**  
**MISS-MSNet Joint Directors Meeting**  
*Chair: Agostino Bruzzone, DIME University of Genoa*

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Thursday 2013-09-26 10:30-12:00  
**Room: Room Ground**  
**IWISH-EMSS: Specific Deseases and Physical Systems Modeling and Simulation - Session I**  
*Chair(s): Vera Novak, Harvard Medical School*

IWISH_22: An optimal control approach to modeling head-up tilt  
Nakeya Williams, Hien Tran, Mette Olufsen  
North Carolina State University - USA

EMSS_79: Appointment scheduling for a computed tomography facility for different patient classes using simulation  
Francesco Boenzi, Giovanni Mummolo, Jacobus E. Rooda  
Facoltà di Ingegneria del Politecnico di Bari; Eindhoven University of Technology - Italy/ The Netherlands

IWISH_26: Telewar on obesity (two), a real-time system to track and correct individual behavior in social networks  
Simone B. Bortolami, Agostino G. Bruzzone, Vera Novak
The Charles Stark Draper Laboratory; University of Genoa; Harvard University - Italy/ USA

IWISH_23: Monitoring brain blood flow using ear temperature and its implications for diagnosis of orthostatic intolerance
David Lorr, Johan Skoog
University of Linköping - Sweden

IWISH_27: Challenges in monitoring analyses and interpretation of cerebral autoregulation
Vera Novak
Harvard Medical School - USA

Thursday 2013-09-26 12:00-13:30
LUNCH Co-Sponsored by Lio-Tech, CAL-TEK, MAST, SIM4FUTURE

Thursday 2013-09-26 13:30-15:00
Room: Room 1
EMSS: Effective Design by Modeling and Simulation: General Applications - Session I
Chair(s): Stefano Saetta, University of Perugia

EMSS_40: Modelling and simulation of thermal induced stress in 3D nano PMOS
Abderrazzak El Boukili
Al Akhawayn University in Ifrane - Morocco

EMSS_105: Modeling and simulation of stress for cemented carbide cylindrical end mill
WU Qiong, Li Da Peng
Beihang University - China

EMSS_12: Simulation for safety engineering: a comparison between experimental data and fire models
Andrea Govoni, Giovanni Davoli, Sergio Amedeo Gallo, Riccardo Melloni
University of Modena and Reggio Emilia - Italy

EMSS_38: Experimental and numerical analysis of the knocking phenomenon in a GDI engine
Michela Costa, Ugo Sorge, Bianca Maria Vaglieco, Paolo Sementa, Francesco Catapano
CNR – Istituto Motori - Italy

EMSS_124: Experimental comparison of image thresholding methods for defect detection in the papermaking process
Luca Ceccarelli, Francesco Bianconi, Stefano Antonio Saetta, Antonio Fernández, Valentina Caldarelli
Università degli Studi di Perugia; Universidade de Vigo - Italy/ Spain

Thursday 2013-09-26 13:30-15:00
Room: Room 2
Special Session: I3M 2014
Chairs: Yuri Merkuryev, Riga Technical University; Francesco Longo, University of Calabria

Thursday 2013-09-26 13:30-15:00
Room: Room 3
MAS: Simulation Based Design and Optimization - Session I
Chair(s): Pasquale Legato, University of Calabria, Rina Mary Mazza, University of Calabria

MAS_43: Addressing robust berth planning under uncertainty via simulation based optimization
Pasquale Legato, Rina Mary Mazza  
University of Calabria - Italy  

MAS_40: A study of DEVS-based process scheduling on multi-user semiconductor test equipment  
Soonchul Lim, Youngsin Han, Chilgee Lee  
Sungkyunkwan University; Samsung Electronics - South Korea  

MAS_15: Using conversive hidden non-markovian models for multi-touch gesture recognition  
Tim Dittmar, Claudia Krull, Graham Horton  
Otto-von-Guericke-University - Germany  

MAS_20: From safety requirements to simulation-driven design of safe systems  
Alfredo Garro, Andrea Tundis, Lena Buffoni-Rogovchenko, Peter Fritzson  
University of Calabria; Linköping University - Italy/ Sweden  

MAS_48: A mechanical approach of multivariate density function approximation  
László Mohácsi, Orsolya Réttallér  
Corvinus University of Budapest - Hungary  

Thursday 2013-09-26 13:30-15:00  
**Room: Room 4**  
**HMS: Ports, Terminals and Ships Modeling - Session I**  
**Chair(s): Manfred Gronalt, Boku University**  

HMS_16: Operational control for stacker/reclaimers  
Teus van Vianen, Jaap Ottjes, Gabriel Lodewijks  
Delft University of Technology - Netherlands  

HMS_25: Complex objects remote sensing monitoring and modeling for port maritime management  
Boris Sokolov, Vjacheslav Zelentsov, Victor Mochalov, Semyon Potryasaev, Olga Brovkina  
Russian Academy of Science - Russia  

HMS_10: Management of dangerous goods in container terminal with MAS model  
Mansoriya Hamidou, Dominique Fournier, Eric Sanlaville, Frédéric Serin  
University of Le Havre - France  

