



### ***I3M Multiconference Program***

## **I3M: The 9th International Multidisciplinary Modelling & Simulation Multiconference**

### ***General Chair***

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

### ***Program Chair***

Francesco Longo - MSC-LES, University of Calabria, Italy

## **EMSS: The 24rd European Modelling & Simulation Symposium,**

### ***EMSS General Chairs:***

Francesco Longo, MSC-LES, M&SNet Center, University of Calabria, Italy  
 Felix Breitenecker, Vienna University of Technology, Vienna, Austria

### ***EMSS Program Chairs:***

Emilio Jimenez, University of La Rioja, Spain  
 Boris Sokolov, St. Petersburg Institute for Informatics and Automation, Russia

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**HMS: The 14th International Conference on Harbour, Maritime & Multimodal Logistics Modelling and Simulation*****HMS General Chairs:***

Agostino Bruzzone, MISS - Genoa Center, University of Genoa, Italy  
Yury Merkurjev, Riga Technical University, Latvia

***HMS Program Chair:***

Manfred Gronalt, University of Natural Resources and Life Sciences Vienna, Austria  
Wayne Talley, Old Dominion University, Virginia, USA

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**MAS: The 11th 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

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**IMAACA: The 5th 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

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**DHSS: The International Defense and Homeland Security Simulation Workshop*****DHSS General Chairs:***

Agostino Bruzzone, Simulation Team 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 Sottolare, US Army, USA

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**I\_WISH: The International Workshop on Innovative Simulation for Health Care*****I\_WISH General Chairs:***

Werner Backfrieder, Upper Austrian University of Applied Sciences, Austria  
Vera Novak, BIDMC, Harvard Medical School, USA

***I\_WISH Program Chair:***

Joseph Rosen, Thayer School of Engineering at Dartmouth, USA

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

***EMSS: European Modelling & Simulation Symposium, 24th Edition, Part of I3M2012***

***MAS: The International Conference on Modelling & Applied Simulation, 11th Edition, Part of I3M2012***

***IMAACA: The International Conference on Integrated Modeling and Analysis in Applied Control and Automation, 6th Edition, Part of I3M2012***

***HMS: The International Conference on Harbour, Maritime & Multimodal Logistics Modelling and Simulation, 14th Edition, Part of I3M2012***

***DHSS: The International Defense and Homeland Security Simulation Workshop, 2nd Edition, Part of I3M2012***

***I\_WISH: The International Workshop on Innovative Simulation for Healthcare, 1st Edition, Part of I3M 2012***

***Workshops: Special Sessions***

***JS: Joint Session I3M/DHSS/EMSS/HMS/IMAACA/MAS/IWISH 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 Attendees***

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**Wednesday 2012-09-19 8:30-10:00**

***Joint I3M Opening - Prater 1-4***

**Welcome Address I3M, Prof. Agostino G. Bruzzone, DIME, University of Genoa, Italy**

**Welcome Address, Prof. Felix Breitenecker, Technical University of Vienna, Austria**

**Conference 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 - Wayne Buck, HQ Supreme Allied Commander Transformation, NATO

-I\_WISH Address - Prof. Vera Novak Harvard Medical School, USA

**Welcome of Societies & Networks**

-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  
**-M&S Net - Prof.Claudia Frydman, LSIS, France**  
 -National Russian Simulation Society - Prof. Boris Sokolov, SPIIRAS, Academy of Sciences, Russia  
 -Conference Updates

**Wednesday 2012-09-19 10:00-10:30**

***COFFEE BREAK Co-Sponsored by CAL-TEK, LIO Tech Ltd and MAST - Foyer area***

**Wednesday 2012-09-19 10:30-12:00**

***Joint I3M Opening - Prater 1-4***

**Plenary Speeches:**

**Multidisciplinary Perspectives: an Opportunity for Modeling & Simulation**

-Prof.Felix Breitenecker, Head of ARGESIM, TU Wien, Austria

**Smart Grid Technologies for Increased Penetration of Renewable Energies**

-Prof. Adrian Ilinca, Director of Wind Energy Research Laboratory, Université du Québec à Rimouski , Canada

**M&S in Maritime Environment: Challenges and Opportunities**

-Prof.A.Bruzzozone, Dr.E.Gough, Scientific Director of Center for Maritime Research and Experimentation, NATO

**Willkommen Wiener**

**All Around for I3M Conference Pictures**

**Wednesday 2012-09-19 12:00-13:30**

***LUNCH Co-Sponsored by Lio-Tech, CAL-TEK, MAST***

**Wednesday 2012-09-19 13:30-15:00**

*Room: Prater 1*

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

***Chair(s): Tuncer Oren, University of Ottawa***

EMSS\_66: Agent-monitored anticipatory multisimulation: a systems engineering approach for threat-management training

Tuncer Oren, Levent Yilmaz

University of Ottawa; Auburn University - Canada/ USA

EMSS\_25: Simulating innovation adoption behavior: Lessons learned for modelers and programmers

Christian Stummer, Elmar Kiesling

Bielefeld University; Vienna University of Technology - Germany/ Austria

EMSS\_37: AEMOS: an agent-based electronic market simulator with ontology-services and social network support

Maria João Viamonte, Virgínia Nascimento, Nuno Silva, Paulo Maio

Polytechnic of Porto - Portugal

EMSS\_51: Towards the implementation of a handball player agent framework

Joao Jacob, Rosaldo Rossetti, António Coelho, Rui Rodrigues

INESC TEC – INESC Technology and Science; LIACC DEI, University of Porto - Portugal

EMSS\_42: Analysis of agents' behavior in multiagent system

Katerina Slaninova, Jan Martinovic, Pavla Drazdilova, Dominik Vymetal, Roman Sperka

Technical University of Ostrava; University in Opava - Czech Republic

**Wednesday 2012-09-19 13:30-15:00**

*Room: Prater 2*

**EMSS: Workshop on Soft Computing Modeling and Simulation - session I**

**Chair: Michael Affenzeller, Upper University of Applied Sciences**

EMSS\_54: Simulation optimisation and monitoring in tactical and operational planning of deliveries

Galina Merkurjeva, Vitaly Bolshakov

Riga Technical University - Latvia

EMSS\_80: Evolution tracking in genetic programming

Bogdan Burlacu, Michael Affenzeller, Michael Kommenda, Stephan Winkler, Gabriel Kronberger

University of Applied Sciences Upper Austria - Austria

EMSS\_81: On the analysis, classification and prediction of metaheuristic algorithm behavior for combinatorial optimization problems

Andreas Scheibenpflug, Stefan Wagner, Erik Pitzer, Bogdan Burlacu, Michael Affenzeller

University of Applied Sciences Upper Austria - Austria

EMSS\_83: Symbolic regression using tabu search in a neighborhood of semantically similar solutions

Gabriel Kronberger, Andreas Beham

University of Applied Sciences Upper Austria - Austria

EMSS\_76: Enhanced confidence interpretations of GP based ensemble modeling results

Michael Affenzeller, Stephan M. Winkler, Stefan Forstenlechner, Gabriel Kronberger, Michael Kommenda, Stefan Wagner, Herbert Stekel

University of Applied Sciences Upper Austria; General Hospital Linz

Central Laboratory

- Austria

**Wednesday 2012-09-19 13:30-15:00**

*Room: Prater 3*

**MAS: Decision Support Systems Applications - Session I**

**Chair(s): Marina Massei, DIME University of Genoa**

MAS\_33: MOSIPS agent-based model for predicting and simulating the impact of public policies on SMEs

Federico Pablo-Martí, María Teresa Gallo, Antonio García-Tabuenca, Juan Luis Santos, Tomás Mancha

University of Alcalá - Spain

MAS\_80: Models & interactive simulation for civil military interoperability in humanitarian aid and civil protection

Agostino G. Bruzzone, Alberto Tremori, Francesco Longo, Michele Turi, Giulio Franzinetti

University of Genoa; Simulation Team; University of Calabria - Italy

MAS\_31: Simulation of uncertainty in rainfall-runoff models and their statistical evaluation in the FLOREON+ system

Štěpán Kuchař, Tomáš Kocyan, Pavel Praks, Martina Litschmannová, Jan Martinovič, Vít Vondrák  
Technical University of Ostrava - Czech Republic

MAS\_29: A construction kit of flexible IT-services for supply chain planning and operations

Sebastian Steinbuß, Katja Klingebiel, Gökhan Yüzgülec, Tobias Hegmanns  
Fraunhofer Institute for Software and Systems Engineering; Fraunhofer Institute for Material Flow and Logistics - Germany

MAS\_62: Analysis of airport check-in counter allocation policies using simulation

Özden Onur Dalgıç, Yusuf Seçerdin, Gizem Sultan Nemuflu, Nilgün Fescioglu Unver  
TOBB University of Economics and Technology - Turkey

**Wednesday 2012-09-19 13:30-15:00**

*Room: Prater 4*

**IWISH: Mathematical Modeling and Health Technology Assessment - Session I**

**Chair(s): Niki Popper, dwh Simulation Services Vienna; Felix Breitenecker, Vienna Univ. of technology**

IWISH\_30: IFEDH - solving health system problems using modelling and simulation

Niki Popper, Ingrid Wilbacher, Felix Breitenecker  
dwh Simulation Services ; Main Association of Austrian Social Security Institutions; Vienna University of Technology - Austria

IWISH\_24: Modelling health care utilisation: a method comparison

Stephanie Parragh, Patrick Einzinger  
Vienna University of Technology; dwh Simulation Services - Austria

IWISH\_25: A comparison of system dynamics and Markov models for cost-effectiveness analysis of chronic diseases

Patrick Einzinger, Ruth Leskovar, Claudia Wyrzens  
Vienna University of Technology; dwh Simulation Services - Austria

IWISH\_31: Modular modelling and hybrid combination in health technology assessment models – examples and technology

Günther Zauner, Patrick Einzinger, Florian Miksch, I. Zechmeister, Gottfried Endel, Felix Breitenecker  
dwh Simulation Services ; Ludwig Boltzmann Institute for Health Technology Assessment; Main Association of Austrian Social Security Institutions; Vienna University of Technology - Austria

IWISH\_26: Analysis and comparison of different modelling approaches based on an SIS epidemic

Andreas Bauer, Carina Pöll, Nina Winterer, Florian Miksch, Felix Breitenecker  
Vienna University of Technology; dwh Simulation Services - Austria

