



## ***I3M Multiconference Program***

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### **I3M: The 8th International Mediterranean & Latin American Modelling Multiconference**

#### ***General Chair***

Agostino G. Bruzzone - McLeod Institute of Simulation Science, Genoa Center - University of Genoa, Italy  
 Miquel Angel Piera - McLeod Institute of Simulation Science, Spanish Center – Universitat Autònoma de Barcelona, Spain

#### ***Program Chair***

Francesco Longo - MSC-LES, Italy

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### **EMSS: The 23rd European Modelling & Simulation Symposium,**

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

Francesco Longo, MSC-LES, M&SNet Center, University of Calabria, Italy  
 Priscilla Elfrey, Kennedy Space Center, NASA, USA

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

Michael Affenzeller, Upper Austrian University of Applied Sciences, Austria  
 Osman Balci, Virginia Tech, VA, USA

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### **HMS: The 13th International Conference on Harbour, Maritime & Multimodal Logistics Modelling and Simulation**

#### ***HMS General Chairs:***

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

#### ***HMS Program Chair:***

Miquel Angel Piera, MISS - Spanish Center, Univ. Autònoma de Barcelona, Spain

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### **MAS: The 10th International Conference on Modelling & Applied Simulation**

#### ***MAS General Chairs:***

Claudia Frydman, LSIS, Domaine Universitaire de Saint-Jerôme France  
 Mike McGinnis, University of Nebraska, USA

#### ***MAS Program Chairs:***

Marina Massei, Liophant Simulation

Gregory Zacharewicz, IMS Université Bordeaux 1, France

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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, Director of the M&S Net

John A. Sokolowski, Director of the Virginia Modeling, Analysis and Simulation Center, VA, USA

***DHSS Program Chair:***

Wayne Buck, HQ Supreme Allied Commander Transformation, USA

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***I3M: The International Mediterranean & Latin American Modelling Multiconference is involving EMSS, MAS, IMAACA, HMS, DHSS and Workshops; All Sessions are open to all I3M Attendees***

***EMSS: European Modelling & Simulation Symposium, 23rd Edition, Part of I3M2011***

***MAS: The International Conference on Modelling & Applied Simulation, 10th Edition, Part of I3M2011***

***IMAACA: The 5th International Conference on Integrated Modeling and Analysis in Applied Control and Automation, Part of I3M2011***

***HMS: The International Conference on Harbour, Maritime & Multimodal Logistics Modelling and Simulation, Part of I3M2011***

***DHSS: The International Defense and Homeland Security Simulation Workshop, Part of I3M2011***

***Workshops: Special Sessions***

***JS: Joint Session I3M/DHSS & CAX Forum freely open to all the attendees (i.e. Plenary Joint Opening)***

***I3M Event: A Special I3M Event (I3M Gala Dinner) is open only to I3M / DHSS/ EMSS/ HMS/ IMAACA/ MAS Attendees; CAX Forum Attendees need to pay ticket at I3M Registration Desk for Getting Access to the Event***

***CAX Forum: CAX Forum Sessions are open to CAX Forum Attendees and also to I3M / DHSS/ EMSS/ HMS/ IMAACA/ MAS Attendees, if not classified contents are presented***

***CAX Event: A Special CAX Forum Event (ICE Break Cocktail) is open only to CAX Forum Attendees; I3M / DHSS/ EMSS/ HMS/ IMAACA/ MAS Attendees need to pay ticket at CAX Forum Registration Desk for Getting Access to the Event***

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**Monday, September 12, 2011 9:00-10:30**

***Joint I3M and CAX Forum Opening - Leptis Magna I-II Gran Ballroom***

**Welcome Address I3M, Prof. Agostino G. Bruzzone, MISS DIPTM**

**Welcome Address, Col. Francesco Mastrorosa, M&S COE**

-Italian MoD Address, Rear Admiral Ruggiero Di Biase, Italian Defence General Staff

**Conference Welcome**

-CAX Forum - Prof. Erdal Cayirci, ACT

-EMSS - Prof. Francesco Longo, MSC-LES

-HMS - Prof. Yuri Merkurjev, MIK Riga TU

-MAS Conference - Prof. Gregory Zacharewicz, IMS Université Bordeaux 1, France

-IMAACA - Prof. Sergio Junco, Rosario University

-DHSS Address - Prof. John Sokolowski, VMASC ODU

**Welcome of Societies & Networks**

-I\_M\_CS - Prof. Miquel Angel Piera, UAB Barcelona

-Liophant - Dr. Marina Massei, MISS DIPTM

-MISS - Prof. Gerson Cunha, GRVA LAMCE COPPE UFRJ

-Simulation Team - Dr. Alberto Tremori, University of Genoa

-MIMOS - Dr. Davide Borra, No Real

-M&S Net - Prof. Claudia Frydman, LSIS Marseille

**Monday, September 12, 2011 10:30-11:00**

***COFFEE BREAK Co-Sponsored by PRESAGIS - Exhibition Area: Leptis Magna IV and Bar***

**Monday, September 12, 2011 11:00-12:30**

***Joint I3M and CAX Forum Opening - Leptis Magna I-II Gran Ballroom***

**Plenary Speeches:**

**Supply Chain Dynamics: Simulation Based Training & Education**

-Yuri Merkurjev, Director of MIK, Riga TU

**Human Behavior Modeling as an Enabling Technology for Our World Challenges**

-Agostino G. Bruzzone, Director of M&S Net

**Health Care and Medicine as Opportunity for M&S**

-Joseph Rosen, Dartmouth Hitchcock Medical Center

**Hymn to the Fallen and National Anthem by Italian Army Band****Monday, September 12, 2011 11:00-12:30*****LUNCH Co-Sponsored by CAE, CAL-TEK, MAST*****Monday, September 12, 2011 13:30-15:00***Room: Massalia I***EMSS: Simulation in Healthcare Workshop - Session 1*****Chair(s): Witold Jacak, Werner Backfrieder, University of Applied Sciences Upper Austria***

EMSS\_29: Side Differences in MRI-Scans in Facial Palsy: 3-D Modeling, Segmentation and Gray Value Analysis

Paolo Gargiulo, Carsten Michael Klingner, Egill A. Friðgeirsson, Hartmut Peter Burmeister, Gerd Fabian Volk, Orlando Guntinas-Lichius

University Hospital Landspítali; University of Reykjavik; Hans Berger Clinic for Neurology University Hospital Jena Friedrich-Schiller-University; Institute of Diagnostic and Interventional Radiology University Hospital Jena Friedrich-Schiller-University; University Hospital Jena Friedrich-Schiller-University - Italy/Iceland

EMSS\_31: Accelerated fully 3D iterative reconstruction in SPECT

Werner Backfrieder, Gerald Zwettler

University of Applied Sciences Upper Austria, Institute of Software Engineering, Campus Hagenberg - Austria

EMSS\_33: Gyrus and Sulcus Modelling Utilizing a Generic Topography Analysis Strategy for Processing Arbitrarily Oriented 3D Surfaces

Gerald Zwettler, Werner Backfrieder

School of Informatics Communications/Media, Upper Austria University of Applied Sciences; Bio- and Medical Informatics, Research and Development Department, Upper Austria University of Applied Sciences - Austria

EMSS\_42: Effect of Reject Option on Classifier Performance

Stephan Dreiseitl, Melanie Osl

Upper Austria University of Applied Sciences at Hagenberg; Division of Biomedical Informatics, UCSD - Austria/ USA

EMSS\_45: Providing Semantic Interoperability for Integrated Healthcare Using a Model Transformation Approach

Barbara Franz, Herwig Mayr

Upper Austria University of Applied Sciences, Research Center Hagenberg; Upper Austria University of Applied Sciences, Department of Medical Informatics and Bioinformatics - Austria

**Monday, September 12, 2011 13:30-15:00***Room: Massalia II***EMSS: Industrial Processes and Engineering MS - Session 1*****Chair: Cesar De Prada, Universidad de Valladolid, Spain***

EMSS\_148: Service Optimization For System-Of-Systems Based On Pool Scheduling And Inventory Management Driven By Smart Simulation Solutions