HMS_19: Ship damage control action simulation using HLA  
Paulo Martins, Rosaldo Rossetti, António Brito  
University of Porto; Centro de Investigação Naval - Portugal  

Thursday 2013-09-26 13:30-15:00  
**Room: Room Ground**  
**IWISH-EMSS: M&S of Healthcare Systems - Session I**  
**Chair(s): Joshua Behr, Old Dominium University**  

IWISH_12: Modeling and simulation of an ambulatory surgery facility  
Jose Sepulveda, Waldemar Karwoski, Francisco Ramis  
University of Central Florida; Universidad del Bío-Bío - USA/ Chile  

IWISH_11: Strategies for successful implementation of healthcare simulation – A case study of operating room planning  
Krisjanis Steins, Fredrik Persson  
Linköping University - Sweden
EMSS_65: Aggregate model based performance analysis of an emergency department
Ivo J.B.F. Adan, Erjen Lefeber, Jordi J.D. Timmermans, Annette van de Waarsenburg, Mireille Wolleswinkel-Schriek
Eindhoven University of Technology; Catharina Hospital Eindhoven - The Netherlands

EMSS_68: Integrating an agent-based model of malaria mosquitoes with a geographic information system
S. M. Niaz Arifin, Rumana Reaz Arifin, Dilkushi de Alwis Pitts, Gregory R. Madey
University of Notre Dame - USA

IWISH_21: Analyzing the impact of public health interventions on ambulatory healthcare capacities – A preliminary model
Rafael Diaz, Joshua Behr, Angel lionel Toba, Francesco Longo
Old Dominion University; University of Calabria - USA/ Italy

Thursday 2013-09-26 15:00-15:30
COFFEE BREAK Co-Sponsored by CAL-TEK, LIO Tech, MAST, SIM4FUTURE - Kallirroe

Thursday 2013-09-26 15:30-17:00
Room: Room 1
EMSS: Modeling & Simulation and Business, Economy, Finance and Organizations - Session I
Chair(s): Terry Bossomaier, Charles Sturt University

EMSS_14: Queuing theory simulation model for calculating net present value corrective factor in investment project appraisal
Zoran Petrovic, Sladjana Benkovic, Ugljesa Bugaric, Dusan Petrovic, Gordana Markovic Petrovic
Mokra Gora School of Management; University in Belgrade; Dom Zdravlja - Republic of Serbia

EMSS_113: An analytical hierarchy process methodology to evaluate IT solutions for organizations
Spiros Vasilakos, Chrysostomos D. Stylios, John Garofalakis
Computer Technology Institute & Press “Diophantus”; Technological Educational Institute of Epirus; CEID - Greece

EMSS_32: A study on performance evaluation of the “dogs of the dow” investment strategy for the thai stock market
Kittipong Tissayakorn, Yu Song, Fumio Akagi
Fukuoka Institute of Technology - Japan

EMSS_39: A simulation case study of email management within a large I.T. company in Greece
Agapi Vouvoudi, Makrina Viola Kosti, Lefteris Angelis
Aristotle University of Thessaloniki - Greece

EMSS_56: Recognizing characteristic patterns in distorted data collections
Tomáš Kocyan, Jan Martinovič, Pavla Dráždilová, Kateřina Slaninová
VŠB - Technical University of Ostrava - Czech Republic

Thursday 2013-09-26 15:30-17:00
Room: Room 2
EMSS-MAS: Visualization Techniques, Systems and IoT - Session I
Chair: Miquel Angel Piera, Autonomous University of Barcelona, Spain
EMSS_27: Application of three-dimensional visualization techniques and decision making used in the detection of movements of the ground and underground pipelines in unstable areas
Robson da Cunha Santos, Marcelo Silva, Gerson Gomes Cunha
Fluminense Federal Institute; Estácio de Sá University; Federal University of Rio de Janeiro - Brazil

EMSS_73: Using natural interfaces to interact with a virtual control desk of a nuclear power plant
Maurício Alves da Cunha Aghina, Antônio Carlos de Abreu Mól, Carlos Alexandre Fructuoso Jorge, Paulo Victor Rodrigues de Carvalho, Ana Paula Legey, Gerson Gomes Cunha, Luiz Landau
Instituto de Engenharia Nuclear /Comissão Nacional de Energia Nuclear; Universidade Gama Filho; Universidade Federal do Rio de Janeiro - Brazil

EMSS_48: Impact of projection systems for vehicle simulators on symptoms of simulator
Grzegorz Gudzbeler, Andrzej Urban
Police Academy Szczytno - Poland

EMSS_117: Modeling autonomic monitoring and control for IoT systems
Zenon Chaczko, Ryszard Klempous, Jan Nikodem
University of Technology, Sydney/Wroclaw University of Technology - Australia/ Poland

MAS_45: Multi-perspective visualization within simulation-based design enhanced shared understanding
Bart van Zaalen, Rens Kortmann, Wijnand Veeneman, Alexander Verbraeck, Marten Busstra
Delft University of Technology; NedTrain B.V. - Netherlands

Thursday 2013-09-26 15:30-17:00
Room: Room 3
IMAACA - EMSS: Supervision and Diagnosis Systems - Session I
Chair(s): Sergio Junco, Universidad National de Rosario