**Wednesday 2012-09-19 13:30-15:00**

*Room: Messe 5+6*

**HMS: Integrated Intelligent Platform for Monitoring the Cross Border Natural Technological Systems - Session I**

**Chair(s): Yuri Merkurjev, Riga Technical University**

HMS\_7: Integrated intelligent platform for monitoring the cross-border natural-technological systems

Yuri Merkuryev, Boris Sokolov, Galina Merkuryeva

Riga Technical University; St. Petersburg Institute For Informatics and Automation of Russian Academy of Sciences - Latvia/ Russia

HMS\_41: Modeling and evaluation of IDS capabilities for prevention of possible information security breaches in a web-based application

Pjotrs Dorogovs, Andrejs Romanovs

Riga Technical University - Latvia

HMS\_27: The intelligent monitoring technology based on integrated ground and aerospace data

Boris V. Sokolov, Mikhail Yu. Okhtilev, Viacheslav A. Zelentsov, Marina A. Maslova

St. Petersburg Institute For Informatics and Automation of Russian Academy of Sciences - Russia

HMS\_25: Information fusion multiple-models quality definition and estimation

Boris V. Sokolov, Viacheslav A. Zelentsov, Rafael M. Yusupov, Yuri A. Merkuryev

St. Petersburg Institute For Informatics and Automation of Russian Academy of Sciences; Riga Technical University - Russia/ Latvia

HMS\_21: Classification of natural-technogenic objects in remote sensing applications

Julija Petuhova, Arnis Lektauers, Viacheslav Zelentsov

Riga Technical University; St. Petersburg Institute For Informatics and Automation of Russian Academy of Sciences - Latvia/ Russia

**Wednesday 2012-09-19 13:30-15:00**

*Room: Messe 4*

**Wednesday 2012-09-19 15:00-15:30**

***COFFEE BREAK Co-Sponsored by CAL-TEK, LIO Tech Ltd and MAST - Foyer area***

**Wednesday 2012-09-19 15:30-17:00**

*Room: Prater 1*

**EMSS: Petri Nets Based on M&S - Session I**

***Chairs(s) Emilio Jiménez, University of La Rioja***

EMSS\_121: The translation of CPN into NETLOGO environment for the modelling of political issues: FUPOL project

Miguel Mujica, Miquel Angel Piera

Autonomous University of Barcelona - Spain

EMSS\_99: Transformation algorithm from an alternatives aggregation Petri net to a compound Petri net. Two representations of an undefined Petri net with a non-empty set of exclusive entities.

Juan Ignacio Latorre-Biel, Emilio Jiménez-Macías

Public University of Navarre; University of La Rioja - Spain

EMSS\_97: Decision making in the Rioja wine production sector

Juan Ignacio Latorre-Biel, Emilio Jiménez-Macías, Julio Blanco-Fernandez, Juan Carlos Sáenz-Díez

Public University of Navarre; University of La Rioja - Spain

EMSS\_96: Automatic design based on the Petri nets paradigm

Juan Ignacio Latorre-Biel, Emilio Jiménez-Macías

Public University of Navarre; University of La Rioja - Spain

EMSS\_95: Sequence of decisions on discrete event systems with structural alternative configurations

Juan Ignacio Latorre-Biel, Emilio Jiménez-Macías, Mercedes Pérez-Parte

Public University of Navarre; University of La Rioja - Spain

**Wednesday 2012-09-19 15:30-17:00**

*Room: Prater 2*

**EMSS: Workshop on Soft Computing Modeling and Simulation - session II**

**Chair: Michael Affenzeller, Upper University of Applied Sciences**

EMSS\_55: Unsupervised learning approach to feature selection in biological data analysis

Witold Jacak, Karin Proell

Upper Austria University of Applied Sciences - Austria

EMSS\_63: Variable interaction networks in medical data

Stephan Winkler, Michael Affenzeller, Gabriel Kronberger, Michael Kommenda, Stefan Wagner, Witold Jacak, Herbert Stekel

University of Applied Sciences Upper Austria; General Hospital Linz

Central Laboratory

- Austria

EMSS\_29: Simulation of grass phenophases in Inner Mongolia, China

Yurong Wei, Xuebiao Pan, Yanfang Cao, He Zhou

China Agriculture University; Meteorological Bureau of Inner Mongolia - China

EMSS\_64: Identification of patterns in microscopy images of biological samples using evolution strategies

Daniela Borgmann, Julian Weghuber, Susanne Schaller, Jaroslaw Jacak, Stephan Winkler

University of Applied Sciences Upper Austria; Johannes Kepler University Linz

- Austria

**Wednesday 2012-09-19 15:30-17:00**

*Room: Prater 3*

**MAS: Decision Support Systems Applications - Session II**

**Chair(s): Marina Massei, DIME University of Genoa**

MAS\_6: Generation of alternatives for model predictive control in manufacturing

Sören Stelzer, Sören Bergmann, Steffen Strassburger

Ilmenau University of Technology - Germany

MAS\_25: Unsupervised algorithm for retrieving characteristic patterns from time-warped data collections

Tomáš Kocyan, Jan Martinovič, Michal Podhorányi, Ivo Vondrák

Technical University of Ostrava - Czech Republic

MAS\_1: Intelligent systems for the core of anthropocentric objects and its modeling

Boris Fedunov

State Research Institute of Aviation Systems; Moscow Aviation Institute - Russia



MAS\_37: Visualization in business process simulation  
Xiaoming Du, Terrence Finandor, Kuzhen Wu, Jialiang Yao  
University of Salford - UK

MAS\_75: Modeling selectivity banks for mixed model assembly lines  
Alex Blatchford, Yakov Fradkin, Oleg Gusikhin, Ravi Lote, Marco Pucciano, Onur Ulgen  
Ford Motor Company; PMC; University of Genova; University of Michigan-Dearborn - USA/ Italy

**Wednesday 2012-09-19 15:30-17:00**

*Room: Prater 4*

**IMAACA: Lumped and Distributed parameters Systems- Session I**

**Chair(s): Sergio Junco, Universidad Nacional de Rosario**

IMAACA\_9: Modeling and simulation of severe slugging in air-water systems including inertial effects  
Jorge Luis Baliño  
Universidade de São Paulo - Brazil

IMAACA\_31: Operation strategies to minimize methanol recovery in batch distillation of hydroalcoholic mixtures  
Franco De Luca, Raúl Munizaga-Miranda, Claudio Gelmi, José Ricardo Pérez-Correa  
Pontificia Universidad Católica de Chile - Chile

IMAACA\_2: Finite horizon  $h_{\infty}$  cheap control problem for a class of linear systems with state delays  
Valery Y. Glizer  
Ort Braude College - Israel

IMAACA\_42: Unknown input observer: a physical approach  
Dapeng Yang, Christophe Sueur  
Ecole Centrale de Lille - France

IMAACA\_39: Generalized controlled switched bond graph structures with applications to abrupt fault modeling  
Matías Nacusse, Sergio Junco

Universidad Nacional de Rosario; Consejo Nacional de Investigaciones Científicas y Técnicas - Argentina

**Wednesday 2012-09-19 15:30-17:00**

*Room: Messe 5+6*

**HMS: Modeling and Simulation in Logistics, Traffic and Transportation- Session I**

**Chair(s): Massimo Tronci, Francesco Costantino, Giulio di Gravio, University of Rome La Sapienza**

HMS\_9: Collision avoidance method for multi-car elevator systems with more than two cars in each shaft  
Shunji Tanaka, Daiki Hoshino  
Kyoto University - Japan

HMS\_6: Safety control of Latvian state road network using statistical modelling methods  
Vladimirs Jansons, Vitalijs Jurenoks, Konstantins Didenko  
Riga Technical University - Latvia

HMS\_37: Comparative study of multiple criteria methods for choosing cargo transportation mode  
Eugene Kopytov, Dmitry Abramov  
Transport and Telecommunication Institute, Riga - Latvia

HMS\_11: Conceptual procedure for grouping logistics objects for mesoscopic modeling and simulation  
Markus Koch, Tobias Reggelin, Juri Tolujew  
Otto von Guericke University Magdeburg; Fraunhofer Institute for Factory Operation and Automation IFF  
Magdeburg - Germany

HMS\_34: Network data envelopment analysis of container shipping lines  
Sebastián Lozano, Ester Gutiérrez, Salvador Furió, José Luís Salmerón  
University of Seville; Fundación Valenciaport - Spain

**Wednesday 2012-09-19 15:30-17:00**

*Room: Messe 4*

**Wednesday 2012-09-19 17:00-18:00**

*Room: Prater 2*

**Special Session: CIMIC And Planning Research In Complex Operational Realistic Network**

**Chair: Marina Massei, Simulation Team, Italy**

"CAPRICORN Project" - Alberto Tremori, University of Genoa, Italy  
"Experimentation on a Complex CIMIC/PSYOPS Scenario", Francesca Madeo, MISS DIPTM, Italy  
Panel Discussion

**Wednesday 2012-09-19 17:00-18:00**

*Room: Prater 3*

**Special Joint Simulation Team**

**Chair: Agostino G. Bruzzone, MISS MITIM Genoa Univ.**

Simulation Team Initiatives and Proposals

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**Thursday 2012-09-20 8:30-10:00**

*Room: Prater 1*

**EMSS: Cloud Manufacturing - Session I**

**Chair: Lin Zhang, Beihang University; Enrico Bocca, Simulation Team**

EMSS\_123: Innovative C2 and simulation for crowdsourcing as force multiplier  
Agostino Bruzzone, Henrique C. Marques, Giovanni Cantice, Michele Turi  
University of Genoa; George Mason University; DIME (Department of Mechanic, Energy, Production, Transports and Mathematic Models) PhD Program - Italy/ USA

EMSS\_33: The cloud manufacturing services platform structure and key technologies research in the mould industry  
Songxin Shi, Youmin Rong, Guojun Zhang, Wang Shi

Huazhong University of Science and Technology; DG-HUST Manufacturing Engineering Institute - China

EMSS\_82: Cloud manufacturing platform architecture

Lei Ren

Beihang University; Ministry of Education - China

EMSS\_15: Study on the description method of manufacturing capability based on description logics in cloud manufacturing

Yongliang Luo, Lin Zhang, Fei Tao, Yongkui Liu, Lei Ren

Beihang University - China

**Thursday 2012-09-20 8:30-10:00**

*Room: Prater 2*

**EMSS: Industrial Engineering Modeling and Simulation- Session I**

**Chair(s): Tuncer Oren, University of Ottawa**

EMSS\_40: Electric field and strain effects on surface roughness induced spin relaxation in silicon field-effect transistors

Dmitri Osintsev, Oskar Baumgartner, Zlatan Stanojevic, Viktor Sverdlov, Siegfried Selberherr