Agostino Bruzzone, Marina Massei, Enrico Bocca

MISS DIPTeM University of Genoa; Simulation Team - Italy

EMSS\_63: Revisitation of The Simulation Methodologies and Applications in Manufacturing  
T. Radha Ramanan, Ihsan Sabuncuoglu  
Mechanical Engineering Department, National Institute of Technology  
Calicut; Department of Industrial Engineering, Bilkent University - India/ Turkey

EMSS\_69: A Business Process Modeling Approach To Support Production Systems Analysis And Simulation  
Claudia Battista, Giulia Dello Stritto, Francesco Giordano, Raffaele Iannone, Massimiliano M. Schiraldi  
"Tor Vergata" University of Rome, Department of Enterprise Engineering; University of Salerno,  
Department of Industrial Engineering - Italy

EMSS\_137: Business Process Simulation for Management Consultants: A DEVS-based Simplified Business Process Modelling Library  
Igor Rust, Deniz Cetinkaya, Mamadou Seck, Ivo Wenzler  
Systems Engineering Group; Faculty of Technology, Policy, Management, Delft University of Technology;  
Accenture Nederland - The Netherlands

EMSS\_37: 3D Physics Based Modeling and Simulation of Intrinsic Stress in SiGe for Nano PMOSFETs  
Abderrazzak EL boukili  
Al Akhawayn University - Morocco

**Monday, September 12, 2011 13:30-15:00**

*Room: Mylasa*

**MAS: Modeling and Simulation in Food, Beverage and Perishable Goods Industry - Session 1**

***Chair: Andrea Grassi, University of Modena and Reggio Emilia, Italy***

MAS\_30: Modelling noni (*Morinda citrifolia* L) pulp spray drying using a crossed mixture-process design and feed optimization

Eliosbel Márquez González, Débora Castro Espín, Margarita Núñez de Villavicencio, José Luis Rodríguez  
Food Industry Research Institute, Cuba; Finlay Institute - Cuba

MAS\_35: Release Kinetics of Cardamom Oil From Microcapsules Prepared By Spray And Freeze Drying  
Masoud Najaf Najafi, Rassoul Kadkhodae  
Institute of Scientific - Applied Higher Education Jihad-e- Agriculture, Iran; Department of Food  
Technology, Khorasan Research Institute for Food Science and Technology, Mashhad - Iran

MAS\_97: A Multi-Item Multi-Rack Approach for Designing LIFO Storage Systems: a Case Study from the Food Industry  
Elisa Gebennini, Andrea Grassi, Bianca Rimini, Rita Gamberini  
Department of Science and Engineering Methods, University of Modena and Reggio Emilia - Italy

MAS\_72: Advanced Design of A Static Dryer for Pasta with Simulation Tools  
Mattia Armenzoni, Federico Solari, Davide Marchini, Roberto Montanari, Gino Ferretti  
Department of Industrial Engineering, Faculty of Engineering, University of Parma - Italy

MAS\_73: Bakery Production Scheduling Optimization - a PSO Approach  
Florian Hecker, Walid Hussein, Mohamed Hussein, Thomas Becker  
Department for Process Analysis and Cereal Technology (FG Prozessanalytik und Getreidetechnologie),  
University of Hohenheim; Department of Life Science Engineering (Ingenieurwissenschaften für  
Lebensmittel und biogene Rohstoffe Arbeitsgruppe Bio-Prozesstechnik und Prozessanalyse, Technische  
Universität München - Germany

**Monday, September 12, 2011 13:30-15:00***Room: Cesarea***MAS: Decision support Systems Applications - Session 1****Chair: Fabio De Felice, University of Cassino, Italy**

MAS\_4: An Efficient Hybrid Approach based on SVM and Binary ACO for feature Selection  
 Hayet Mouss, Ouahab kadri, Fouad Merah, Adel Abdelhadi, Djamel Mouss  
 Laboratory Automation & Production Engineering University of Batna; Department of Mathematics  
 University of Khenchela - Algeria

MAS\_15: Comparing Decision Support Tools for Cargo Screening Processes  
 Peer-Olaf Siebers, Galina Sherman, Uwe Aickelin, David Menachof  
 School of Computer Science, Nottingham University; Business School, Hull University - UK

MAS\_19: Restoring Aquatic Ecosystems on the Basis of the GMAA DSS  
 Antonio Jiménez, Alfonso Mateos  
 Departamento de Inteligencia Artificial, Universidad Politécnica de Madrid - Spain

MAS\_57: Data Presentation and Transformation in Train Schedule Information Systems  
 Eugene Kopytov, Vasilijš Demidovs, Natalia Petukhova  
 Transport and Telecommunication Institute, Riga; State Joint-Stock Company "Latvian Railway" - Latvia

MAS\_103: Modeling Logistics & Operations in a Port Terminal for Environmental Impact Evaluation and Analysis  
 Marina Massei, Francesca Madeo, Francesco Longo  
 Simulation Team University of Genoa; Simulation Team MSC-LES Univ.of Calabria - Italy

**Monday, September 12, 2011 13:30-15:00***Room: Hama***IMAACA: Bond Graph - session 1****Chair: Sergio Junco, Universidad Nacional de Rosario, Argentina**

IMAACA\_19: A new Bond-Graph Model of Photovoltaic Cells

Stephan Astier, Guillaume Fontes, Xavier Roboam, Christophe Turpin, Frédéric Gailly, Laurianne Menard  
 University of Toulouse - France

IMAACA\_27: Study of Coupled Dynamics Between Body And Legs Of A Four Legged Walking Robot  
 Krishnan L V, P M Pathak, S C Jain  
 Robotics and Control Laboratory, Mechanical and Industrial Engineering Department, Indian Institute of  
 Technology - India

IMAACA\_55: Bond Graph Modeling of Reverse-Flow Monolith Reactor for Air Pollutant Abatement  
 Antoine Riaud, Sebastien Paul, Genevieve Dauphin-Tanguy  
 Ecole Centrale de Lille; Univ. Lille Nord de France; CNRS UMR818, Villeneuve d'Ascq Cedex; CNRS  
 FRE 3303, LAGIS, Ecole Centrale de Lille - France

IMAACA\_65: New Concept of Modeling To Predict Temperature In Oil-Hydraulic Cylinder Chamber  
 Considering Internal Flow  
 Kazuhiro Tanaka, Kouki Tomioka, Masaki Fuchiwaki, Katsuya Suzuki  
 Kyushu Institute of Technology; NITTO DENKO Co - Japan

IMAACA\_66: Modeling and Simulation of Power Hacksaw Machine Using Bond Graph

Anand Vaz, Aman Maini

Department of Mechanical Engineering, Dr. B.R. Ambedkar National Institute of Technology; Department of Mechanical Engineering, DAV Institute of Engineering & Technology - India

**Monday, September 12, 2011 13:30-15:00**

*Room: Sabratha*

**HMS: MS in Logistics Traffic and Transportation - session 1**

**Chair: Massimo Tronci, University of Rome La Sapienza, Italy**

HMS\_1: Investigation of Financial Flows in Logistics Using Multivariate Statistical Modelling Methods

Vladimirs Jansons, Vitalijs Jurenoks, Konstantins Didenko

Riga Technical University - Latvia

HMS\_32: Performance Comparison between Immediate and Nonimmediate Passenger Guidance in Group Control for a Multi-Car Elevator System

Shunji Tanaka, Takuto Miyoshi

Department of Electrical Engineering, Kijoto University - Japan

HMS\_15: Modelling of multimodal freight transportation system using process approach

Eugene Kopytov, Dmitry Abramov

Transport and Telecommunication Institute - Latvia

HMS\_25: Extended Great Deluge Approach For The Integrated Dynamic Berth Allocation And Crane Assignment Problem

Neila El Asli, Thien-My Dao, Séraphin Abou

École de technologie supérieure; University of Minnesota Duluth - Canada/ USA

HMS\_14: Identification Of Constitutive Characteristics For Adaptable Logistics Chains As Basis For An Assessment By Simulation

Henrik Gommel, Markus Florian, Lothar März, Daniel Palm

Fraunhofer Austria Research GmbH; Vienna University of Technology; LOM Innovation GmbH & Co KG - Austria/ Germany