IMAACA_11: Observer-based actuator and sensor fault estimation
Christophe Sueur
Ecole Centrale de Lille - France

IMAACA_25: State and unknown input observer: analysis and design
Eugene Tarasov, Ibtesime Gahlouz, Christophe Sueur, Belkacem Ould Bouamama
Ecole Centrale de Lille; Polytech Lille - France

IMAACA_33: Bond graph proportional-integral observer-based robust fault detection
Ghada Saoudi, Rafika EL Harabi, Geneviève Dauphin-Tanguy, Belkacem Ould Bouamama, Mohamed Naceur Abdelkrim
Ecole Nationale d'ingenieurs de Gabes; Ecole Centrale de Lille; Polytech Lille - Tunisie/ France

EMSS_46: Arduino platform and object-oriented programming applied to autonomous robots for detection of pipeline
Robson da Cunha Santos, Marcelo Silva, Gerson B. Alcantara, Julio C. P. Ribeiro, Iorran M. de Castro
Fluminense Federal Institute; Estácio de Sá University - Brazil

Thursday 2013-09-26 15:30-17:00
Room: Room 4
HMS: Ports, Terminals and Ships Modeling - Session II
Chair(s): Manfred Gronalt, Boku University

HMS_26: Consideration of some performance of containers' flow at yard
Maja Škurić, Branislav Dragović, Nenad Dj. Zrnić, Romeo Meštrović
University of Montenegro; University of Belgrade - Republic of Serbia/ Montenegro

HMS_8: An integrated resource-based approach to port and terminal simulation modeling
Constantin Semyonov
Baltic Fishing Fleet State Academy - Russia

HMS_22: Improving car port terminal efficiency through modelling and simulation
James Brucato
Palermo Euro Terminal s.r.l. - Italy

Thursday 2013-09-26 15:30-17:00
Room: Room Ground
Special Session: SIMCJOH Technical Meeting
Chair: Agostino G. Bruzzone, DIME, University of Genoa

Social Event

Thursday 2013-09-26 20:00-22:30
20:00 I3M Gala Dinner at Royal Olympic Hotel @ Roof

During Gala Dinner the I3M Best Paper Awards will be presented

Friday 2013-09-27 8:30-10:00
Room: Room 1
EMSS: Modelling and Simulation Approaches in and for Education - Session I
Chair(s): Francesco Longo, University of Calabria

EMSS_82: Modeling a wrong maintenance policy
Diego D’Urso
Università degli Studi di Catania - Italy

EMSS_116: A mathematical model for determining timetables that minimizes the number of students with conflicting schedules
Aníbal Tavares de Azevedo, Alexander Kameyama, Joni de Almeida Amorim, Per M. Gustavsson
UNICAMP; UNESP; HiS; Saab Group - Brazil/ Sweden

EMSS_111: Assigning classes to teachers in universities via mathematical modelling: using beam search method and simulation in Java
Aníbal Tavares de Azevedo, Andressa Fernanda S. M. Ohata, Joni A. Amorim, Per M. Gustavsson
UNICAMP; UNESP; Högskolan i Skövde; Saab Group - Brazil/ Brazil/ Sweden/ Sweden

EMSS_84: Topic extension using the network extracted from DBLP
Alísa Babškova, Pavla Draždílová, Jan Martinovič, Kateřina Slaninová
VŠB - Technical University of Ostrava; Silesian University in Opava - Czech Republic

EMSS_59: Simulating human resource capability and productivity in software process simulations
Štěpán Kuchař, Ivo Vondrák
VSB - Technical University of Ostrava - Czech Republic

Friday 2013-09-27 8:30-10:00
I3M Program September 25-27, 2013 - Royal Olympic Hotel - Athens, Greece

Room: Room 2

IMAACA-EMSS: Modeling and Control of Mechanical and Mechatronic Systems - Session I
Chair(s): Sergio Junco, Universidad National de Rosario

IMAACA_13: Battery system modeling and identification for electric propulsion vehicle with fault simulation
Kyuhong Han
Agency for Defense Development - Republic of Korea

IMAACA_14: Nonlinear hybrid sliding mode control of an electrohydraulic active suspension
Bassel Shaer, Jean-Pierre Kenné, Claude Kaddissi, Vladimir Polotski
Université du Québec - Canada

IMAACA_16: Dynamic modeling and control of off-road truck using bond graphs
Ashish Gupta, Vikas Rastogi
Delhi Technical University - India

IMAACA_32: Modeling and simulation of an automated manual transmission system
Hua Huang, Sebastian Nowoisky, René Knoblich, Clemens Gühmann
Technische Universität Berlin - Germany

EMSS_102: Simulation and optimal control of hybrid electric vehicles
Guillermo Becerra, Alfonso Pantoja-Vazquez, Luis Alvarez-Icaza, Idalia Flores
UNAM - Mexico

Friday 2013-09-27 8:30-10:00
Room: Room 3

IWISH: Specific Desease and Physical Systems Modeling and Simulation - Session II
Chair(s): Werner Backfrieder, Witold Jacak, University of Applied Sciences, Upper Austria