Technical University of Vienna; Volgograd State Technical University - Austria/ Russia

EMSS\_77: Multidimensional modelling of the in-cylinder processes in a GDI engine

Alessandro Montanaro, Ugo Sorge, Francesco Catapano, Bianca Maria Vagliecc

CNR Istituto Motori Napoli; DIME, University of Naples - Italy

EMSS\_32: Capability of today's program verification: a practical approach for better quality and reliability in industrial applications

Michael Bogner, Johannes Schiller, Franz Wiesinger

University of Applied Sciences - Austria

EMSS\_26: The high speed train interior noise reduction using multi-channel ANC system

Young Min Kim, Jong Il Bae, Kwon Soon Lee

Dong-A University; Pukyong National University - Korea

EMSS\_125: An advanced framework for inventory management in reverse logistics

Francesco Longo

University of Calabria - Italy

**Thursday 2012-09-20 8:30-10:00**

*Room: Prater 3*

**MAS: Simulation Based Design and Optimization - Session I**

**Chair(S): Pasquale Legato, University of Calabria**

MAS\_26: Simulation of the flood warning process with competency-based description of human resources

Štěpán Kuchař, Michal Podhorányi, Jan Martinovič, Ivo Vondrák

Technical University of Ostrava - Czech Republic

MAS\_32: Autonomous logistic processes of bike courier services using multiagent-based simulation

Max Gath, Thomas Wagner, Otthein Herzog

University of Bremen - Germany

MAS\_8: Open benchmark database for multidisciplinary optimization problems

Tuomo Varis, Tero Tuovinen  
University of Jyväskylä - Finland

MAS\_10: Start-up business success prediction by means of artificial neural networks

Francisco García Fernadez, Ignacio Soret Los Santos, Santiago Izquierdo, Francisco Llamazares Redondo, Francisco José Blanco Jiménez  
Universidad Politecnica de Madrid; ESIC; MTP; Universidad Rey Juan Carlos - Spain

MAS\_34: Monte Carlo simulation - the bank account selection in the Czech Republic according to the bank charges

Martina Kuncova, Lenka Lizalova  
College of Polytechnics Jihlava - Czech Republic

**Thursday 2012-09-20 8:30-10:00**

*Room: Prater 4*

**EMSS/HMS: General Applications and methodologies in M&S - Session I**

**Chair: Michael Affenzeller, Upper University of Applied Sciences**

EMSS\_124: Serious games for developing intuition and agile thinking for decision makers

Agostino Bruzzone, Alberto Tremori, Claudia Baisini  
Simulation Team DIME University Genoa; Swedish Defense College - Italy/ Sweden

EMSS\_10: Retrieving the performance overhead of synchronization mechanisms of various popular operating systems

Michael Bogner, Johannes Schütz, Franz Wiesinger  
University of Applied Sciences - Austria

EMSS\_90: Simulation of dynamically adaptive bandwidth allocation protocols using coloured Petri nets

Julija Asmuss, Viktors Zagorskis, Gunars Lauks  
Riga Technical University - Latvia

HMS\_45: Marine ports environmental sustainability: a state of the art overview

Agostino Bruzzone, Letizia Nicoletti, Alessandro Chiurco, Emanuela Palaia  
University of Genoa; University of Calabria - Italy

EMSS\_34: Monte Carlo ray-tracing approach to effectively design the ellipsoidal reflector of solar simulators

Marco Bortolini, Mauro Gamberi, Alessandro Graziani, Riccardo Accorsi, Emilio Ferrari  
University of Bologna; University of Padova - Italy

**Thursday 2012-09-20 8:30-10:00**

*Room: Messe 5+6*

**IMAACA: Adaptive Control, Intelligent Control, Multivariable Control, Non Linear Control, Robust Control - Session I**

**Chair(s): Sergio Junco, Universidad Nacional de Rosario**

IMAACA\_8: Air-heating set control via direct search method and structured singular value

Marek Dlapa  
Tomas Bata University in Zlin - Czech Republic

IMAACA\_36: ARMA model based GPC

Yuchen Zhao, Anibal Zanini  
Buenos Aires University - Argentina

IMAACA\_3: Robust controllability sets of linear and saturated linear strategies with discontinuous gains  
Valery Glizer, Vladimir Turetsky, Josef Shinar  
Ort Braude College; Israel Institute of Technology - Israel

IMAACA\_46: On the partial guidance of an autonomous blimp by various feedback laws  
Chaker Jammazi, Adel Khadaraoui, Maali Zaghdoudi  
Ecole Polytechnique de Tunisie - Tunisie

IMAACA\_4: Model predictive control for formation keeping in an orbit  
Adel Abdulrahman, Mohamad Bagash, Osama Abdelkhalik  
Sana'a University; Taiz University; MTU - Yemen/ MTU

**Thursday 2012-09-20 8:30-10:00**

*Room: Messe 4*

**IWISH: Patient Specific Modeling of the Cardiovascular Respiratory system:  
interdisciplinary approaches - Session I**

**Chair(s): Jerry Batzel, University of Graz; Nandu Goswami, Medical University of Graz; Mette Olufsen, North Carolina State University**

IWISH\_34: Structural correlation method for practical estimation of patient specific parameters in heart rate regulation

Johnny Ottesen, Mette Olufsen

Roskilde University; North Carolina State University - USA/ Denmark

IWISH\_32: Volatile organic compounds in exhaled breath: real-time measurements, modeling, and bio-monitoring applications

Julian King, Karl Unterkofler, Susanne Teschl, Anton Amann, Gerald Teschl

University of Vienna; Vorarlberg University of Applied Sciences; Austrian Academy of Sciences, Rathausplatz; University of Applied Sciences Technikum Wien - Austria

IWISH\_22: Qualitative features of a novel baroreceptor model

Adam Mahdi, Johnny Ottesen, Mette Olufsen

North Carolina State University; Roskilde University - USA/ Denmark

IWISH\_23: Global sensitivity and identifiability analysis applied to a model predicting baroreflex regulation during head-up tilt

Christian Haargaard Olsen, Jesper Mehlsen, Johnny T. Ottesen, Hien T. Tran, Mette S. Olufsen

North Carolina State University; Frederiksberg Hospital; Roskilde University - USA/ Denmark

**Thursday 2012-09-20 10:00-10:30**

**COFFEE BREAK Co-Sponsored by CAL-TEK, LIO Tech Ltd and MAST - Foyer area**

**Thursday 2012-09-20 10:30-12:00**

*Room: Prater 1*

**EMSS: M&S in and for Education - Session I**

**Chair(s): Maja Atanasijevic-Kunc, Univ. Ljubljana, ; Andreas Körner, Vienna Univ. of Technology**

EMSS\_103: Achievements in results visualization with the computer numeric e-learning system MMT  
Irene Hafner, Martin Bicher, Thomas Peterseil, Stefanie Winkler, Ursula Fitsch, Nicole Nagele, Wolfgang Wild, Felix Breiteneker  
Vienna University of Technology; dwh Simulation Services - Austria

EMSS\_110: About the integration of simulink into the matlab-based simulation and experiment server MMT  
Andreas Körner, Irene Hafner, Martin Bicher, Stefanie Winkler, Ursula Fitsch  
Vienna University of Technology - Austria

EMSS\_105: Improvement of advanced mathematical skills and abilities using the computer algebra based e-learning system MAPLE T.A.  
Stefanie Winkler, Andreas Körner, Vilma Urbonaite  
Vienna University of Technology - Austria

EMSS\_106: Modelling and simulation e-learning set of hydraulic models

Martin Bicher, Ursula Fitsch, Maja Atanasijevic-Kunc, Nicole Nagele, Wolfgang Wild, Felix Breiteneker  
Vienna University of Technology; University of Ljubljana - Austria/ Slovenia

EMSS\_116: Mathematical modelling for experimental archaeology: case studies for mechanical tools in Hallstatt salt mines  
Bernhard Heinzl, Erik Auer, Benedikt Slowacki, Kerstin Kowarik, Hans Reschreiter, Niki Popper, Felix Breiteneker  
Vienna University of Technology; Natural History Museum Vienna; dwh Simulation Services - Austria

**Thursday 2012-09-20 10:30-12:00**

*Room: Prater 2*

**EMSS: Industrial Engineering Modeling and Simulation- Session II**

**Chair(s): Tuncer Oren, University of Ottawa**

EMSS\_79: Automotive processes simulated by an ODE - PDE model  
Nicola Pasquino, Luigi Rarità  
University of Salerno - Italy

EMSS\_94: Studies on the thermodynamical coupling of a machine tool and its environment using the object-oriented modelling approach of MODELICA  
Matthias Rößler, Michael Landsiedl, Friedrich Bleicher, Christian Salvatori, Wolfgang Kastner, Felix Breiteneker  
Vienna University of Technology, - Austria

EMSS\_100: Object-oriented multi-domain modelling of machine tools: a case study  
Bernhard Heinzl, Michael Landsiedl, Niki Popper, Alexandros-Athanassios Dimitriou, Fabian Dür, Friedrich Bleicher, Christian Reinisch, Felix Breiteneker  
Vienna University of Technology; dwh Simulation Services - Austria

EMSS\_101: Dynamic analysis of a workpiece deformation in the roll bending process by FEM simulation  
Tran Hoang Quan, Henri Champlaud, Zhengkun Feng, Dao Thien-My  
École de Technologie Supérieure, Quebec - Canada

EMSS\_58: The impacts of data inaccuracy on retailer's perishable inventory

Mert Bal, Alp Ustundag  
Yildiz Technical University; Istanbul Technical University - Turkey

**Thursday 2012-09-20 10:30-12:00**

*Room: Prater 3*

**MAS: Simulation based Design- Session I**

**Chair(s): Yilin Huang , Delft University of Technology, Alexander Verbraeck, Delft University of Technology**

MAS\_44: A simulation based design framework for large scale infrastructure systems design  
Yilin Huang, Mamadou D. Seck, Michele Fumarola  
Delft University of Technology; Macomi Systems Simulation - Netherlands/ Italy

MAS\_22: The effect of toe mechanism for simulation of small biped walking robot by gait generation  
Krissana Nerakae, Hiroshi Hasegawa  
Shibaura Institute of Technology - Japan

MAS\_72: Grid generation from video capture for meshless method thermal simulations  
Khaoula Lassoued, Tonino Sophy, Luis Le Moyne, Nesrine Zoghlami  
Drive-ISAT EA; CONPRI - France/ Tunisia