**Monday, September 12, 2011 15:00-15:30**

**COFFEE BREAK Co-Sponsored by PRESAGIS - Exhibition Area: Leptis Magna IV and Bar**

**Monday, September 12, 2011 15:30-17:00**

*Room: Massalia I*

**EMSS: Simulation in Healthcare Workshop - Session 2**

**Chair: Murat M.Günel, Turkish Naval Academy, Turkey**

EMSS\_60: Reconstruction of Clinical Workflows based on the IHE integration profile "Cross-Enterprise Document Workflow"

Melanie Strasser, Franz Pfeifer, Emmanuel Helm, Andreas Schuler, Josef Altmann

Upper Austria University of Applied Sciences, Research & Development; Upper Austria University of Applied Sciences,

School of Informatics, Communications, and Media - Austria

EMSS\_91: Using Query Extension And User Feedback To Improve Pubmed Search

Viktoria Dorfer, Sophie A. Blank, Stephan M. Winkler, Thomas Kern, Gerald Petz, Patrizia Faschang

University of Applied Sciences Upper Austria, School of Informatics, Communications and Media, Bioinformatics Research Group; University of Applied Sciences Upper Austria, School of Management, Digital Economy Research Group - Austria

EMSS\_86: Modelling and Simulation of A Wireless Body Area Network Prototype For Health Monitoring  
Yeray Callero, Rosa María Aguilar

Department of Systems Engineering and Automation, and Computer Architecture, University of La Laguna - Spain

EMSS\_96: CT Based Models for Monitoring Bone Changes in Paraplegic Patients Undergoing Functional Electrical Stimulation

Páll Jens Reynisson, Benedikt Helgason, Stephen J. Ferguson, Thordur Helgason, Rúnar Unnþórsson, Páll Ingvarsson, Helmut Kern, Winfried Mayr, Ugo Carraro, Paolo Gargiulo

School of Engineering and Natural Sciences, Faculty of Industrial Engineering, Mechanical Engineering and Computer Science, University of Iceland; Computer Science, University of Iceland; Department of Development and Consultancy UTS, Landspítali-University Hospital, Reykjavik, Iceland; Department of Biomedical engineering, University of Reykjavik, Iceland; Department of Rehabilitation Medicine, Landspítali-University Hospital; Ludwig Boltzmann Institute of Electrostimulation and Physical Rehabilitation, Department of Physical

Medicine, Wilhelminenspital. Vienna, Austria; Medical University of Vienna, Center of Biomedical Engineering and Physics; Laboratory of Translational Myology of the University of Padova, Department of Biomedical Sciences - Austria/ Iceland/ Italy

EMSS\_143: Simulation Of Vascular Volume Pulsation Of Radial Index Artery

Pichitra Ungpaioj, Masahiro Shibata

Department of Bio-science and Engineering, College of Systems Engineering and Science, Shibaura Institute of Technology - Japan

### **Monday, September 12, 2011 15:30-17:00**

*Room: Massalia II*

### **EMSS: Industrial Processes and Engineering MS - Session 2**

**Chair: Cesar De Prada, Universidad de Valladolid, Spain**

EMSS\_95: Automatic Selection of Relevant Data During Ultrasonic Inspection

Thouraya Merazi Meksen, Malika Boudraa, Bachir Boudraa

University of Science & Technology H. Boumedienne - Algeria

EMSS\_98: Eigenfrequency Based Sensitivity Analysis Of Vehicle Drivetrain Oscillations

Oliver Manuel Krieg, Jens Neumann, Bernhard Hoess, Heinz Ulbrich

BMW Group Research and Technology; BMW AG; Institute of Applied Mechanics, Technical University of Munich - Germany

EMSS\_122: A Simulation-Based Capacity Planning Model: A Case Study In A Contract Furnishing Sme

Nadia Rego Monteil, David del Rio Vilas, Diego Crespo Pereira, Rosa Rios Prado, Arturo Nieto de Almeida  
Integrated Group for Engineering Research (GII), University of A Coruna - Spain

EMSS\_25: Simulation Of Gesmey Generator Manoeuvres

Amable López, José A. Somolinos, Luis R. Núñez, Alfonso M. Carneros

Universidad Politécnica de Madrid; F.C.T. SOERMAR - Spain

EMSS\_11: A Local Search Genetic Algorithm for the Job Shop Scheduling Problem

Mebarek Kebabla, Leila Hayet Mouss, Nadia Mouss



Université Hadj Lakhdar - Algeria

**Monday, September 12, 2011 15:30-17:00**

*Room: Mylasa*

**MAS: Modeling and Simulation in Food, Beverage and Perishable Goods Industry - Session 2**

**Chair: Giuseppe Vignali, University of Parma, Italy**

MAS\_38: Mechanical Damage to Navy Beans as Affected by Moisture Content, Impact Velocity and Seed Orientation

Feizollah Shahbazi

Lorestan University Khoram Abad - Iran

MAS\_39: How important is price leadership in the UK fresh fruit and vegetable market?

Cesar Revoredo-Giha, Alan Renwick

Land Economy and Environment Research Group, Scottish Agricultural College (SAC) - UK

MAS\_51: Modelling and interpolation of spatial temperature during food transportation and storage by the Variogram

Reiner Jedermann, Javier Palafox-Albarrán, Pilar Barreiro, Luis Ruiz-García, Jose Ignacio Robla, Walter Lang

IMSAS, University of Bremen; Universidad Politécnica de Madrid; National Center for Metallurgical Research, Spanish Council for Scientific Research (CENIM-CSIC) - Germany/ Spain

MAS\_106: Modelling & Simulation of Sterilization Process of Pouch Packaging in an Aseptic Lines

Paolo Casoli, Gabriele Copelli, Michele Manfredi, Giuseppe Vignali

Department of Industrial Engineering, University of Parma; Interdepartmental Center SITEIA, Parma, University of Parma; Interdepartmental Center CIPACK, University of Parma - Italy

**Monday, September 12, 2011 15:30-17:00**

*Room: Cesarea*

**MAS: Decision support Systems Applications - Session 2**

**Chair: Fabio De Felice, University of Cassino, Italy**

MAS\_63: Impact of Occupants Behavior on Building Energy Use: an Agent-Based Modeling Approach

Carol Menassa, Elie Azar

University of Wisconsin-Madison; Department of Civil and Environmental Engineering at the University of Wisconsin-Madison - USA

MAS\_69: Building a System for Automated Modeling and Simulation of Plants

Robert Schöech, Susanne Schmid, Christian Hillbrand

V-Research GmbH, Industrial Research and Development - Austria

MAS\_75: RFID-Based Real-Time Decision Support in Supply Chains

Tobias Hegmanns, Michael Toth

Fraunhofer-Institute for Material Flow and Logistics - Germany

MAS\_89: Simulation as a Decision Support Tool in Maintenance Float Systems – System Availability Versus Total Maintenance Cost

Francisco Peito, Guilherme Pereira, Armando Leitão, Luís Dias

Industrial Management Dpt., Polytechnic Institute of Bragança; Research Centre ALGORITMI, University of Minho - Portugal

MAS\_90: ANP Approach For Improving Public Participation In Strategic Environmental Management Planning

Fabio De Felice, Antonella Petrillo

D.i.M.S.A.T - Department of Mechanism, Structures and Environment - University of Cassino - Italy

**Monday, September 12, 2011 15:30-17:00**

*Room: Hama*

**IMAACA: Bond Graph Modeling - session 2**

**Chair: Sergio Junco, Universidad Nacional de Rosario, Argentina**

IMAACA\_15: Analytical Redundancy Relations from Bond Graphs of Hybrid System Models

Wolfgang Borutzky

Bonn-Rhein-Sieg University of Applied Sciences - Germany

IMAACA\_22: Passive Fault Tolerant Control: A Bond Graph Approach

Matías Nacusse, Sergio Junco

LAC, Laboratorio de Automatización y Control, Departamento de Control, Facultad de Ciencias Exactas, Ingeniería y Agrimensura, Universidad Nacional de Rosario - Argentina

IMAACA\_49: Algebraic characterization of the invariant zeros structure of LTV bond graph models

Dapeng Yang, Christophe Sueur, Geneviève Dauphin-Tanguy

Ecole Centrale de Lille - France

IMAACA\_62: Diodes and an alternative Procedure to derive Equations from Bond Graph models by exploiting a Linear Graph Approach