IWISH_18: Identification of motion-based action potentials in neural bundles using an algorithm with multi agent technology
Volkhard Klinger, Arne Klauke
FHDW - Germany

IWISH_24: Calibration of an agent-based model for infectious diseases
Philipp Pichler, Florian Miksch, Niki Popper, Felix Breitenecker
Vienna University of Technology - Austria

IWISH_13: Identification of PNH affected cells by classifying motion characteristics of single molecules
Susanne Schaller, Jaroslaw Jacak, Daniel Gschwandtner, Peter Bettleheim, Stephan M. Winkler
University of Applied Science Upper Austria; Johannes Kepler University Linz; Elisabethinen Hospital - Austria

IWISH_6: Analysis of aortic flow in presence of intra aortic balloon pump using a coupled 3D-0D model of the aorta and peripheries
Vera Gramigna, Maria Vittoria Caruso, Michele Rossi, Giuseppe Filiberto Serraino, Attilio Renzulli, Gionata Fragomeni
Magna Graecia University - Italy

IWISH_7: Empirical modeling of cerebral autoregulation
Simona Panunzi, Laura D'Orsi, Daniela Iacoviello, Andrea De Gaetano
Istituto di Analisi dei Sistemi ed Informatica “Antonio Ruberti”; Università di Roma - Italy
Friday 2013-09-27 8:30-10:00
Room: Room 4
SESDE: Smart Grid Planning, Optimization and Control - Session I
Chair(s): Michael Affenzeller, Stephan Hutterer, Upper University of Applied Sciences

SESDE_35: A demand response system for hierarchically organized aggregators in smart grids
Sergios Soursos, Vassilis Kapsalis, George Petropoulos, Yiannis Karras, Loukas Hadellis
Intracom S.A. Telecom Solutions; Technological Educational Institute of Patras; inAccess S.A. - Greece

SESDE_13: Policy function approximation for optimal power flow control issues
Stephan Hutterer, Michael Affenzeller
University of Applied Sciences Upper Austria - Austria

SESDE_2: Control algorithms for photovoltaic inverters with battery storage for increased self consumption
Philipp J. Rechberger, Gerald Steinmaurer, Robert Reder
Austria Solar Innovation Center; Fronius Int. GmbH - Austria

SESDE_5: Effective use of resources in closed value networks
Anja-Tatjana Braun, Joerg Mandel, Thomas Bauernhansl
Fraunhofer Institute for Manufacturing Engineering and Automation IPA - Germany

SESDE_4: Theoretical and experimental investigation for “storage less” control of a water pumping system fed by intermittent renewable sources
Amine Ben Rhouma, Jamel Belhadj, Xavier Roboam
Université de Tunis El Manar; Université de Tunis; Université de Toulouse - Tunisie/ France

Friday 2013-09-27 8:30-10:00
Room: Room Ground
DHSS: Defense and Homeland Security Simulation - Session II
Chair(s): Agostino Bruzzone, University of Genoa

DHSS_5: Serious game development methodology by via interoperation between a constructive simulator and a game application using HLA/RTI
Changbeom Choi, Moon Gi Seok, Seon Han Choi, Tag Gon Kim, Soohan Kim
Korea Advanced Institute of Science and Technology; Samsung Electronics HQ - Korea

DHSS_4: Synthetic battlefield based simulation framework for the aviation engagement in distributed system
Won Kyung Hwam, Yongho Chung, Sang C. Park
Ajou University - South Korea

DHSS_17: Simulating the marine domain as an extended framework for joint collaboration and competition among autonomous systems
Agostino Bruzzone, Jean-Guy Fontaine, Alessandro Berni, Stefano Brizzolara, Francesco Longo, Luciano Dato, Simonluca Poggi, Margherita Dallorto
NATO CMRE; University of Genoa; Simulation Team - Italy

DHSS_8: Examining the relative disagreement model of opinion dynamics with Klemm-Eguiluz social network topologies
Michael Meadows
University of Bristol - United kingdom
DHSS_13: Agent-based modelling in the New Zealand defence force
Mark Anderson
New Zealand Defence Force - New Zealand

Friday 2013-09-27 10:00-10:30
COFFEE BREAK Co-Sponsored by CAL-TEK, LIO Tech, MAST, SIM4FUTURE - Kallirroe

Friday 2013-09-27 10:30-12:00
Room: Room 1
EMSS-HMS: Advanced Models and Applications of Logistics & Manufacturing - Session I
Chair(s): Teresa Murino, University of Naples Federico II (Italy), Liberatina Santillo University of Naples Federico II

EMSS_125: A software architecture for Integrated Logistic Management system
Fabrizio Simeoni, Srecko Maksimovic, Walter Geretto, George Georgoulas, Chrysostomos Stylios
Teorema Engineering Srl; Technological Educational Institute of Epirus - Italy/ Greece

EMSS_22: Simulation and optimization of production system based on fuzzy logic and quick response manufacturing
Piera Centobelli, Teresa Murino, Doriana D’Addona, Giuseppe Naviglio
University of Naples Federico II - Italy