MAS\_81: Renewable energy sources: advanced solutions for floating photovoltaic systems  
Giovanni Mirabelli, Letizia Nicoletti, Teresa Pizzuti, Pierluigi Stumpo  
University of Calabria - Italy

**Thursday 2012-09-20 10:30-12:00**

*Room: Prater 4*

**SESDE Simulation for Environment, Sustainable Development and Energy- Session I**

**Chair: Marina Massei, DIME University of Genoa**

MAS\_63: Investigating spatial nuclear power effects using 3D real-time model  
Janos Sebestyen Janosy  
Hungarian Academy of Sciences - Hungary

MAS\_42: Mathematical modeling of a heat recovery steam generator and its integration to a combined cycle power plant simulator  
Jose Tavira-Mondragón, Luis Jiménez-Fraustro, Fernando Jiménez-Fraustro  
Instituto de Investigaciones Electricas, Cuernavaca - Mexico

MAS\_40: Lumped parameters modelling of the furnace and steam systems of a 350 MW boiler  
Edgardo J. Roldan-Villasana, Ma. Cardoso-G., Jose A. Tavira-Mondragon, Miguel Rossano-Román  
Instituto de Investigaciones Electricas, Cuernavaca - Mexico

IMAACA\_26: Mathematical modeling of a 500 We power module composed by a PEM fuel cell combined with a DC-DC enhanced potential output converter  
Roque Machado de Senna, Marcelo Linardi, Douglas Alves Cassiano, Ivan Santos, Edgar Ferrari da Cunha, Henrique de Senna Mota, Rosimeire Aparecida Jerônimo

Universidade de São Paulo; Universidade Federal do ABC; Universidade Federal de São Paulo - Brazil

IMAACA\_41: Unknown input observer for detecting current sensor faults for a DFIG in wind turbine  
Hakim Ouyessaad, Houcine Chafouk

Technopole du Madrillet - France

**Thursday 2012-09-20 10:30-12:00**

*Room: Messe 5+6*

**IMAACA: Modeling and Control of Mechatronic Systems- Session I**

**Chair(s): Genevieve Tanguy, Ecole Centrale de Lille**

IMAACA\_43: Reducing vibrations on flexible rotating arms through the movement of sliding masses: modeling, optimal control and simulation  
Eder Terceiro, Agenor de Toledo Fleury  
Universidade de São Paulo; Centro Universitario da FEI - Brazil

IMAACA\_11: Robust model matching control applied to a crane  
Eduardo L. Lozano De Campos, Fabrizio Leonardi  
Centro Universitário da FEI, São Bernardo do Campo - Brazil

IMAACA\_49: Dynamic modelling of multi section bionic manipulator: application to Robotino-XT  
Sonam Behl, Coralie Escande, Pushpraj Mani Pathak, Rochdi Merzouki, Bhanu Mishra  
Indian Institute of Technology; LAGIS FRE CNRS - India/ France

IMAACA\_21: QFT control applied to a drive by wire (dbw) system  
Fabio Delatore, Fabrizio Leonardi, Alexsander T. Carvalho, Carlos A. Morioka  
Centro Universitario da FEI; FATEC Santo Andre - Brazil

IMAACA\_33: CFD modeling of thermal distribution in industrial server centers for configuration optimisation and control  
Pierre-Luc Paradis, Dristytsingh Ramdenee, Adrian Ilinca, Hussein Ibrahim, Abderrazak El-Ouafi, Jean-Sébastien Deschênes, Alexandre Boudreau, Daniel Rouse  
Université du Québec à Rimouski; École de technologie supérieure - Canada

**Thursday 2012-09-20 10:30-12:00**

*Room: Messe 4*

**IWISH: Patient Specific Modeling of the Cardiovascular Respiratory system: interdisciplinary approaches - Session II**

**Chair(s): Jerry Batzel, University of Graz; Nandu Goswami, Medical University of Graz; Mette Olufsen, North Carolina State University**

IWISH\_27: A kalman filtering based approach for the modeling of the cardiovascular regulation system  
Brett Matzuka, Jesper Mehlsen, Mette Olufsen, Hien Tran, Nakeya Williams  
North Carolina State University; Frederiksberg Hospital - USA/ Denmark

IWISH\_42: Modeling the effects of intra-abdominal hypertension  
Jerry Batzel, Stefan Fürtinger, Daniel Schneditz  
Institute of Physiology Medical University of Graz; Institute of Mathematics and Scientific Computing  
University of Graz - Austria

IWISH\_41: Baroreflex sensitivity during the gravitational stimulus: physiology and pathophysiology  
Raffaello Furlan, Franca Dipaola, Veronica Pacetti, Carlo Selmi, Francesca Meda, Ilaria Bianchi, Franca Barbic  
Humanitas Clinical and Research Center, Rozzano; University of Milan - Italy

IWISH\_38: Uncertainty quantification for cerebral perfusion



Rachael Gordon-Wright, Pierre Gremaud, Esther Martens, Vera Novak  
North Carolina State University; Eindhoven University of Technology; Harvard Medical School - USA

IWISH\_8: Three-dimensional numerical simulations of the aortic flow in presence of a left ventricle assist device

Rosario Mazzitelli, Attilio Renzulli, Giuseppe Filiberto Serraino, Gionata Fragomeni  
"Magna Graecia" University - Italy

**Thursday 2012-09-20 12:00-13:30**

**LUNCH Co-Sponsored by Lio-Tech, CAL-TEK, MAST**

**Thursday 2012-09-20 13:30-15:00**

*Room: Prater 1*

**EMSS: Simulation Approaches in Logistic systems- Session I**

**Chair(s): Maria Pia Fanti, Polytechnic of Bari ;Chrysostomos Stylios, echnological Educational Institute of Epirus**

EMSS\_39: A decision support system for intermodal transportation networks management  
Maria Pia Fanti, Giorgio Iacobellis, George Georgoulas, Chrysostomos Stylios, Walter Ukovich  
Polytechnic of Bari; Technological Educational Institute of Epirus; Teorema Engineering S.r.l.; University of Trieste - Italy/ Greece

EMSS\_59: Simulation for assessing security-based policies in import/export operations  
Pasquale Legato, Rina Mary Mazza  
University of Calabria - Italy

EMSS\_6: A simulation tool for high-fidelity modeling of complex logistical networks  
Reejo Mathew, Thomas W. Mastaglio, Andrew Lewis  
MYMIC LLC - USA

EMSS\_88: Operations by forklifts in warehouses  
Aurelija Burinskiene  
Vilnius Gediminas technical university - Lithuania

**Thursday 2012-09-20 13:30-15:00**

*Room: Prater 2*

**EMSS: Industrial Engineering Modeling and Simulation- Session III**

**Chair(s): Stefano Saetta, University of Perugia**

EMSS\_13: Modeling and simulation based on inverse finite element method for unfolding large and thick blades of francis turbines  
Zhengkun Feng, Henri Champlaud, Michel Sabourin, Sebastien Morin  
University of Quebec; Alstom Hydro Canada Inc. - Canada

EMSS\_14: Optimization of production ramp-up by using a simulation for personnel requirements planning  
Gisela Lanza, Anna Sauer  
Karlsruhe Institute of Technology - Germany

EMSS\_21: A new practical approach to asset liability management for BASEL III and SOLVENCY II  
Vojo Bubevski  
Bubevski Systems & Consulting TATA Consultancy Services - UK

EMSS\_11: FPGA, physics-based modeling of IGBT and PIN diode for hardware co-simulation of complex power electronic converters and systems

Philippos Aristidou, Patrick Palmer  
University of Cambridge - UK

EMSS\_52: Modelling the effect of sugar refinery pollution in a rural area in central Mexico

Ann Wellens, Julio González, Ricardo Torres-Jardón, Hugo Barrera  
Universidad Nacional Autónoma de México - Mexico

**Thursday 2012-09-20 13:30-15:00**

*Room: Prater 3*

**EMSS: Discrete, Combined, Distributed and Parallel Simulation - Session I**

**Chair(s): Gasper Music, University of Ljubljana,**

EMSS\_113: Change of independent variable for state event detection in system simulation - evaluation with ARGESIM benchmarks

Felix Breitenecker, Horst Ecker, Bernhard Heinzl, Andreas Körner, Matthias Rößler, Niki Popper  
Vienna University of Technology; dwh Simulation Services - Austria

EMSS\_114: Developing a multihybrid system to simulate a university campus

Shabnam M. Tauböck, Felix Breitenecker, Dietmar Wiegand, Nikolas Popper, Gerald Hodecek  
Vienna University of Technology; dwh Simulation Services - Austria

EMSS\_104: Possibilities and limits of co-simulating discrete and continuous models via the building controls virtual test bed

Irene Hafner, Matthias Rössler, Bernhard Heinzl, Andreas Körner, Michael Landsiedl, Felix Breitenecker, Christian Reinisch  
Vienna University of Technology; dwh Simulation Services - Austria

EMSS\_44: Using graphic processors for highspeed simulations and other high performance computations

Thomas Wiedemann  
University of Applied Science Dresden - Germany

**Thursday 2012-09-20 13:30-15:00**

*Room: Prater 4*

**MAS: Workshop on Modeling and Simulation of Food Processing and Operations-Session I**

**Chair(s): Andrea Grassi, University of Modena and Reggio Emilia,; Giuseppe Vignali, University of Parma**

MAS\_70: Modeling and thermo-fluid dynamic simulation of a fresh pasta pasteurization process

Eleonora Bottani, Gino Ferretti, Matteo Folezzani, Michele Manfredi, Roberto Montanari, Giuseppe Vignali  
University of Parma - Italy

MAS\_64: Advanced design of industrial mixers for fluid foods using computational fluid dynamics

Davide Marchini, Federico Solari, Mattia Armenzoni, Roberto Montanari, Marta Rinaldi, Eleonora Bottani, Gino Ferretti, Giuseppe Vignali  
University of Parma - Italy

MAS\_66: Supply chain simulation: a study on reorder policies for perishable food products

Marta Rinaldi, Eleonora Bottani, Gino Ferretti, Mattia Armenzoni, Davide Marchini, Federico Solari,  
Giuseppe Vignali, Roberto Montanari  
University of Parma - Italy

MAS\_56: Modeling of rheological behaviour of tomato spreads  
E. Rosa, I. Peinado, A. Heredia, A. Andrés  
Universitat Politècnica de València - Spain

MAS\_20: Modeling of water retention in substrates used in production of tomato "sweet grape"  
Honorato C. Pacco, Delvio Sandri, Sebastián Avelino Neto, Marco Antonio Amaral Jr., Ananda Helena  
Nunes Cunha  
UnUCET-UEG, Anapolis; College of Agriculture and Veterinary Medicine UNB, Brasilia-GO - Brazil