Noe Villa-Villaseñor, Gilberto González-Avalos, Jesús Rico-Melgoza

Universidad Michoacana de San Nicolás Hidalgo - Mexico

IMAACA\_63: Bond Graph Modeling Of A Hydraulic Vibration System: Simulation And Control

Farid Arvani, Geoff Rideout, Nick Krouglicof, Steve Butt

Faculty of Engineering, Memorial University of Newfoundland - Canada

**Monday, September 12, 2011 15:30-17:00**

*Room: Sabratha*

**HMS: MS in Logistics Traffic and Transportation - session 2**

**Chair(s): Francesco Costantino, Giulio Di Gravio, University of Rome La Sapienza Italy**

HMS\_28: Using Simulated Sensor Images for Object Recognition of Universal Goods for Automatic Unloading of Containers

Bernd Scholz-Reiter, Hendrik Thamer

BIBA – Bremer Institut für Produktion und Logistik GmbH at the University of Bremen - Germany

HMS\_50: Modeling and Simulation as Support for Decisions Making in Petrochemical Marine Logistics

Agostino Bruzzone, Alberto Tremori, Enrico Bocca, Francesca Madeo, Federico Tarone, Giovanni Gazzale

MISS-DIPTEM University of Genoa; MAST Srl; Simulation Team; Liophant Simulation - Italy

HMS\_22: Modelling Evaporation Duct Effect in Radar Simulation

Koray Basbilen, Murat Efe, Orkun Zorba

Meteksan Defence Industry Inc; Ankara University, Electronics Engineering Department - Turkey

HMS\_34: SIMSHUNT – A Fast Simulation Tool For Capacity Analysis of Shunting Yards

Benno Hüttler, Manfred Gronalt, Jan Zazgornik

Institute of Production and Logistics, University of Natural Resources and Life Sciences, Vienna - Austria

HMS\_30: An LPV Model for a Marine Cooling System with Transport Delays  
Michael Hansen, Jakob Stoustrup, Jan Dimon Bendtsen  
A.P. Møller; Aalborg University - Denmark

**Monday, September 12, 2011 17:15-18:45**

*Room: Massalia I*

**Special Session on Medical Simulation: Medsim**

**Chair: Joseph Rosen, Dartmouth College, USA**

"Medical Simulation Overview" J.Rosen -Dartmouth College - USA  
"Medical Simulation & Education" J.Riess - Educational Training Solution - USA  
"Team Training and Safety",  
G.Santos -Dartmouth College - USA  
"Medical Crisis", E.Santos, IDS UTEP - USA

**Monday, September 12, 2011 17:15-18:45**

*Room: Massalia II*

**Special Joint I3M/CAX Forum 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

**Monday, September 12, 2011 17:15-18:45**

*Room: Mylasa*

**Special Joint I3M/CAX Forum Session: SimSummit Meeting**

**Chair: Bill Waite, Aegis Technologies, USA**

SimSummit Agenda & Partner Organization Panel

**Social Events**

**Monday, September 12, 2011 19:00-19:30**

***Leptis Magna IV Introduction to Vatican Museums guided tour  
(CAX Forum 2011 & I3M participants plenary session)***

**Monday, September 12, 2011 20:00-21:30**

***20:00 ICE Break Cocktail - Access Available just to CAX Forum Attendees - No Free Access for I3M Attendees***

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**Tuesday, September 13, 2011 9:00-10:30**

*Room: Massalia I*

**EMSS: Simulation in Healthcare Workshop - Session 3**

**Chair: Jerzy W. Rozenblit, University of Arizona, USA**

EMSS\_94: On the Use of Estimated Tumor Marker Classifications in Tumor Diagnosis Prediction - A Case Study for Breast Cancer

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

Upper Austria University of Applied Sciences, School for Informatics, Communications, and Media, Heuristic and Evolutionary Algorithms Laboratory; General Hospital Linz, Central Laboratory - Austria

EMSS\_74: Missing Data Estimation For Cancer Diagnosis Support

Witold Jacak, Karin Proell

Department of Software Engineering Upper Austria University of Applied Sciences Hagenberg; Department of Medical Informatics and Bioinformatics Upper Austria University of Applied Sciences Hagenberg - Austria

EMSS\_93: New Genetic Programming Hypothesis Search Strategies for Improving the Interpretability in Medical Data Mining Applications

Michael Affenzeller, Christian Fischer, Gabriel Kronberger, Stephan M. Winkler, Stefan Wagner  
Upper Austria University of Applied Sciences, School for Informatics, Communications, and Media, Heuristic and Evolutionary Algorithms Laboratory - Austria

EMSS\_20: Denervated Muscle Undergoing Electrical Stimulation: Development of Monitoring Techniques Based on Medical Image Modelling

Paolo Gargiulo, Thomas Mandl, Egill A. Friðgeirsson, Iliara Bagnaro, Thordur Helgason, Páll Ingvarsson, Marcello Bracale, Winfried Mayr, Ugo Carraro, Helmut Kern,  
University Hospital Landspítali; University of Reykjavik; University of Applied Sciences Technikum Wien; University Federico II Napoli; University Hospital, Reykjavik; Center of Biomedical Engineering and Physics Wien; University of Padova; Ludwig Boltzmann Institute of Electrostimulation and Physical Rehabilitation - Austria/ Italy/ Iceland

EMSS\_22: 3D Segmented Model of Head For Modelling Electrical Activity Of Brain

Egill A. Friðgeirsson, Paolo Gargiulo, Ceon Ramon, Jens Haueisen

Department of Development and Consultancy UTS; University of Reykjavik; Technical University Ilmenau; University of Washington - Germany/ Italy/ USA

**Tuesday, September 13, 2011 9:00-10:30**

*Room: Massalia II*

**EMSS: Industrial Processes and Engineering MS - Session 3**

**Chair: Cesar De Prada, Universidad de Valladolid, Spain**

EMSS\_41: Simultaneous Scheduling of Machines And Operators in a Multi-Resource Constrained Job-Shop Scenario

Lorenzo Tiacci, Stefano Saetta

Dipartimento di Ingegneria Industriale – Università degli Studi di Perugia - Italy

EMSS\_47: Sugar Factory Benchmark

Rogelio Mazaeda, Alexander Rodriguez, Alejandro Merino, Cesar De Prada, Luis Felipe Acebes

Systems and Automation Department, School of Industrial Engineering, University of Valladolid - Spain

EMSS\_127: Design and Development Of Data Analysis Modules For The Aermod And Calpuff Simulation Models

Ann Wellens, Gamar García

Facultad de Ingeniería, UNAM - Mexico

MAS\_104: Modelling a Traceability System for a Food Supply Chain: Standards, Technologies and Software Tools

Bruno De Cindio, Francesco Longo, Giovanni Mirabelli, Teresa Pizzuti  
Department of Modeling for Engineering, University of Calabria - Italy

HMS\_29: Logistic Model For The Distribution of Goods in The E-Grocery Industry: A New Adaptation of The Vehicle Routing Problem

Beatriz García Jiménez, Fernando Gómez González  
Iberia Client Solutions, Uti; Departamento de Sistemas Informáticos, Escuela Técnica Superior de Ingeniería ICAI, Universidad Pontificia Comillas de Madrid - Spain

**Tuesday, September 13, 2011 9:00-10:30**

*Room: Mylasa*

**MAS: Modeling and Simulation in Food, Beverage and Perishable Goods Industry - Session 3**

**Chair: Andrea Grassi, University of Modena and Reggio Emilia, Italy**

MAS\_76: Feature Selection for Datasets of Wine Fermentations

Antonio Mucherino, Alejandra Urtubia  
CERFACS, Toulouse; Universidad Tecnica Federico Santa Maria, Valparaiso - Chile/ France

MAS\_84: Object-Oriented Model of Fixed-Bed Drying of Coffee Berries

Emilio de Souza Santos, Paulo Cesar Corrêa, Brian Lynn Steward, Daniel Marçal de Queiroz  
CODEVASF, Brasilia/DF – Brazil; Department of Agricultural Engineering, Viçosa Federal University; Dep. of Agricultural and Biosystem Engineering, Iowa State University - Brazil/ USA

MAS\_88: A Computationally Efficient and Scalable Shelf Life Estimation Model for Wireless Temperature Sensors in the Supply Chain