EMSS_75: Simulation model to analyze transport, handling, temporary storage and sorting issues: a valuable way to support layout, system definition and configuration and scheduling decision
Sergio Amedeo Gallo, Riccardo Melloni, Teresa Murino
University of Modena and Reggio Emilia; University of Naples - Italy

EMSS_110: New formalism for production systems modeling
Guido Guizzi, Daniela Miele, Liberatina Carmela Santillo, Elpidio Romano
University of Naples “Federico II” - Italy

HMS_18: A simulation tool for maintenance processes of offshore wind farms
Philip Joschko, Andi Widok, Bernd Page
University of Hamburg - Germany

Friday 2013-09-27 10:30-12:00
Room: Room 2
IMAACA-EMSS: Control of General Physical Systems- Session I
Chair(s): Sergio Junco, Universidad National de Rosario

IMAACA_18: H-infinity control with time domain specifications applied to a heat exchanger network
Fábio Delatore, Fabrizio Leonardi, Luis Novazzi, José Da Cruz
FATEC Santo André; Centro Universitário da FEI; Universidade de São Paulo - Brazil

IMAACA_20: Bondgraphs modeling and simulation on dynamic characteristics of cavitating pump system
Kazuhiro Tanaka, Toshiyuki Sato, Hiroshi Tsukamoto, Takehisa Kohda, Katsuya Suzuki
Kyushu Institute of Technology; Kitakyushu National College of Japan; Infrastructure Systems Company; Dept. of Aeronautics and Astronautics - Japan
IMAACA_35: Three-dimensional multi-body bond graph model for vibration control of long shafts – application to oil well drilling  
Geoff Rideout, Farid Arvani, Stephen Butt, Ehsan Fallahi  
Memorial University - Canada

IMAACA_37: Bond-graph based controller design of a two-input two-output four-tank system  
Matías Nacusse, Sergio Junco  
Universidad Nacional de Rosario - Argentina

EMSS_30: Multi-controllers approach applied to a wrist of a robot  
Youcef Zennir, Pascal Mouille  
Laboratoire d’automatique de Skikda; Polytech Annecy-Chambéry - Algeria / France

**Friday 2013-09-27 10:30-12:00**  
*Room: Room 3*  
**IWISH: M&S of Healthcare Systems - Session II**  
*Chair(s): Werner Backfrieder, Gerald Zwettler, Upper University of Applied Sciences*

**IWISH_25:** Health care facility improvement through simulation  
Agostino Bruzzone, Francesco Longo, Letizia Nicoletti, Francisco Spadafora, Rafael Diaz, Joshua Behr  
University of Calabria; University of Calabria; Old Dominium University - Italy / USA

**IWISH_9:** From quantities to qualities in early-stage hospital simulation  
Gabriel Wurzer, Wolfgang E. Lorenz  
Vienna University of Technology - Austria

**IWISH_15:** Versioning in early-stage hospital simulation  
Gabriel Wurzer  
Vienna University of Technology - Austria

**IWISH_8:** Resource allocation in simulated clinical pathways  
Milena Andonova, Sven Kruse  
University of Hamburg - Germany

**IWISH_20:** Increasing surgical safety through serious gaming: “nobody is perfect, but a team can be.”  
Heide Lukosch, Jaco Appelman, Lambert Tristan, Dirk de Korne, Frans Hiddema  
Delft University of Technology; Vertigo Games; The Rotterdam Eye Hospital - Netherland

**Friday 2013-09-27 10:30-12:00**  
*Room: Room 4*  
**SESDE: Emergy Modeling and Renewable Energy - Session I**  
*Chair(s): Rodrigo Castro, University of Buenos Aires*

**SESDE_10:** Emergy tracking – safe transition from a world of exponential growth to one of sustainability  
François E. Cellier  
Computer Science Dept - Switzerland

**SESDE_8:** Eco-bond graphs: an energy-based modeling framework for complex dynamic systems with a focus on sustainability and embodied energy flows  
Rodrigo D. Castro, François E. Cellier, Andreas Fischlin  
University of Buenos Aires; ETH Zurich - Argentina / Switzerland
SESDE_46: Quantitative simulation of comprehensive sustainability models as game based experience for education in decision making
Agostino Bruzzone, Marina Massei, Simonluca Poggi, Margherita Dallorto, Giulio Franzinetti, Andrea Barbarino
University of Genoa; Liotech; Turin Polytechnic - Italy/ UK

SESDE_44: A review of control strategies for analyzing and designing managing wind generators
Vaia K. Gkountroumani, Peter P. Groumpos
University of Patras - Greece

SESDE_36: Electricity market and renewable energy integration: an agent-based conceptual model
José Carlos Sousa, Zafeiris Kokkinogenis, Rosaldo Rossetti, João Tomé Saraiva
University of Porto - Portugal

Friday 2013-09-27 10:30-12:00
Room: Room Ground
DHSS: Defense and Homeland Security Simulation - Session III
Chair(s): Marina Massei, Liophant Simulation

DHSS_12: Operations architecture and vector field guidance for the riverscout subscale unmanned surface vehicle
Yiannis Papelis, Mitchel Weate
Old Dominion University; SimInc - USA