**Thursday 2012-09-20 13:30-15:00**

*Room: Messe 5+6*

**EMSS: Simulation and Optimization approaches in Industry, Services and Logistic Processes- Session I**

**Chair(s): Idalia Flores, University of Mexico; Miguel Mújica Mota, Universitat Autònoma de Barcelona**

EMSS\_69: Optimal ambulance location, at University of Mexico, employing simulation  
Jose Vindel  
University of Mexico - Mexico

EMSS\_85: Simulation of hydrocarbon sales services of the National University of Mexico for the scenario analysis that improves return on equity  
Israel Andrade Canades, Citlalli Dorantes Bolanos  
National University of Mexico - Mexico

EMSS\_70: Simulation of the operation of a metro station  
Jorge Andres Garcia, Idalia Flores  
UNAM - Mexico

EMSS\_49: Performance of earliest completion strategy in order sortation systems  
Fahrettin Eldemir, Elif Karakaya  
Fatih University; Technische Universität Dortmund - Turkey/ Germany

EMSS\_24: The study of a deteriorating manufacturing system using simulation and response methodology  
Annie Francie Kouedou, Jean-Pierre Kenne, Pierre Dejax, Victor Songmene  
University of Quebec; École des Mines de Nantes - Canada/ France

**Thursday 2012-09-20 13:30-15:00**

*Room: Messe 4*

**IWISH: HealthCare Management and Healthcare problems- Session I**

**Chair(s): Felix Breitenacker, Technical University of Vienna**

IWISH\_45: MARIA: an agent driven simulation for a web based serious game devoted to renew education processes in health care  
Agostino G. Bruzzone, Marco Frascio, Francesco Longo, Marina Massei, Anna Siri, Alberto Tremori  
MITIM DIME University of Genoa; Simulation Center DISC University of Genoa; MSC-LES University of Calabria - Italy

IWISH\_44: MORBISIMMOD - morbidity based needs assessment using microsimulation

M. Gyimesi, I. Czasny, G. Fülöp, S. Mathis-Edenhofer

Gesundheit Österreich GmbH, Österreichisches Bundesinstitut für Gesundheitswesen - Austria

IWISH\_10: Simulations of uterine electrical activity using parallel computing

Tanguy Hedrich, Jeremy Laforet, Catherine Marque

Universite de Technologie de Compiègne - France

IWISH\_11: Inner simulation sustaining the deliberative process in a cognitive architecture

Othalia Larue, Pierre Poirier, Roger Nkambou

GDAC Research Laboratory; Philosophy Dept University du Quebec - Canada

IWISH\_15: Improving patient's waiting time at a health screening center

Thanon Wongsammacheep, Jutta Pichitlamken, Waessara Weerawat

Kasetsart University; Mahidol University - Thailand

**Thursday 2012-09-20 15:00-15:30**

***COFFEE BREAK Co-Sponsored by CAL-TEK, LIO Tech Ltd and MAST - Foyer area***

**Thursday 2012-09-20 15:30-17:00**

*Room: Prater 1*

**EMSS: Effective design and Optimization by Using Modeling and Simulation  
Session I**

***Chair(s): Ijuan gnacio Latorre, Public University of Navarre***

EMSS\_53: Enriching a DEVS meta-model with OCL constraints

Stéphane Garredu, Evelyne Vittori, Jean-François Santucci, Dominique Urbani

University of Corsica - France

EMSS\_87: Designing PID controller for 4th order system by means of enhanced PSO algorithm with discrete chaotic dissipative standard map

Michal Pluhacek, Roman Senkerik, Donald Davendra, Ivan Zelinka

Tomas Bata University in Zlin; VB-TUO - Czech Republic

EMSS\_57: Improved linearity CMOS multifunctional structure using computational circuits

Cosmin Popa

University Politehnica of Bucharest - Romania

EMSS\_98: Utilization of analytic programming for the stabilization of high order oscillations of chaotic logistic equation

Roman Senkerik, Zuzana Oplatkova, Ivan Zelinka, Donald Davendra, Michal Pluhacek

Tomas Bata University in Zlin; Technical University of Ostrava - Czech Republic

EMSS\_74: Optimal control strategies for low fuel consumption in a GDI engine under single and multiple injection

Michela Costa, Luigi Allocca, Paolo Sementa

CNR - Istituto Motori Napoli - Italy

**Thursday 2012-09-20 15:30-17:00**

*Room: Prater 2*

**DHSS: Defense and Homeland Security - Session I**

**Chair(s): Robert Sottolare, US Army**

DHSS\_11: Securing Freight Trains for Hazardous Material Transportation: a WSN-Based Monitoring System

Valentina Casola, Alessandra De Benedicitis, Annarita Drago, Mariana Esposito, Francesco Flammini, Nicola Mazzocca

Università di Napoli Federico II ; ANSALDO STS - Italy

DHSS\_7: Criticality Assessment via Opinion Dynamics

Gabriele Oliva, Estefania Etcheves Miciolino

University Campus BioMedico - Italy

DHSS\_15: Critical Infrastructure Protection: Threats Mining and Assessment

Giusj Digioia, Stefano Panzieri

Università degli Studi Roma Tre - Italy

DHSS\_18: Evidence Marshalling with Inference Networks: An Application to Homeland Security

Ken McNaught, Peter Sutovsky

Cranfield University - UK

DHSS\_13: A Smart Monitoring System Based on a Fast Classifier and a Semantic Post Reasoner

Flora Amato, Valentina Casola, Mariana Esposito, Nicola Mazzocca, Antonino Mazzeo

Università di Napoli Federico II - Italy

**Thursday 2012-09-20 15:30-17:00**

Room: Prater 3

**EMSS: Discrete, Combined, Distributed and Parallel Simulation- Session II**

**Chair(s): Gasper Music, University of Ljubljana,**

EMSS\_102: Process mining of production management data for improvement of production planning and manufacturing execution

Gasper Music, Primož Rojč

University of Ljubljana; INEA d.o.o, Ljubljana - Slovenia

EMSS\_2: Stability of the convex linear combination of fractional positive discrete-time linear systems

Tadeusz Kaczorek

Białystok University of Technology - Poland

EMSS\_108: Data independent model structure for simulation within Vienna UT more space project

Benjamin Rozsenich, Salah Alkilani, Martin Bruckner, Stefan Emrich, Gabriel Wurzer

Vienna University of Technology; dwh Simulation Services - Austria

EMSS\_47: Project management games using high level architecture

Ronald Ekyalimpa, Simaan Abourizk, Yasser Mohamed, Farzaneh Saba

University of Alberta - Canada

EMSS\_84: Customizing Code Of Devs Models According To User Requirements Using LSIS\_DME

Maamar Hamri, Rabah Messouci

Aix-Marseille Université - France

**Thursday 2012-09-20 15:30-17:00**

Room: Prater 4

**MAS/EMSS Workshop on Modeling and Simulation of Food Processing and Operations- Session II**

**Chair(s):** *Andrea Grassi, University of Modena and Reggio Emilia; Giuseppe Vignali, University of Parma*

MAS\_52: Modelling and simulation of direct steam injection for tomato concentrate sterilization

Paolo Casoli, Gabriele Copelli  
University of Parma - Italy

MAS\_67: Modelling and simulation of a fish processing factory ship

Nadia Rego Monteil, Raquel Botana Lodeiros, Diego Crespo Pereira, David del Rio Vilas, Rosa Rios Prado  
University of A Coruña - Spain

MAS\_59: A BPMN general framework for managing traceability in a food supply chain

Giovanni Mirabelli, Teresa Pizzuti, Fernando Gómez-González, Miguel Angel Sanz-Bobi  
University of Calabria; Comillas Pontifical University - Italy/ Spain

MAS\_60: Food traceability models: an overview of the state of the art

Giovanni Mirabelli, Teresa Pizzuti, Fernando Gómez-González, Miguel Angel Sanz-Bobi  
University of Calabria; Comillas Pontifical University - Italy/ Spain

EMSS\_126: Simulation based analysis of a manufacturing system devoted to produce hazelnut based products

Agostino Bruzzone, Francesco Longo  
University of Genoa; University of Calabria - Italy

**Thursday 2012-09-20 15:30-17:00**

*Room: Messe 5+6*

**HMS: Intermodal transportation systems and services- Session I**

**Chair(s):** *Manfred Gronalt, University of Natural Resources and Applied Life Sciences*

HMS\_44: A simulation-based approach for resource management and control: a real case study of a Spanish container terminal

Carlos Arango, Agostino Bruzzone, Letizia Nicoletti, Pablo Cortes  
University of Seville; University of Genoa; University of Calabria; University of Seville - Italy/ Spain

HMS\_40: A parameterized model of multimodal freight transportation for maritime services optimization

Rosa Rios Prado, Diego Crespo Pereira, Juan Manuel Bastida Sardiña, David del Rio Vilas, Nadia Rego Monteil  
University of A Coruña - Spain

HMS\_18: Simulation of the passage of containers through Le Havre seaport

Abderaouf Benghalia, Jaouad Boukachour, Dalila Boudebous  
IUT du Havre - France

HMS\_12: Analysing the efficiency of an intermodal terminal using simulation

Katrien Ramaekers, An Caris, Leen Gorissen  
Hasselt University - Belgium

**Thursday 2012-09-20 15:30-17:00 - Room: Messe 4**

**Special Session: SMACKDOWN at Liophant Booth Exhibition Area - Chair: Agostino G. Bruzzone, MISS DIPTM, Italy - Bill Waite, Aegis Technologies, USA - Smackdown Initiative**

**Thursday 2012-09-20 17:00-18:00**

*Room: Prater 2*

**Special Session I3M2013**

**Chair: Yuri Merkuryev, Riga TU; Francesco Longo, MSC-LES, Italy**

Presenting I3M2013

I3M Proposals & New Initiatives

**Thursday 2012-09-20 17:00-18:00**

*Room: Prater 3*

**Social Event**

**Thursday 2012-09-20 20:00-22:30**

**20:00 I3M Gala Dinner at Zwölf Apostelkeller, Sonnenfelsgasse 3, A-1010 Wien**

**During Gala Dinner the I3M Best Paper Awards & Gianni Cantice Award for Gifted Simulation Students will be presented**

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**Friday 2012-09-21 8:30-10:00**