Ismail Uysal, Jean-Pierre Emond, Gisele Bennett  
College of Technology and Innovation, University of South Florida Polytechnic; Georgia Tech Research Institute, Georgia Institute of Technology - USA

MAS\_92: Design and Development of Realistic Food Models with Well Characterised Micro and Macro-Structure and Composition

Monique Axelos, Jean-Dominique Daudin, Guy DellaValle, Nathalie Perrot, Catherine MGC Renard, Caroline Sautot, Jean-Louis Sebedio  
INRA, Division CEPIA, Nantes; INRA-Transfert, Nantes; INRA, Division AlimH, Nantes - France

MAS\_93: From Expert Knowledge to Qualitative Functions: Application to The Mixing Process

Kamal Kansou, Guy Della Valle, Amadou Ndiaye  
INRA, Nantes; INRA, CNRS, Univ. Bordeaux - France

**Tuesday, September 13, 2011 9:00-10:30**

*Room: Cesarea*

**MAS: Industrial Engineering: Manufacturing, Logistics and Construction - Session 1**

**Chair: Murat M.Günal, Turkish Naval Academy, Turkey**

MAS\_10: Study for a Mechanism Aided by Asynchronous Actuator Powered by Asynchronous Diesel Generator

Meglouli Hocine, Ikhlef Boualem  
Faculty of hydrocarbons and chemicals. University of Boumerdes - Algeria

MAS\_33: Factory Layout Planner: How to speed up the factory design process in a natural and comfortable way

Antonio Avai, Giovanni Dal Maso, Paolo Pedrazzoli, Diego Rovere  
Technology Transfer System s.r.l., Milano; SUPSI-ICIMSI, Manno - Italy/ Switzerland

MAS\_79: The Use of Simulation as a Pedagogical Tool in Construction Education

Ronald Ekyalimpa, Jangmi Hong, Simaan AbouRizk  
Dept. of Civil and Environmental Engineering, Univ. of Alberta - Canada

MAS\_82: A Survey on Performance Modelling and Simulation of SAP Enterprise Resource Planning Systems

Manuel Mayer, Stephan Gradl, Veronika Schreiber, Harald Kienegger, Holger Wittges, Helmut Krcmar  
Technische Universitaet Muenchen - Germany

MAS\_83: Understanding the Performance Behavior of a SAP ERP System for the Use of Queuing Models

Stephan Gradl, Manuel Mayer, Alexandru Danciu, Holger Wittges, Helmut Krcmar  
Technische Universitaet Muenchen - Germany

**Tuesday, September 13, 2011 9:00-10:30**

*Room: Hama*

**IMAACA: Process Monitoring, Fault Detection and Diagnosis 1.- session 1**

**Chair: Geneviève Dauphin-Tanguy, École Centrale de Lille, France**

IMAACA\_30: Multi-scale extension of discriminant PLS for fault detection and diagnosis

Mohammad Sadegh Emami Roodbali, Mehdi Shahbazian  
Petroleum University of Technology - Iran

IMAACA\_36: Application of Nonlinear Model Predictive Control Based On Different Models To Batch Polymerization Reactor

Sevil Cetinkaya, Duygu Anakli, Zehra Zeybek, Hale Hapoglu, Mustafa Alpaz  
Cumhuriyet University, Department of Chemical Engineering; Ankara University, Department of Chemical Engineering - Turkey

IMAACA\_42: Process Monitoring Based On Measurement Space Decomposition

José Luis Godoy, Jorge Ruben Vega, Jacinto Luis Marchetti  
INTEC (CONICET-Universidad Nacional del Litoral) - Argentina

IMAACA\_60: Geometric Properties of Kernel Partial Least Squares For Non-Linear Process Monitoring

José L. Godoy, Germán Bustos, Alejandro H. Gonzalez, Jacinto L. Marchetti  
INTEC (CONICET and Universidad Nacional del Litoral) - Argentina

**Tuesday, September 13, 2011 9:00-10:30**

*Room: Sabratha*

**HMS: Advanced Models and Applications of Logistics and Manufacturing - session 1**

**Chair(s): Teresa Murino, Liberatina Santillo, University of Naples Federico II, Italy**

HMS\_24: Convex Extension Of Discrete-Convex Functions And Applications In Optimal Design Of Complicated Logistic, Manufacturing And Processing Environments

Tiit Riismaa  
Institute of Cybernetics at Tallinn University of Technology - Estonia

HMS\_27: Recursive Algorithm For Optimization The Structure Of Complicated Logistic, Manufacturing And Processing Environments

Tiit Riismaa

Institute of Cybernetics at Tallinn University of Technology - Estonia

HMS\_47: Pull Production Policies: Comparative Study Through Simulative Approach

Mosè Gallo, Guido Guizzi, Giuseppe Naviglio

Department of Materials Engineering and Operations Management, University of Naples "Federico II" - Italy

HMS\_35: Decision Support In A Service Firm

Mosè Gallo, Teresa Murino, Elpidio Romano, Massimo Fasano

Department of Material Engineering and Materials, University of Naples "Federico II" - Italy

HMS\_48: Application Of Tramo-Seats Automatic Procedure For Forecasting Sporadic And Irregular Demand Patterns With Seasonality

F. Lolli, R. Gamberini, A. Regattieri, B. Rimini, A. Grassi, P. Belluti

Department of Engineering Sciences and Methods, University of Modena and Reggio Emilia; Department of Industrial and Mechanical Plants, University of Bologna - Italy

**Tuesday, September 13, 2011 10:30-11:00**

***COFFEE BREAK Co-Sponsored by PRESAGIS - Exhibition Area: Leptis Magna IV and Bar***

**Tuesday, September 13, 2011 11:00-12:30**

*Room: Massalia I*

**EMSS: Simulation and Artificial Intelligence - Session 1**

***Chair: Tudor Niculiu, University "Politehnica" of Bucharest, Romania***

EMSS\_150: Maritime Security: Emerging Technologies for Asymmetric Threats

Agostino G. Bruzzone, Marina Massei, Alberto Tremori, Francesco Madeo, Federico Tarone, Francesco Longo

MISS-DIPTEM, University of Genoa; Simulation Team; MSC-LES, Mechanical Dept, University of Calabria - Italy

EMSS\_136: Neighborhood Concept For Modeling An Adaptive Routing In Wireless Sensors Network

Jan Nikodem, Maciej Nikodem, Ryszard Klempous, Marek Woda, Zenon Chaczko

Wrocław University of Technology; University of Technology Sydney - Australia/ Poland

EMSS\_117: Synthesis of Feedback Controller for Stabilization of Chaotic Henon Map Oscillations by Means of Analytic Programming

Roman Senkerik, Zuzana Oplatkova, Ivan Zelinka, Donald Davendra, Roman Jasek

Tomas Bata University in Zlin, Faculty of Applied Informatics; Technical University of Ostrava, Faculty of Electrical Engineering and Computer Science - Czech Rep.

EMSS\_59: An Asynchronous Parallel Hybrid Optimization Approach To Simulation-Based Mixed-Integer Nonlinear Problems

Kathleen Fowler, Timothy Kopp, Jacob Orsini, Josh Griffin, Genetha Gray

Department of Mathematics and Computer Science, Clarkson University; Sandia National Labs - USA

EMSS\_3: Controllable Equivalent Resistance CMOS Active Resistor with Improved Accuracy and Increased Frequency Response

Cosmin Popa

University Politehnica of Bucharest - Romania

**Tuesday, September 13, 2011 11:00-12:30**

*Room: Massalia II*

**EMSS: Industrial Processes and Engineering MS - Session 4**

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

EMSS\_128: Development of a Simulation Tool For Consequence Analysis In Industrial Instalations  
Victor Pérez, Gamar García, Maria Guadalupe Ávila, Francisco Castellanos, Ann Wellens  
Facultad de Ingeniería, UNAM - Mexico

EMSS\_16: Optimization of Automated Guided Vehicle Rules for a Multiple-load AGV System in a FMS Environment

Parham Azimi, Masuomesh Gardeshi  
Islamic Azad University; Allameh Tabatabaee University - Iran

EMSS\_18: Simulation Helps Assess and Increase Airplane Manufacturing Capacity  
Marcelo Zottolo, Edward Williams, Onur Ulgen  
PMC - USA