DHSS_11: Capability and maturity model for simulation-based acquisition: case study in Korea
Jinsoo Park, Yun Bae Kim, Gyutai Kim
Yong In University; Sungkyunkwan University; Chosun University - Korea

DHSS_15: Modeling and simulation of land avoidance behavior belonging to tactical entities within a high-fidelity simulation environment
Levent Senyurek, Deniz Aldogan Aldogan, Mehmet Haklidir
Tubitak Bilgem - Turkey

DHSS_16: Anti-submarine warfare modeling and simulation
Deniz Aldogan, Mehmet Haklidir, Levent H. Senyurek, Yasemin Timar, Semuel Franko, Omer Eroglu, A.Faik Guven, H.Murat Genc
Tubitak Informatics and Information Security Research Center - Turkey

DHSS_7: The edge decision support framework - emergency management training and support to operations
Marco Biagini, Bruce Joy
University of Genoa; VastPark - Italy/ USA

Friday 2013-09-27 12:00-13:30
LUNCH Co-Sponsored by Lio-Tech, CAL-TEK, MAST, SIM4FUTURE

Friday 2013-09-27 13:30-15:00
Room: Room 1
EMSS: Advanced Models and Applications of Logistics & Manufacturing - Session II
Chair(s): Teresa Murino, University of Naples Federico II (Italy), Liberatina Santillo University of Naples Federico II
EMSS_122: The role of innovation in industrial development system. A simulation approach for sustainability of global supply chain network  
Liberatina Santillo, Giuseppe Converso, Luigi De Vito  
University of Naples Federico II; University of Naples Federico II; CNR – IMCB - Italy

EMSS_120: Implementation of Kanban technique within the total flow management model  
Mose Gallo, Teresa Murino, Emanuele Guadalupi, Liberatina Carmela Santillo  
University of Naples “Federico II” - Italy

EMSS_62: Knowledge acquisition for cloud manufacturing  
Yifan Mai, Lin Zhang, Anrui Hu, Chenfei Lv, Fei Tao  
Beihang University - China

EMSS_63: Knowledge semantic search in cloud manufacturing  
Xiaohang Hu, Lin Zhang, Anrui Hu, Dongming Zhao, Fei Tao  
Beihang University; University of Michigan-Dearborn - China/ USA

EMSS_83: A stochastic approach for supply systems  
Matteo Gaeta, Luigi Rarità  
University of Salerno - Italy

Friday 2013-09-27 13:30-15:00  
Room: Room 2  
IMAACA-MAS-HMS: Modeling & Simulation (General Applications)- Session I  
Chair(s): Sergio Junco, Universidad National de Rosario

IMAACA_34: 3D computational model including topographic data for the prediction of dire wind regimes and vortex shedding in an attempt to improve tall building reliability  
Drishtysingh Ramdenee, Pierre Luc Paradis, Hussein Ibrahim, Hemraj Joyram, Adrian Ilinca  
Institut Technologique de la Maintenance Industrielle; École Technologique supérieur; Technocentre Éolien; Sir Abdool Raman Osman; Wind Energy Research Laboratory - Canada/ Mauritius

IMAACA_36: Tuning the position of a fuzzy cognitive map attractor using back propagation through time  
Michal Gregor, Peter Groumpos  
University of Zilina; University of Patras - Slovak Republic/ Greek

MAS_46: Polynomial controller for AC-DC converter with power factor correction  
Jean N. Razafinjaka, Jean Daniel Lan Sun Luk  
Ecole Superieure Polytechnique; Laboratoire d’Energétique, d’Electronique et des Procédés - Madagascar/ La Réunion

MAS_13: Simulation analysis for cascading failure of an electrical power grid  
Chulhan Kim, Kiwook Bae, Soojeong Bae, Tae-Eog Lee  
KAIST - South Korea

HMS_12: Simulation assisted design of inductors in power electronics systems  
Daniel Hofinger, Heinz Weinzierl, Mario Jungwirth  
University of Applied Sciences Upper Austria - Austria

Friday 2013-09-27 13:30-15:00  
Room: Room 3  
IWISH-EMSS: Simulation based Training and Computer Aided Therapy Solutions for Healthcare - Session I
Chair(s): Marco Frascio, University of Genoa

IWISH_14: Generic model-based application of modular image processing chains for medical 3D data analysis in clinical research and radiographer training
Gerald Zwettler, Werner Backfrieder
University of Applied Science Upper Austria - Austria

EMSS_57: Economic analysis of a low-cost laparoscopic simulator: a descriptive study
Marco Frascio, Marco Sguanci, Francesca Mandolfino, Angela Testi, Marcello Parodi, Gianni Vercelli
University of Genova - Italy

EMSS_58: Laparoscopic skills simulator: a gradual structured training program for acquiring laparoscopic abilities
Marco Frascio, Marco Sguanci, Francesca Mandolfino, Marco Gaudina, Edoardo Bellanti
University of Genova - Italy

IWISH_19: Technology enhanced surgery education environments: requirements and system models
İbrahim Cereci, Nergiz Erçil Cagiltay, Mustafa Berker
Atılım University; Hacettepe University - Turkey