*Room: Prater 1*

**HMS: Intermodal transportation systems and services- Session II**

**Chair(s): Manfred Gronalt, University of Natural Resources and Applied Life Sciences**

HMS\_19: Synchronous railway simulation of shunting yards

Benno Hüttler, Jan Zazgornik, Manfred Gronalt

University of Natural Resources and Life Sciences - Austria

HMS\_10: Time-dependent routing of drayage operations in the service area of intermodal terminals

Kris Braekers, An Caris, Gerrit K. Janssens

Hasselt University; Research Foundation Flanders - Belgium

HMS\_8: Analysis of the operations of an intermodal barge terminal

Lotte Verdonck, An Caris, Katrien Ramaekers, Gerrit K. Janssens

Hasselt University; Research Foundation Flanders - Belgium

HMS\_32: Whatif: a decision support system for planning and management of rail freight networks

Andrea Emilio Rizzoli, Matteo Salani, Corrado Valeri, Janos Barta, Simone Croci-Torti, Aldo Croci, Angelo Barbone, Luca Maria Gambardella

Istituto Dalle Molle di Studi sull'Intelligenza Artificiale - Switzerland

HMS\_17: Identifying opportunities of co-loading by means of simulation

An Caris, Tom van Lier, Cathy Macharis, Gerrit Janssens

Hasselt University; Vrije Universiteit Brussel; Research Foundation Flanders - Belgium

**Friday 2012-09-21 8:30-10:00**

*Room: Prater 2*

**EMSS: Simulation Approaches in Logistic systems- Session II**

**Chair(s): Maria Pia Fanti, Polytechnic of Bari ; Chrysostomos Stylios, echnological Educational Institute of Epirus**

EMSS\_36: Development and evaluation of visualization system of global container flow for international manufacturers

Hisashi Takizawa, Hiromichi Akimoto, Kenji Tanaka, Jing Zhang

Ministry of Land, Infrastructure, Transport and Tourism of Japan ; Korea Advanced Institute of Science and Technology; The University of Tokyo - Japan

EMSS\_22: Spectral approach to reliability evaluation of flow networks

Ilya Gertsbakh, Yoseph Shpungin

Ben-Gurion University; Shamoon College of Engineering - Israel

EMSS\_7: On the incorporation of parameter uncertainty for inventory management

David F. Muñoz, David G. Muñoz

Instituto Tecnológico Autónomo de México; AOL Advertising - Mexico/ USA

EMSS\_50: Reconfigurable and layout-aware storage system for network-based simulation models in the simulator D3FACT

Hendrik Renken, Felix Eichert, Markus Monhof

University of Paderborn - Germany

**Friday 2012-09-21 8:30-10:00**

*Room: Prater 3*

**MAS: High Performance Simulation of Biological systems- Session I**

**Chair(s): Horacio Pérez-Sánchez, Universidad de Murcia, (Murcia) ; José M. Cecilia Universidad Católica**

MAS\_48: Ultra-fast registration of 2D electron microscopy images

Santiago Garcia, Julio Kovacs, Pablo Chacon

Rocasolano Physical Chemistry Institute; QG Research, Los Angeles - Spain/ USA

MAS\_57: Simulation of dilute-solution properties of biological macromolecules with the aid of high-performance computing

Ricardo Rodríguez Schmidt, Diego Amorós Cerdán, José Hernández Cifre, Guillermo Díaz Baños, José García de la Torre

Universidad de Murcia - Spain

MAS\_50: GPU-accelerated modelling of biological membranes ION-transport

Adam Gorecki, Krzysztof Dolowy

Warsaw University of Life Sciences - Poland

MAS\_53: eSBMTools: python tools for enriched structure based modeling

Benjamin Lutz, Claude Sinner, Geertje Heuermann, Abhinav Verma, Alexander Schug

Karlsruhe Institute of Technology - Germany



**Friday 2012-09-21 8:30-10:00***Room: Prater 4***IWISH: HealthCare Management and Healthcare problems- Session II****Chair(s): Vera Novak, Harvard Medical School, USA**

IWISH\_7: Innovative online training framework supporting immersive scenario-based simulation for clinical decision making and large healthcare community of practice

Bruce Joy, Liz Chung, Susan Harrison, Tim Gray, Marco Biagini, Nerida Bardon, George Kantianis  
VastPark Services Inc.; VastPark Pty Ltd; Australian Centre for Health Innovation; Genoa University - USA/ Australia/ Italy

IWISH\_19: Adaptive behavior in complex healthcare interventions: assessment using computer simulation

Jean-Christophe Chiem, Thérèse Van Durme, Florence Vandendorpe, Olivier Schmitz, Niko Speybroeck, Sophie Cès, Jean Macq

Université Catholique de Louvain - Belgium

IWISH\_37: Application of discrete systems simulation to reduce waiting time in the outpatient service of a hospital in the city of São Paulo, Brazil

Alexandre A. Massote, Domenico Caruso, João Batista Gonçalves Sousa  
Centro Universitário da FEI - Brazil

IWISH\_35: Pre-tender hospital simulation using naive diagrams as models

Gabriel Wurzer, Wolfgang Lorenz, Manfred Pferzinger

Vienna University of Technology ; UMIT - Austria

**Friday 2012-09-21 8:30-10:00***Room: Messe 5+6***IMAACA: Qualitative Modeling, Bond Graph Modeling, Mathematical Modeling, Numerical Modeling- Session I****Chair(s): Genevieve Tanguy, Ecole Centrale de Lille**

IMAACA\_22: Mechanical analysis of 2d-brazed joint using a new hybrid "max-fem" model

Abderrazzaq Ifis, François Bilteyst, Mohammed Nouari  
LEMTA CNRS-UMR - France

IMAACA\_25: Towards a methodology for modelling and validation of an agricultural vehicle's dynamics and control

Martin Peter Christiansen, Kim Bjerger, Gareth Edwards, Peter Gorm Larsen  
Aarhus University Finlandsgade - Denmark

IMAACA\_35: Jacobian based control of walking robot with compliant legs

M. M. Gor, P. M. Pathak, A. K. Samantaray, Jung-Ming Yang, Seong Woo Kwak  
Indian Institute of Technology Roorkee; Indian Institute of Technology, Kharagpur; Catholic University of Daegu; Keimyung University - India/ South Korea

IMAACA\_34: Neural network simulation of simple biological systems including optimal control problems

Tibor Kmet, Maria Kmetova  
Constantine the Philosopher University in Nitra - Slovakia

IMAACA\_28: A method predicting temperature rise of oil-hydraulic system considering heat balance between oil-passage and housing

Kohki Tomioka, Kazuhiro Tanaka, Hiroshi Higo, Fumio Shimizu  
NITTO DENKO Co.; Kyushu Institute Technology - Japan

**Friday 2012-09-21 8:30-10:00**

*Room: Messe 4*

**Friday 2012-09-21 10:00-10:30**

**COFFEE BREAK Co-Sponsored by CAL-TEK, LIO Tech Ltd and MAST - Foyer area**

**Friday 2012-09-21 10:30-12:00**

*Room: Prater 1*

**EMSS: Simulation and Optimization approaches in Industry, Services and Logistic Processes- Session II**

**Chair(s): Idalia Flores, University of Mexico; Miguel Mújica Mota, Universitat Autònoma de Barcelona**

EMSS\_92: Simulation models to support GALB heuristic algorithms and to evaluate multi objective performance index

Sergio Amedeo Gallo, Giovanni Davoli, Andrea Govoni, Riccardo Melloni, Gabriele Pattarozzi  
University of Modena and Reggio Emilia - Italy

EMSS\_75: Production scheduling on multiple lines with shared resources

Francesco Costantino, Giulio Di Gravio, Fabio Nonino, Matteo Cappannoli, Tommaso Silvestri  
University of Rome "La Sapienza" - Italy

EMSS\_68: Research on simplified modelling strategy for virtual commissioning

Peter Hoffmann, Reimar Schumann, Talal M.A. Maksoud, Giuliano C. Premier  
University of Applied Sciences and Arts Hannover; University of Glamorgan - Germany/ UK

EMSS\_19: An integrated binary-tabu search approach for the buffer allocation problem: an industrial case study

Leyla Demir, Simge Yelkenci Kose, Semra Tunali, Deniz Tursel Eliiyi  
Pamukkale University; Ministry of Science, Industry and Technology ; Izmir University of Economics - Turkey

EMSS\_41: Detecting thin bones and modeling COD skeleton

Thordur Helgason, Rannveig Ása Gudundsdottir, Kristín Líf Valtýsdóttir, Kristinn Andersen  
Landspítali-University Hospital; Reykjavik University; Marel ehf - Iceland

**Friday 2012-09-21 10:30-12:00**

*Room: Prater 2*

**EMSS: Effective design and Optimization by Using Modeling and Simulation Session II**

**Chair(s): Miguel Mujyca Mota, UAB**

EMSS\_28: Multi-actors distributed control systems: reinforcement signal by shannon's entropy

Youcef Zennir, Denis Pomorski  
Laboratoire d'automatique de Skikda; Polytech'Lille - Algérie/ France

EMSS\_20: Comprehensive protocol for artificial intelligence development  
Bruce L. Toy  
Lockheed Martin - USA

EMSS\_93: Using UWB for human trajectory extraction  
Gonçalo Vasconcelos, Marcelo Petry, João Almeida, Rosaldo Rossetti, António Coelho

University of Porto; INESC Technology and Science; Laboratório Nacional de Engenharia Civil - Portugal

EMSS\_115: A simulation model for analysing unmanned aerial vehicle flight paths  
Halil Cicibas, Kadir Alpaslan Demir, Murat M. Gunal, Nafiz Arica  
Turkish Naval Academy Tuzla - Turkey

**Friday 2012-09-21 10:30-12:00**

*Room: Prater 3*

**MAS: Workshop on Virtual and Augmented Reality - Session I**

**Chair(s): Gerson Cunha, LAMCE/COPPE/UFRJ**

MAS\_58: Augmented gallery guide  
Zuzana Haladova, Csaba Bolyos  
Comenius University in Bratislava - Slovakia

MAS\_16: Augmented reality system with chroma key for simulators  
Mario L. Ribeiro, Gerson Cunha, Jose L.D. Alves, Maria Celia Santos Lopes, Gabriel A. Fernandes, Luiz Landau, Cezar H.V. Da Costa  
Universidade Federal do Rio de Janeiro - Brazil

MAS\_12: Field experiments for engineering augmented reality tools  
Gabriel Fernandes, Gerson Cunha, Celia Lopes, Luiz Landau, Alvaro L. G. de Azeredo Coutinho  
Universidade Federal do Rio de Janeiro - Brazil