EMSS\_72: dSPACE based Direct-driven Permanent Magnet Synchronous wind Power System Modeling and Simulation

Yan-xia Shen, Xiang-xia Liu, Zhi-cheng Ji, Ting-long Pan  
Institute of Electrical Automation, Jiangnan University - China

EMSS\_151: On the Short Period Production Planning in Industrial Plants: A Real Case Study  
Agostino G. Bruzzone, Francesco Longo, Letizia Nicoletti, Rafael Diaz  
MIS-DIPTEM, University of Genoa; MSC-LES, University of Calabria; CAL-TEK S.r.l.; VMASC, Old Dominion University - Italy/ USA

**Tuesday, September 13, 2011 11:00-12:30**

*Room: Mylasa*

**MAS: Industrial Engineering: Manufacturing, Logistics and Construction - Session 2**

**Chair: Gregory Zacharewicz, IMS Université Bordeaux 1, France**

MAS\_48: Benchmarking Real-World Job-Shop Scheduling using a Genetic Algorithm with a Simulation Approach

Peter Steininger  
Steinbuch Centre for Computing (SCC); Karlsruhe Institute of Technology (KIT) - Germany

MAS\_44: Modelling and Analysing the Impact of Manual Handling Processes in Seaports

Bernd Scholz-Reiter, Michael Gorges, Ralf Matthies  
BIBA – Bremer Institut für Produktion und Logistik GmbH; BLG Cargo Logistics GmbH & Co. KG. - Germany

MAS\_67: The Art of Data-Driven Modelling in Logistics Simulation

Rainer Frick  
V-Research GmbH, Dornbirn - Austria

MAS\_68: Evaluation of Climate-Efficient Cross-Company Logistics Models

Christian Hillbrand, Susanne Schmid  
V-Research GmbH, Industrial Research and Development - Austria



MAS\_46: Numerical Analysis of Wind Induced Pressure Loads on an Integrated Roof-Based Photovoltaic System

Marco Raciti Castelli, Sergio Toniato, Ernesto Benini

Department of Mechanical Engineering – University of Padua; ESPE S.r.l. - Italy

**Tuesday, September 13, 2011 11:00-12:30**

*Room: Cesarea*

**MAS: ModSim - Session 1**

**Chair: Alexander Bogany, FFG, Austria, Peter Kerschl, FFG, Austria**

MAS\_22: 3 Years of Funding Initiative for Computational Mathematics in Austria

Peter Kerschl, Alexander Pogány

Austrian Research Promotion Agency (FFG) Departments Thematic Programmes; Federal Ministry of Transport, Innovation and Technology (bmvit) Department III/I 5 Department for IT, Nanotechnology, Industrial Technologies and Space Flight - Austria

MAS\_23: Dynamic Phenomena and Quality Defects in Laser Cutting

Dieter Schuöcker, Joachim Aichinger, Georg Schuöcker

Upper Austrian Laser Center; Svoent Entwicklungs GmbH & CO KG - Austria

MAS\_25: CoMMoDO – Complex Material Modeling Operations, A Comprehensive Approach to the Modeling of Complex Materials with Machine Learning Models within Finite Element Simulations

Andreas Kuhn, Toni Palau, Gerolf Schlager, Helmut Böhm, Sergio Nogales, Andrea Rauh, Jürgen Lescheticky, Victor Oancea, Rotwick Roy, ABAQUS SIMULIA, Providence, RI, USA

NDATA GmbH, Hallein; Institute of Lightweight Design and Structural Biomechanics, Vienna University of Technology; ABAQUS SIMULIA, Providence; BMW AG, Munich - Austria/ Germany/ USA

MAS\_41: Simulations of liquid film flows with free surface on rotating silicon wafers (RoWaFlowSim)

Markus Junk, Frank Holsteyns, Felix Staudegger, Christiane Lechner, Hendrik Kuhlmann, Doris Prieling, Helfried Steiner, Bernhard Gschaider, Petr Vita

Lam Research AG, Villach; Institute of Fluid Mechanics and Heat Transfer, Vienna University of Technology; Institute of Fluid Mechanics and Heat Transfer, Graz University of Technology; ICE Strömungsforschung GmbH, Leoben; Department Mineral Resources and Petroleum Engineering, University of Leoben - Austria

MAS\_54: Large Target-Weapon Assignment Problems with Evolutionary Programming as applied to the Royal Thai Armed Forces ground-to-ground rocket simulation system

Settapong Malisuwan, Teeranandhakwang, Tawiwat Veeraklaew

Laboratory of Mechanical and Aeronautic Engineerings, Defence Technology Institute; 2Dynamic Spectrum Management Project, National Broadcasting and Telecommunications Commission - Thailand

**Tuesday, September 13, 2011 11:00-12:30**

*Room: Hama*

**IMAACA: Process Monitoring, Fault Detection and Diagnosis 1.- session 2**

**Chair: Geneviève Dauphin-Tanguy, École Centrale de Lille, France**

IMAACA\_5: A New Approach for Industrial Diagnosis by Neuro-Fuzzy systems: Application to Manufacturing System

Rafik Mahdaoui, Hayet Mouss, Djamel Mouss

- Algeria

IMAACA\_34: Diagnosing Photovoltaic Systems: an Iterative Process

Abed Alrahim Yassine, Stephane Ploix, Hussein Joumaa

G-SCOP lab, Grenoble - France

IMAACA\_50: Component Fault Detection and Isolation Comparison between Bond Graph and Algebraic Approach

Samir Benmoussa, Belkacem Ould Bouamama, Rochdi Merzouki  
LAGIS, FRE CNRS 3303, Polytech'Lille - France

IMAACA\_51: Fault Detection and Isolation in Presence of Input and Output Uncertainties Using Bond Graph Approach

Youcef Touati, Rochdi Merzouki, Belkacem Ould Bouamama  
Ecole Polytechnique de Lille, LAGIS - France

IMAACA\_59: Bond Graph Model Based For Robust Fault Diagnosis

Rafika El Harabi, Belkacem Ould Bouamama, Mohamed Naceur Abdelkrim, Mohamed Ben Gayed  
LAGIS, UMR CNRS 8146, Ecole Polytechnique Universitaire de Lille; Unité de Recherche Modélisation, Analyse et Commande des Systèmes, Ecole Nationale d'Ingénieurs de Gabès - France/ Tunisia

**Tuesday, September 13, 2011 11:00-12:30**

*Room: Sabratha*

**HMS: MS for Inventory Management and Logistics - session 1**

**Chair: Eleonora Bottani, Roberto Montanari University of Parma , Italy**

HMS\_17: Reference Model for The Development of Stock Management in Supply Chains

Igor Lopes Martínez, Vilma Rodríguez, Martha I. Gómez Acosta, José A. Acevedo Suárez  
Instituto Superior Politécnico "José Antonio Echevarría" (CUJAE) - Cuba

HMS\_18: INTERCOMPRAS® Containers: An Integrative Tool of The Logistic Infrastructure And Management Of Supply Chains

Vilma Rodríguez Castro, Martha I. Gómez Acosta, Igor Lopes Martínez, José A. Acevedo Suárez  
Instituto Superior Politécnico "José Antonio Echevarría" (CUJAE) - Cuba

HMS\_40: Impacts of Vendor Managed Inventory on Business Processes - Demonstration and Process Reference Modeling

Kathrin Reitner, Wolfgang Ortner, Werner Wetzlinger  
University of Applied Sciences Upper Austria - Austria

HMS\_7: The Composite Supply Chain Efficiency Model

Leila L. Goedhals-Gerber, Hendrik Retief Gerber  
Department of Logistics, University of Stellenbosch; NioCAD (Pty) Ltd - South Africa

HMS\_52: On The Optimal Safety Stock Levels In Supply Networks

Eleonora Bottani, Gino Ferretti, Roberto Montanari, Agostino Bruzzone, Francesco Longo  
Department of Industrial Engineering, University of Parma; Simulation Team - Italy