IWISH_10: Segmentation by multispectral analysis of MR image data for 3D modelling in surgical planning
Werner Backfrieder, Berthold Kerschbaumer, Gerald Zwettler
University of Applied Science Upper Austria - Austria

Friday 2013-09-27 13:30-15:00
Room: Room 4
EMSS: Petri Nets Based on Modeling & Simulation - Session I

Chair(s): Emilio Jiménez, University of La Rioja; Juan Ignacio Latorre, Public University of Navarre

EMSS_93: Analysis of states in production systems modeled by Petri nets using Diophantine equations
Julián Gómez-Munilla, Emilio Jiménez-Macías, Juan Ignacio Latorre-Biel, Mercedes Pérez de la Parte, Jorge Luis García-Alcaraz
University of La Rioja; Public University of Navarre; Universidad Autónoma de Ciudad Juárez - Spain/Mexico

EMSS_94: Rubik's cube as a benchmark for strategies of solution search in discrete systems presenting state explosion problem. Model with ordinary and colored PN
Emilio Jiménez-Macías, Francisco Javier Leiva-Lázaro, Juan Ignacio Latorre-Biel, Mercedes Pérez de la Parte
University of La Rioja; Public University of Navarre - Spain

EMSS_90: Development and simulation of a new scheme for the aircraft cleaning service
Miguel Mújica, Mireia Soler, Idalia Flores
Amsterdam University of Applied Sciences; Universitat Autonoma de Barcelona; UNAM - Netherland/Spain/Mexico

EMSS_88: Analysis of information partial encryption options for exchanging Petri nets systems
Iñigo León Samaniego, Emilio Jiménez-Macías, Juan Ignacio Latorre-Biel
University of La Rioja; Public University of Navarre - Spain

EMSS_85: Optimal design, based on simulation, of an olive oil mill
Juan Ignacio Latorre-Biel, Emilio Jiménez-Macías, Julio Blanco-Fernández, Juan Carlos Sáenz-Díez
Friday 2013-09-27 13:30-15:00
Room: Room Ground
Special Session: Panel on M&S for Autonomous Systems
Chair: Agostino G. Bruzzone, DIME, University of Genoa

Friday 2013-09-27 15:00-15:30
COFFEE BREAK Co-Sponsored by CAL-TEK, LIO Tech, MAST, SIM4FUTURE - Kallirroe

Friday 2013-09-27 15:30-17:00
Room: Room 1
Special Session: SEE (Smackdown) Initiative
Chair: Agostino G. Bruzzone, DIME, University of Genoa

Friday 2013-09-27 15:30-17:00
Room: Room 2
HMS: Modeling & Simulation in Logistics, Traffic and Transportation - Session I
Chair(s): Galina Merkurieva, Riga Technical University

HMS_29: A simulation framework for ships pilots training
Francesco Longo, Roberto Musmanno, Letizia Nicoletti, Alessandro Chiurco
University of Calabria - Italy

HMS_15: Simulation modeling of schemes of cargo trucking between European Union and customs union of Russia, Belarus and Kazakhstan
Eugene Kopytov, Dmitry Abramov, Michail Savrasov
Transport and Telecommunication Institute - Latvia

HMS_5: Use of modelling for assessment of Latvian road safety and logistics costs minimization
Vitalis Jurenoks, Vladimirs Jansons, Konstantins Didenko
Riga Technical University - Latvia

HMS_7: The capacitated vehicle routing problem with loading constraints
Hanne Pollaris, Kris Braekers, An Caris, Gerrit K. Janssens
Hasselt University; Research Foundation Flanders - Belgium

Friday 2013-09-27 15:30-17:00
Room: Room 3
EMSS: Simulation and Artificial Intelligence - Session I
Chair(s): Michael Affenzeller, Upper University of Applied Sciences

EMSS_21: Simulation optimizer and optimization methods testing on discrete event simulations models and testing functions
Pavel Raska, Zdenek Ulrych, Petr Horejsi
University of West Bohemia - Czech Republic

EMSS_66: Wireless sensor deployment decision support using genetics algorithm and DEVS formalism
Bastien Poggi, Jean-François Santucci, Thierry Antoine-Santoni
University of Corsica Pasquale Paoli - France

EMSS_121: Using data mining and machine learning methods for server outage detection – modelling normality and anomalies
Matthias Wastian, Felix Breitenecker, Michael Landsiedl
dwh GmbH; Vienna University of Technology - Austria

EMSS_71: Technical and economic verification of the convenience in reengineering a production line using simulation techniques
Domenico Falcone, Antonio Forcina, GianPaolo Di Bona, Vincenzo Duraccio, Alessandro Silvestri, Cristina Cerbaso
University of Cassino and Lazio Meridionale - Italy

Friday 2013-09-27 15:30-17:00
Room: Room 4
EMSS: Petri Nets Based on Modeling & Simulation - Session II
Chair(s): Emilio Jiménez, University of La Rioja; Juan Ignacio Latorre, Public University of Navarre

EMSS_91: Comparison of incidence matrices to detect common patterns in Petri nets
Juan Ignacio Latorre-Biel, Emilio Jiménez-Macías
Public University of Navarre; University of La Rioja - Spain