MAS\_7: Wrinkle effect in cloth simulation using fluidity control  
Jaruwan Mesit  
Grambling State University - USA

**Friday 2012-09-21 10:30-12:00**

*Room: Prater 4*

**IWISH: HealthCare Management and Healthcare problems- Session III**

**Chair(s): Vera Novak, Harvard Medical School, USA**

IWISH\_36: Towards leaner healthcare facility: application of simulation modelling and value stream mapping  
Waleed Abo Hamad, John Crowe, Amr Arisha  
Dublin Institute of Technology - Ireland

IWISH\_16: Reduction of turnaround time in a hospital's clinical laboratory by simulation modeling  
Kanyarat Luangmul, Juta Pichitlamken, Waessara Weerawat  
Kasetsart University; Mahidol University - Thailand

IWISH\_2: Simulating the bone-titanium interfacial changes around transfemoral osseointegrated implants using physical models and modal analysis  
Nicola J. Cairns, Mark J. Percy, James Smeathers, Clayton J. Adam

University of Strathclyde; Queensland University of Technology - UK/ Australia

IWISH\_46: Agent Based Simulation Model For Obesity Epidemic Analysis

Agostino G. Bruzzone, Vera Novak, Francesca Madeo

MITIM DIME University of Genoa; BIDMC, Harvard Medical School; Simulation Team - Italy/ USA

**Friday 2012-09-21 10:30-12:00**

*Room: Messe 5+6*

**IMAACA: Supervision System Design in Industrial Processes - Session I**

**Chair(s): Genevieve Tanguy, Ecole Centrale de Lille**

IMAACA\_13: Fault diagnosis in ncs under communication constraints: a quadrotor helicopter application

Karim Chabir, Mohamed Amine Sid, Dominique Sauter

Nancy University - France

IMAACA\_38: Diagnosis of PEMFC by using statistical analysis

Zhongliang Li, Rachid Outbib, Daniel Hissel, Stefan Giurgea

University of Aix-Marseille; University of Franche-Comte; FCAB (Fuel Cell Lab) Research Federation - France

IMAACA\_17: Integrated management and optimization of the sanitation cycle by the combined use of expert systems and supervisory systems in real time operation

Marcelo De Souza, Alexandre Acácio De Andrade, Sergio Luiz Pereira

Pontifícia Universidade Católica de São Paulo; Universidade Federal do ABC-UFABC; Escola Politecnica da Universidade de São Paulo - Brazil

IMAACA\_18: Voltage envelope, noise and hilbert transform

Federico Muiño, Maximiliano Carabajal, Marcela Morvidone, Carlos D'attellis, Matías Fabbro

Universidad Tecnológica Nacional; Universidad Nacional de San Martín - Argentina

IMAACA\_7: Review of "fault detection, diagnosis and decision support methods" in industry

Rambabu Kandepu, Tor Inge Waag, Karl Magnus Laundal, Anis Yazidi

Teknova AS - Norway

**Friday 2012-09-21 10:30-12:00**

*Room: Messe 4*

**Friday 2012-09-21 12:00-13:30**

**LUNCH Co-Sponsored by Lio-Tech, CAL-TEK, MAST**

**Friday 2012-09-21 13:30-15:00**

*Room: Prater 1*

**EMSS/IWISH: Modeling and Simulation in Physiology and Medicine - session I**

**Chair(s): Maja Atanasijevic-Kunc, Univ. Ljubljana, ; Felix Breitenecker, Vienna Uiv. of Technology**

EMSS\_107: A modular architecture for modelling obesity in inhomogeneous populations in Austria with system dynamics – first step: a population model and how to integrate it in a disease model

Barbara Glock, Patrick Einzinger, Felix Breiteneker

Vienna University of Technology; dwh Simulation Services - Austria

EMSS\_73: Optimizing ventricular work: a matter of constraints

Bernhard Hametner, Stephanie Parragh, Christopher Mayer, Johannes Kropf, Siegfried Wassertheurer

Austrian Institute of Technology GmbH; Vienna University of Technology - Austria

EMSS\_72: Automated verification of cardiovascular models with continuous integration tools

Martin Bachler, Bernhard Hametner, Christopher Mayer, Johannes Kropf, Matthias Gira, Siegfried Wassertheurer

Austrian Institute of Technology GmbH; Vienna University of Technology - Austria

EMSS\_67: Motivation problems in the process of mass reduction through modelling and simulation

Maja Atanasijevic-Kunc, Tina Sentocnik, Simon Tomažič, Jože Drinovec

University of Ljubljana; Medico dr. Sentočnik; University of Maribor - Slovenia

EMSS\_122: The effects of transit corridor developments on the healthcare access of medically fragile vulnerable populations

Rafael Diaz, Asad Khattak, Joshua Behr, Anna Jeng, Francesco Longo, Jun Duanmu

Old Dominion University; University of Calabria - USA

#### **Friday 2012-09-21 13:30-15:00**

*Room: Prater 2*

#### **DHSS: Defense and Homeland Security - Session II**

**Chair(s): Robert Sottolare, US Army**

DHSS\_8: Situation Awareness in Critical Infrastructures

Vincenza Abate, Ludovica Adacher, Federica Pascucci

Università degli Studi Roma Tre - Italy

DHSS\_9: Detection of and Reaction to Cyber Attacks in a Critical Infrastructures Scenario: the CockpitCI Approach

Donato Macone, Francesco Liberati, Andrea Simeoni, Francesco Delli Priscoli, Marco Castrucci, Stefano Panzieri, Serguei Iassinovski, Michele Minichino, Ester Ciancamerla

Università di Roma "Sapienza"; Università degli Studi Roma Tre; Multitel ASBL; ENEA - Italy/ Belgium

DHSS\_20: Application of UML for Risk Based Interdependencies Modelling in Critical Infrastructures

Anatolijs Zabasta, Oksana Nikiforova, Nadezhda Kunicina

Riga Technical University - Latvia

DHSS\_16: The Use of Artificial Intelligence for Enhanced Network Defense

Michael Knight, Kortney Raulston, Kennard Lavers, Kenneth Hopkinson

Air Force Institute of Technology - USA

DHSS\_21: CAX Methodology for Civil Protection Purposes and Civil Military Co operation

Konstantinos Tsiakalos

University of Genoa - Greece

#### **Friday 2012-09-21 13:30-15:00**

Room: Prater 3

### **IWISH: Modeling and Simulation for Biosciences and Bioinformatics - Session I**

**Chair(s): Werner Backfrieder, Upper University of Applied Sciences**

IWISH\_18: A new hybrid algorithm based on watershed method, confidence connected thresholding and region merging as preprocessing for statistical classification of general medical images

Gerald Zwettler, Werner Backfrieder

Upper Austria University of Applied Sciences - Austria

IWISH\_9: RANSAC-based enhancement in drug concentration predictions using support vector machine

Wenqi You, Alena Simalatsar, Giovanni De Micheli

Ecole Polytechnique Federale de Lausanne - Switzerland

IWISH\_33: Investigation of the effect of drugs on solid tumours within a systems-based mathematical modelling framework

Cong Liu, J. Krishnan, Xiao Yun Xu

Imperial College London - UK

IWISH\_39: Experimental and numerical studies of digital arterial elasticity by volume oscillometric analysis

Pichitra Uangpairoj, Masahiro Shibata

Shibaura Institute of Technology - Japan

### **Friday 2012-09-21 13:30-15:00**

Room: Prater 4

### **HMS: Supply Chains Design and Management - Session I**

**Chair(s): David del Rio Vilas, University of a Coruna**

HMS\_20: Mesoscopic supply chain simulation

Til Hennies, Tobias Reggelin, Juri Tolujew

Fraunhofer Institute for Factory Operation and Automation IFF Magdeburg; Otto von Guericke University Magdeburg - Germany

HMS\_43: Interoperable simulation for protecting port as critical infrastructures

Agostino Bruzzone, Francesco Longo, Alberto Tremori

University of Genoa; University of Calabria; Simulation Team - Italy

HMS\_33: Economic assessment for a RFID application in transfusion medicine

Gianluca Borelli, Pier Francesco Orrù, Francesco Zedda

Azienda Ospedaliera G. Brotzu ; Università degli Studi di Cagliari - Italy

HMS\_29: A container terminal management system

Mehdi Najib, Abdelaziz El Fazziki, Jaouad Boukachour

University of Le Havre France; Cadi Ayyad University - France/ Morocco

HMS\_42: Designing two-echelon supply chain using simulation and pricing strategy

Seyed Mohammad Mahdi Kazemi, Peyman Taki, Seyed Mohamad kazemi

Islamic Azad University, Tehran - Iran

### **Friday 2012-09-21 13:30-15:00**

Room: Messe 5+6

**IMAACA: General Applications and Methodologies in Modeling and Simulation - Session I****Chair(s): Sergio Junco, Universidad Nacional de Rosario**

IMAACA\_24: A study on the ecms parameter adaptation for the driver characteristic variation  
Joohee Son, Taeho Park, Kanghee Won, Hyeongcheol Lee  
Hanyang University - Korea

IMAACA\_29: Dynamics of torque converter with lock-up clutch  
Takeshi Yamaguchi, Kazuhiro Tanaka, Katsuya Suzuki  
Aisin AW Co.; Kyushu Institute Technology - Japan

IMAACA\_48: Interval approach for robust fault diagnosis  
Mayank Shekhar Jha, Genevieve Dauphin-Tanguy, Belkacem Ould Bouamama  
Ecole Centrale de Lille; Polytech-Lille - France

IMAACA\_5: Modal analysis reduction of multi-body systems with generic damping  
Loucas S. Louca  
University of Cyprus - Cyprus

**Friday 2012-09-21 13:30-15:00***Room: Messe 4***Friday 2012-09-21 15:00-15:30****COFFEE BREAK Co-Sponsored by CAL-TEK, LIO Tech Ltd and MAST - Foyer area****Friday 2012-09-21 15:30-17:00***Room: Prater 1***MAS: Simulation based Methodologies, applications and tools- Session I****Chair(s): Boris Sokolov, SPIIRAS, Academy of Sciences, Russia**

MAS\_28: Supervised training of conversive hidden non-markovian models: increasing usability for gesture recognition

Sascha Bosse, Claudia Krull, Graham Horton  
Otto-von-Guericke-University Magdeburg - Germany

MAS\_3: Developing a simulation training tool for ultrasonography

John Sokolowski, Catherine Banks, William Richards  
Old Dominion University - USA