**Tuesday, September 13, 2011 11:00-12:30**

**LUNCH Co-Sponsored by CAE, CAL-TEK, MAST**

**Tuesday, September 13, 2011 13:30-15:00**

*Room: Massalia I*

**EMSS: Simulation and Artificial Intelligence - Session 2**

**Chair: Tudor Niculiu, University "Politehnica" of Bucharest , Romania**

EMSS\_58: Reconfigurable Human-System Cosimulation

Tudor-Razvan Niculiu, Maria Niculiu  
University Politehnica București, Faculty of Electronics, Telecommunications, and IT; University București,  
Faculty of Foreign Languages and Literatures - Romania

EMSS\_75: A New Devs-Based Generic Artificial Neural Network Modeling Approach  
Samuel Toma, Laurent Capocchi, Dominique Federici  
SPE UMR CNRS 6134 Laboratory, University of Corsica - France

EMSS\_80: Simulation and Modelling Of The Flat-Band Voltage For Below 200nm Soi Devices  
Cristian Ravariu, Florin Babarada  
Politehnica University of Bucharest, Faculty of Electronics and Telecommunications - Romania

EMSS\_82: Simulation, Optimisation and Design a Platform for in-vivo Electrophysiological Signals Processing  
Florin Babarada, Cristian Ravariu, Janel Arhip  
University Politehnica of Bucharest, Faculty Electronics Telecommunications and Information Technology, DCAE, ERG,; S.C. Seletron Software si Automatizari SRL - Romania

EMSS\_111: Design and Implementation of a Fuzzy Cognitive Maps Expert System for Oil Price Estimation  
Mohamad Ali Azadeh, Zeinab sadat Ghaemmohamadi  
Department of Industrial Engineering and Center of Excellence for Intelligent Based Experimental Mechanics, College of Engineering, University of Tehran - Iran

**Tuesday, September 13, 2011 13:30-15:00**

*Room: Massalia II*

**EMSS: Industrial Processes and Engineering MS - Session 5**

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

EMSS\_83: A Simulation-Based Framework for Industrial Automated Wet-Etch Station Scheduling Problems In The Semiconductor Industry  
INTEC (Universidad Nacional del Litoral - CONICET); UMOSE, Laboratório Nacional de Energia e Geologia - Argentina/ Portugal

EMSS\_126: Stochastic Optimization of Industrial Maintenance Strategies  
Francisco Castellanos, Ann Wellens  
Facultad de Ingeniería – UNAM - Mexico

EMSS\_48: Designing and Implementing a Model to Examine R&D Section's Capabilities with Emphasis on Reversed Engineering in Chemical Factory  
Neda Khadem Geraili, Mona Benhari  
Department of Technology management, Faculty of Management & Economics, I.A.U Science & Research Branch - Iran

EMSS\_46: Management of Supply Networks using PDES  
Carmine De Nicola, Rosanna Manzo, Luigi Rarità  
Dipartimento di Ingegneria Elettronica e Ingegneria Informatica,  
University of Salerno - Italy

MAS\_95: Simulation Based Modeling of Warehousing Operations in Engineering Education Based on an Axiomatic Design  
Rafael S. Gutierrez, Sergio Flores, Fernando Tovia, Olga Valerio, Mariano Olmos  
The University of Texas at El Paso; Universidad Autonoma de Cd. Juarez; Philadelphia University; El Paso Community College - USA

**Tuesday, September 13, 2011 13:30-15:00**

*Room: Mylasa*

**EMSS: Petri Nets MS - Session 1**

**Chair: Emilio**

**Jimenez, University of  
La Rioja, Spain**

EMSS\_68: Modeling and Simulation Of Petri Nets For Complex Scheduling Rules of Automated Manufacturing Systems  
Chulhan Kim, Tae-Eog Lee  
Department of Industrial and Systems Engineering KAIST - South Korea

EMSS\_78: An Improved Time-Line Search Algorithm To Optimize Industrial Systems  
Miguel Mujica, Miquel Angel Piera  
Autonomous University of Barcelona, Faculty of Telecommunications and Systems Engineering - Spain

EMSS\_109: Modeling and Simulating a Benchmark on Dynamic Reliability as a Stochastic Activity Network  
Daniele Codetta-Raiteri  
Dipartimento di Informatica, Università del Piemonte Orientale - Italy

EMSS\_115: The Exclusive Entities in the formalization of a Decision Problem based on a Discrete Event System by means of Petri nets  
Juan Ignacio Latorre-Biel, Emilio Jimenez-Marcia

Public University of Navarre. Department of Mechanical Engineering, Energetics and Materials; University of La Rioja. Industrial Engineering Technical School. Department of Electrical Engineering - Spain

EMSS\_116: Matrix-based operations and equivalent classes in alternative Petri nets  
Juan Ignacio Latorre-Biel, Emilio Jimenez-Marcia

Public University of Navarre. Department of Mechanical Engineering, Energetics and Materials; University of La Rioja. Industrial Engineering Technical School. Department of Electrical Engineering - Spain

**Tuesday, September 13, 2011 13:30-15:00**

*Room: Cesarea*

**MAS: Industrial Engineering: Manufacturing, Logistics and Construction - Session 3**

**Chair: David del Rio Vilas, University of La Coruna, Spain**

MAS\_52: Modeling and Simulation of an assembly line: a new approach for assignment and optimization of activities of operators  
Domenico Falcone, Alessandro Silvestri, Antonio Forcina, Antonio Pacitto  
Department of Mechanics, Structures, Environment, University of Cassino - Italy

MAS\_71: Dynamics of direct transports in autonomously controlled production Networks  
Bernd Scholz-Reiter, Michael Gorges  
BIBA – Bremer Institut für Produktion und Logistik GmbH - Germany

MAS\_1: Mothballing (Asset Preservation) of a Crude Oil Gathering Center  
Musleh Al-Otaibi, Abdul-Hassan Mohammed  
Applied Technology Institution; MIChemE, EuroInG - Kuwait

MAS\_86: An Overall DHM-Based Ergonomic and Operational Assessment of a Manufacturing Task: a Case Study

Nadia Rego Monteil, David del Rio Vilas, Diego Crespo Pereira, Rosa Rios Prado  
University of A Coruna - Spain

MAS\_61: Dynamic Simulation Based Design of Powered Support in Integrated Mechanized Coal Mining  
Zhifeng Dong, Guozhu Liu, Jian Wang, Jiangang Qian, Shouxiang Zhang, Dongsheng Bao  
Mechanical and Electronic Engineering Department of China University of Mining and Technology; Beijing  
Mining Machinery Company Limited of China Zhongmei Group - China

**Tuesday, September 13, 2011 13:30-15:00**

*Room: Hama*

**HMS: Harbour and Inland Terminals Simulation - session 1**

***Chair: Rafael Diaz, Virginia Modeling Analysis and Simulation Center - VMASC, USA***

HMS\_51: Simulation, Analysis and Optimization of Container Terminals Processes  
Agostino Bruzzone, Francesco Longo, Letizia Nicoletti, Eleonora Bottani, Roberto Montanari  
Simulation Team, University of Genoa; Simulation Team; MSC-LES, University of Calabria; Department  
of Industrial Engineering, University of Parma - Italy

HMS\_37: SIMCONT – Theory and Practice in Simulation of Binnenland Container Terminals  
Manfred Gronalt, Hans Häuslmayer, Martin Posset, Thouraya Rojas-Navas  
University of Natural Resources and Life Sciences, Vienna - Austria

HMS\_5: Numerical Modeling of Sediment Transport in Harbors and Study Of Planform Effects On  
Sedimentation

Seyed Moin Mojabi, Kouroshe Hejazi, Mahdi Mohammadi Aragh  
K.N.Toosi University of Technology - Iran

HMS\_3: Facilitating Trade and adoption of the INTRADE IAV in Dublin Port in 2040

Roisin Murray, Kay McGinley

Dublin Institute of Technology, Department of Transport Engineering, College of Engineering and Built  
Environment - Ireland

HMS\_21: Dynamic Model-Based for Intelligent Traffic Optimization inside Seaport Terminals

Wissam Khalil, Rochdi Merzouki, Belkacem Ould-Bouamama  
LAGIS, CNRS-FRE 3303, Polytech'Lille - France