EMSS_95: Petri net reduction rules through incidence matrix operations
Joselito Medina-Marin, Juan Carlos Seck-Tuoh-Mora, Norberto Hernandez-Romero, Jose Carlos Quezada-Quezada
Autonomous University of Hidalgo State - Mexico

EMSS_86: Management of resources and wastes in a network of schools modelled by Petri nets
María Otero-Prego, Juan Ignacio Latorre-Biel, Diego Azofra-Rojo, Emilio Jiménez-Macías
University of La Rioja - Spain

EMSS_87: Sustainable design for a centre of vocational training. A Petri net approach
María Otero-Prego, Juan Ignacio Latorre-Biel, Eduardo Martínez-Cámara, Emilio Jiménez-Macías
University of La Rioja; Public University of Navarre - Spain

Friday 2013-09-27 15:30-17:00
Room: Room Ground
MAS: M&S in Company Organization and Informative Systems and Along the Supply Chains
Chair(s): David del Rio Vilas, Unviersity of a Coruna

MAS_14: Falling stars: simulation of the effect of firm culture on employee performance
Roderick Duncan, Terry Bosomaier
Charles Sturt University - Australia

MAS_49: Orchestrating the interoperability workflow within a transport simulation platform
Judicael Ribault, Gregory Zacharewicz
Univ. Bordeaux - France

MAS_39: Simulating an internet product delivery supply chain with multi-item orders
Oliverio Cruz-Meija, Richard Eglese
Universidad Anáhuac Mexico Norte; Lancaster University - Mexico/ United Kingdom
MAS_29: Problems of information systems integration in large transport companies
Eugene Kopytov, Vasilij Demidovs, Natalia Petukhova
Transport and Telecommunication Institute; State Join-Stock Company “Latvian Railway” - Latvia

Friday 2013-09-27 17:00-18:00
Room: Room 1
I3M Closing Ceremony

I3M Next Year

Be Ready for I3M in France
I3M2014 in Bordeaux, France
If you are interested in being active in I3M2014 in Bordeaux France, please visit:
www.msc-les.org/conf/i3m2014
and/or contact the Program Chair Dr.Francesco Longo

International Journal Special Issues for I3M

The I3M Organization finalized an agreement to publish most interesting I3M papers in International Journals; the following Special Issues will include a collection of best papers submitted and presented at I3M:

-International Journal of Food Engineering
  Special Issue on: "Modelling and Simulation of Food Processing and Operations"

-Journal of Simulation
  Special Issue on: "Modeling & Simulation: new challenges and advanced solutions"

-International Journal of Simulation and Process Modelling
  Special Issue on: "Cutting-edge Methodologies, Applications and Technologies in M&S"

-International Journal of Simulation and Process Modelling
  Special Issue on: "Modeling and Applied Simulation: Multi-perspective and Multidisciplinary approaches"

-International Journal of Privacy and Health Information Management
  Special Issue on: "Modeling & Simulation Advances in Healthcare Information Management, Decision Making and Education"

-Journal of Computational Science
  Special Issue on: "Modeling, Algorithms and Simulations: advances and novel researches for problem-solving and decision-making in complex, multi-scale and multi-domain systems"

-International Journal of Service and Computing-Oriented Manufacturing
  Special Issue on: "Integrated Approaches based on advanced M&S methodologies for industry and manufacturing"
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 Opening Ceremony 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 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 1, 2013). For information about next edition of Gianni Cantice Award, please visit the web site www.liophant.org/i3m/cantice.

I3M Hotel and Venue
the I3M 2013 multiconference will be held at Royal Olimpic Hotel - Athens, Greece

Rooms Rates, Conditions and Reservation are available on the web site www.msc-les.org/conf/i3m2013

The organizing committee has arranged special rooms rates for I3M 2013 participants booking at the Hotel Royal Olympic in Athens:
-Please Check Single and Double Room

Lunches will be provided to all conference attendees with regular full registration. You make your hotel reservation through the links on the www.msc-les.org/conf/i3m2013 links or directly on hotel web sites

Author and Chair Guidelines for I3M2013
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.

I3M as Evolving Framewor
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.

I3M2014, Bordeaux, France
I3M2014 will be held next year in Bordeaux, France, September 22-24, 2014. 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/i3m2014 or write to I3M2014 Program Chair Francesco Longo (f.longo@unical.it)

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IGI Global Disseminator of Knowledge - International Journal of Privacy and Health Information Management (IJPHIM)
Halldale - The Journal of Healthcare, Education, Simulation and Training
Halldale - The Military Simulation and Training Magazine
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Synergies & Other Opportunities

WAMS2013
WAMS2013 (the International Workshop in Applied Modeling & Simulation) will be held in Buenos Aires, Argentina during November 2013. Please consider to be active and to participate in this thematic workshop; for further information please check the web site: http://www.lsis.org/wams2013/ or write to Dr. Marina Massei (marina.massei@liophant.org)

SIREN M&S Courses
The Modeling & Simulation Professional Courses are organized with scientific sponsorship of MITIM-DIME University of Genoa, Simulation Team, MSC-LES 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-DIPTEM 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

Further details on I3M Conferences are available in www.liophant.org/i3m, www.msc-les.org/conf/i3m2013