MAS\_41: CFD simulations as a tool for flow and thermal analysis in boilers of power plants

Ivan F. Galindo-García, Ana K. Vazquez-Barragan, Miguel Rossano-Román  
Instituto de Investigaciones Electricas, Cuernavaca - Mexico

MAS\_79: A model of a biofilter for mechanical pulping waste-water treatment

Stefano Saetta, Lorenzo Tiaci, Markku Tapola, Sara Hihnala  
University of Perugia; Meehanite Technology - Italy/ Finland

MAS\_9: Remarks on Qubit neuron-based quantum neural servo controller

Kazuhiko Takahashi  
Doshisha University - Japan

**Friday 2012-09-21 15:30-17:00**

*Room: Prater 2*

**MAS: Inventory Management Simulation . Session I**

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

MAS\_24: Simulation of house prices for improved land valuation  
Terry Bossomaier, Zahid Islam, Rod Duncan, Junbin Gao  
Charles Sturt University - Australia

MAS\_71: A lot-size simulation model with batch demand with special attention towards the holding costs  
Gerrit K. Janssens, Roongrat Pisuchpen, Patrick Beullens  
Hasselt University; Kasetsart University; University of Southampton - Belgium/ Thailand/ UK

MAS\_78: Intermittent demand forecasting and stock control: an empirical study  
Adriano O. Solis, Letizia Nicoletti, Somnath Mukhopadhyay, Laura Agosteo, Antonio Delfino, Mirko Sartiano  
York University; University of Calabria; The University of Texas at El Paso - Canada/ Italy/ USA

EMSS\_127: Modeling and simulation of a one-warehouse, N-retailer inventory System: reassessing a negative binomial approximation  
Adriano O. Solis, Francesco Longo, Pietro Caruso, Elisa Fazzari  
York University; University of Calabria - Canada/ Italy

MAS\_21: Cross-docking transshipment problem approached by non linear programming and simulation analysis  
Giuseppe Aiello, Mario Enea, Cinzia Muriana  
Università degli studi di Palermo - Italy

**Friday 2012-09-21 15:30-17:00**

*Room: Prater 3*

**MAS: Production systems design and Production Scheduling - Session I**

**Chair(s): David del Rio Vilas, Unuiversity of a Coruna**

MAS\_51: Description and optimization of the structure of horizontally homogeneous parallel and distributed processing systems  
Tiit Riismaa  
Institute of Cybernetics at Tallinn University of Technology - Estonia

MAS\_11: A new design of FMS with multiple objectives using goal programming  
Berna Dengiz, Yusuf Tansel İç., Selin Coşkun, Nil Dağsalı, Damla Aksoy, Güzde Çizmeci  
Baskent University - Turkey

MAS\_30: Improvement of thermochemical finishing processes: an application of a batch tracing system  
Robert Schoech, Ruth Fleisch, Christian Hillbrand  
V-Research GmbH, Industrial Research and Development - Austria

MAS\_65: Autonomous control in event logistics  
Florian Harjes, Bernd Scholz-Reiter



University of Bremen - Germany

MAS\_73: Customer/supplier requirements and behaviour modelling & simulation in service delivery  
Thècle Alix, Gregory Zacharewicz, Bruno Vallespir  
University of Bordeaux - France

**Friday 2012-09-21 15:30-17:00**

*Room: Prater 4*

**HMS: Workshop on Modeling & Simulation in e-mobility- Session I**

**Chair(s): Thomas Kern , University of Applied Sciences**

HMS\_16: Policy evolution for large scale electric vehicle charging control  
Stephan Hutterer, Michael Affenzeller, Franz Auinger  
University of Applied Science Upper Austria - Austria

HMS\_13: Transformer modeling taking into account hysteresis behaviour  
Wolfgang Baumgartinger, Manfred Kaltenbacher, Mario Jungwirth  
University of Applied Science Wels; Vienna University of Technology - Austria

HMS\_22: Modeling rich and dynamic vehicle routing problems in Heuristiclab  
Stefan Vonolfen, Michael Affenzeller, Stefan Wagner  
University of Applied Science Upper Austria - Austria

HMS\_38: Basic architecture of the "semantically enriched e-working platform"  
Thomas Kern, Gerald Petz  
University of Applied Science Upper Austria - Austria

**Friday 2012-09-21 15:30-17:00**

*Room: Messe 5+6*

**DHSS: Defense and Homeland Security - Session III**

**Chair(s): Gabriele Oliva, Universita' Campus Biomedico di Roma; Federica Pascucci, University of Roma 3**

DHSS\_3: Beyond Serious Games: Transmedia For More Effective Training & Education  
Elaine M. Raybourn  
Sandia National Laboratories; Advanced Distributed Learning Initiative - USA

DHSS\_4: Adaptive Game-Based Tutoring: Mechanisms for Real-Time Feedback And Adaptation  
Benjamin Goldberg, Keith Brawner, Heather Holden, Robert A. Sottilare  
United States Army Research Laboratory - USA

DHSS\_6: Considerations in the Development of an Ontology for a Generalized Intelligent Framework for Tutoring  
Robert A. Sottilare  
United States Army Research Laboratory - USA

DHSS\_1: Underwater Warfare Simulation In Distributed System With Delta3d  
Won Kyung Hwam, Yongho Chung, Young N. Na, Yongjin Kwon, Sang C. Park  
Ajou University; Agency for Defense Development - South Korea

DHSS\_10: Heuristic Approach for Paths' Computing of a Marine Fleet for an Underwater Patrolling Mission  
Domenico Balestrieri, Giulia Vaccaro, Francesca Lancia, Fabio Portieri

INTECS S.p.A.; Università degli Studi Roma Tre - Italy

DHSS\_22: Experimentation on CIMIC and PSYOPS simulators

Agostino Bruzzone, Francesca Madeo, Claudia Frydman, Simonluca Poggi, Marina Massei, Gregory Zacharewicz

Simulation Team; DIME University of Genoa; LSIS; MAST srl; Lio Tech Ltd; Liophant Simulation; IMS Bordeaux University - Italy/ France/ UK

**Friday 2012-09-21 15:30-17:00**

*Room: Messe 4*

**Friday 2012-09-21 17:00-18:00**

*Room: Prater 1*

**Friday 2012-09-21 17:00-18:00**

***I3M Closing Ceremony***

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### ***I3M Next Year***

**Be Ready for I3M in Greece**

***I3M2013 in Greece***

**If you are interested in being active in I3M2013 in Greece, please visit the web site**

**[www.liophant.org/i3m/i3m2013.html](http://www.liophant.org/i3m/i3m2013.html) and/or contact the Program Chair**

**Dr.Francesco Longo ([francesco.longo@simulationteam.com](mailto:francesco.longo@simulationteam.com))**

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### **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 I3M2012:

-International Journal of Food Engineering

***Special Issue on: "Modelling and Simulation of Food Processing and Operations"***

-International Journal of Critical Infrastructures

***Special Issue on: "Homeland security: a Control System Point of View"***

-International Journal of Simulation and Process Modelling

***Special Issue on: "The Future of Modeling & Simulation: Applications in Industrial Plants, Processes and Services"***

-International Journal of Simulation and Process Modelling

**Special Issue on: "The Future of Modeling & Simulation: Training, Experimentation and Decision Making"**

-International Journal of Privacy and Health Information Management

**Special Issue on: "Modeling, Simulation and Computational Methods for Privacy and Healthcare Information"**

-Journal of Computational Science

**Special Issue on: "Multidisciplinary Modeling and Simulation"**

### **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 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 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](http://www.liophant.org/i3m/cantice)), to Dr.Marina Massei ([massei@itim.unige.it](mailto:massei@itim.unige.it)) before the deadline (September 10, 2012). For information about next edition of Gianni Cantice Award, please visit the web site [www.liophant.org/i3m/cantice](http://www.liophant.org/i3m/cantice).

### **I3M Hotel and Venue**

the I3M 2012 multiconference will be held at Hotel Courtyard by Marriott Wien Messe - Wien, Austria  
*Rooms Rates, Conditions and Reservation are available on the web site [www.liophant.org/i3m](http://www.liophant.org/i3m)*

The organizing committee has arranged special rooms rates for I3M 2012 participants booking at the Hotel Courtyard by Marriott Wien Messe :

-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.liophant.org/i3m](http://www.liophant.org/i3m) links or directly on hotel web sites

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### **Author and Chair Guidelines for I3M2012**

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.

### **I3M2013, Greece**

I3M2013 will be held next year in Greece during September 2013. 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.liophant.org/i3m/i3m2013.html](http://www.liophant.org/i3m/i3m2013.html) or write to I3M2013 Program Chair Francesco Longo ([f.longo@unical.it](mailto:f.longo@unical.it))

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### **I3M2012 Industrial Sponsors**

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### **I3M2012 Media Partners**

InderScience Publisher - International Journal of Simulation and Process Modelling (IJSPM) & International Journal of Critical Infrastructures (IJCI)  
InderScience Publisher - International Journal of Critical Infrastructures (IJCI)  
IGI Global Disseminator of Knowledge - International Journal of Privacy and Health Information Management (IJPHIM)  
Halldale Media Group - Military Simulation and Training Magazine (MS&T)  
Halldale Media Group - The Journal for Healthcare Education, Simulation and Training (MEdSim)  
Euromerci - Logistics and Transportation Journal for ASSOLOGISTICA and ASSOLOGISTICA Cultura e Formazione

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### **Synergies & Other Opportunities**

#### **SESDE**

During I3M2012, it was activated a Session of SESDE (The International Workshop on Simulation for Energy, Sustainable Development & Environment); this event will further develop during I3M2013 in Greece and you are welcome to submit proposals for tracks, sessions for the next year event

#### **WAMS2013**

WAMS2013 (the International Workshop in Applied Modeling & Simulation) will be held next year in Buenos Aires Argentina during November 2013. Please consider to be active and to participate in this thematic workshop by submitting a paper or even by proposing a track and/or a session to the WAMS Organization and Conference Chairs; for further information please check the web site: [www.liophant.org/conferences/2013/wams](http://www.liophant.org/conferences/2013/wams) or write to Dr. Marina Massei ([marina.massei@liophant.org](mailto:marina.massei@liophant.org))

#### **SIREN M&S Courses**

The Modeling & Simulation Professional Courses are organized with scientific sponsorship of MITIM-DIPTeM 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](http://www.mastsrl.eu/mscourses) or contact [info@mastsrl.eu](mailto:info@mastsrl.eu)

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***Further details on I3M Conferences are available in [www.liophant.org/i3m](http://www.liophant.org/i3m)***