**Tuesday, September 13, 2011 13:30-15:00**

*Room: Sabratha*

**IMAACA: Modeling & Control of Mechanical Systems - Session 1**

***Chair: Geneviève Dauphin-Tanguy, École Centrale de Lille, France***

IMAACA\_31: Modeling of aerodynamic flutter on a NACA 4412 airfoil wind blade

Drishtysingh Ramdenee, H. Ibrahim, N.Barka, A.Ilinca

Wind Energy Research Laboratory, Université du Québec à Rimouski; Wind Energy Technocentre,  
Murdochville - Canada

IMAACA\_33: Modeling of Wheel/Track Interaction With Wheel Defects And Diagnosis Methods: An  
Overview

Rasul Fesharakifard, Antoine Dequidt, Florent Brunel, Yannick Desplanques, Olivier Coste, Patrick Joyez

LAMIH University of Valenciennes; LML, Ecole Centrale de Lille; Signal Développement, Poitiers; Eurotunnel, Coquelles - France

IMAACA\_53: Stability Analysis of 1 Dof Haptic Interface: Time Delay And Vibration Modes Effects  
Quoc Viet Dang, Antoine Dequidt, Laurent Vermeiren, Michel Dambrine  
Univ Lille Nord de France; UVHC, LAMIH, Valenciennes; CNRS, Valenciennes - France

IMAACA\_24: On Algebraic Approach for MSD Parametric Estimation  
Marouene Oueslati, Stéphane Thiery, Olivier Gibaru, Richard Bearee, George Moraru  
Laboratory of Science of Information and Systems LSIS, Arts et Métiers ParisTech; Centre de recherche INRIA Lille-Nord Europe - France

IMAACA\_39: Active Vibration Reducing of a One-link Manipulator Using the State Feedback Decoupling and the First Order Sliding Mode Control  
Mohammed Bakhti, Badr Bououlid Idrissi  
Ecole Nationale Supérieure d'Arts et Métiers; The University of Moulay Ismail \_ Meknes - Morocco

**Tuesday, September 13, 2011 15:00-15:30**

***COFFEE BREAK Co-Sponsored by PRESAGIS - Exhibition Area: Leptis Magna IV and Bar***

**Tuesday, September 13, 2011 15:30-17:00**

*Room: Massalia I*

**EMSS: Discrete and Combined Simulation - Session 1**

***Chair: Gasper Music, University of Ljubljana, Slovenia***

EMSS\_17: A New Method for Validation and Optimisation of Unstable Discrete Event Models  
Hans-Peter Barbey  
University of Applied Sciences Bielefeld - Germany

EMSS\_92: Simulation of The Vessel Traffic Schedule In The Strait of Istanbul  
Şirin Özlem, İlhan Or, Birnur Özbaş  
Boğaziçi University, Istanbul; Rutgers, The State University of New Jersey - USA/ Turkey

EMSS\_129: Using Markov Chain and Graph Theory Concepts to Analyze Behavior in Complex Distributed Systems  
Christopher Dabrowski, Fern Hunt  
U.S. National Institute of Standards and Technology - USA

EMSS\_133: Efficient Exploration of Coloured Petri net based scheduling problem solutions  
Gasper Music  
University of Ljubljana, Faculty of Electrical Engineering - Slovenia

EMSS\_142: An Optimal Non-Blocking Dispatching In Free-Choice Manufacturing Flowlines By Using Machine-Job Incidence Matrix  
Ivica Sindičić, Stjepan Bogdan, Tamara Petrović  
ABB; LARICS - Laboratory for Robotics and Intelligent Control Systems, Department of Control and Computer Engineering, Faculty of Electrical Engineering and Computing, University of Zagreb - Croatia

**Tuesday, September 13, 2011 15:30-17:00**

*Room: Massalia II*

**EMSS: Simulation Optimization in Industry, Services and Logistics - Session 1**

***Chair: Miguel Mújica Mota, Universitat Autònoma de Barcelona Spain***

EMSS\_30: Exploiting Variance Behavior in Simulation-based Optimization  
Pasquale Legato, Rina Mary Mazza  
Università della Calabria - Italy

EMSS\_36: Transport Network Optimization: Self-Organization by Genetic Programming  
Johannes Göbel, Anthony E. Krzesinski, Bernd Page  
Department of Informatics, University of Hamburg; Department of Mathematical Sciences, University of Stellenbosch - Germany/ South Africa

EMSS\_38: Simulation Model for the Calcination Process of Cement  
Idalia Flores, Guillermo Perea  
Facultad de Ingeniería, UNAM - Mexico

EMSS\_43: New Discrete Topology Optimization Method for Industrial Tasks  
Sierk Fiebig  
Volkswagen Braunschweig - Germany

MAS\_91: Distributed M&S for Product Service System  
Thecle Alix, Greg Zacharewicz  
Univ .Bordeaux - France

**Tuesday, September 13, 2011 15:30-17:00**

*Room: Mylasa*

**EMSS: Petri Nets MS - Session 2**

***Chair: Juan Ignacio Latorre, Public University of Navarre ,Spain***

EMSS\_119: Security in sending and storage of Petri nets by signing and encryption  
Íñigo León Samaniego, Mercedes Pérez de la Parte, Eduardo Martínez Cámara,  
Juan Carlos Sáenz-Díez Muro  
University of La Rioja, Industrial Engineering Technical School, Department of Electrical Engineering - Spain

EMSS\_120: Petri Net Transformation for Decision Making: compound Petri nets to alternatives aggregation Petri nets  
Juan Ignacio Latorre, Emilio Jimenez

Public University of Navarre. Department of Mechanical Engineering, Energetics and Materials; University of La Rioja. Industrial Engineering Technical School. Department of Electrical Engineering - Spain

EMSS\_121: Improvements In The Optimization Of Flexible Manufacturing Cells Modelled With Discrete Event Dynamics Systems: Application To A Real Factory Problem  
Diego Rodriguez, Mercedes Perez, Juan Manuel Blanco  
Ikerlan; University of La Rioja, Industrial Engineering Technical School, Department of Mechanical Engineering; University of La Rioja, Industrial Engineering Technical School, Department of Electrical Engineering - Spain

EMSS\_124: PN as a Tool for Innovation in Industry: a Review  
Jesús Fernández de Miguel, Julio Blanco Fernández, Mercedes Pérez de la Parte  
Grupo ECO3G, Logroño, La Rioja; University of La Rioja, Industrial Engineering Technical School, Department of Mechanical Engineering - Spain

EMSS\_144: Coding TCPN Models Into The Simio Simulation Environment  
Miguel Mujica, Miquel Angel Piera

Autonomous University of Barcelona, Faculty of Telecommunications and Systems Engineering - Spain

**Tuesday, September 13, 2011 15:30-17:00**

*Room: Cesarea*

**MAS: Industrial Engineering: Manufacturing, Logistics and Construction - Session 4**

**Chair: Yilin Huang , Delft University of Technology, Netherlands**

MAS\_20: Planning Highways Resurfacing Using Computer Simulation

Mohamed Marzouk, Marwa Fouad, Moheeb El-Said

Structural Engineering Department, Faculty of Engineering, Cairo University - Egypt

MAS\_28: Additive Fault Tolerant Control for Delayed System

Abdelkrim Nouceyba, Abdelkrim Mohamed Naceur, Tellili Adel

Université de Gabès, Unité de recherche Modélisation, Analyse et Commande des Systèmes (MACS); ISSIG; Ecole Nationale d'Ingénieurs de Gabs (ENIG) - Tunisia

MAS\_29: Centralized and Decentralized Adaptive Fault-Tolerant Control applied to Interconnected and Networked Control System

Amina Challouf, Adel Tellili, Christophe Aubrun, MohammedNaceur Abdelkrim

Unité de Recherche: Modélisation, Analyse et Commande des Systèmes (MACS), Ecole Nationale d'Ingénieurs de Gabès; Institute Supérieure des Etudes Technologiques de Djerba; Centre de Recherche en Automatique de Nancy(CRAN),Nancy-Université - Tunisia

MAS\_77: Demand-Supply Interaction and Inventory Buildup Strategies for Short Life Cycle Products

Rong Pan, Adriano Solis, Bixler Paul

School of Computing, Informatics and Decision Systems Engineering, Arizona State University; Management Science Area, School of Administrative Studies, York University - Canada/ USA

MAS\_74: Simulation Based Design Optimization Framework for a Gait Pattern Generation of a small Biped Robot with Tiptoe Mechanism.

Krissana Nerakae, Hasegawa Hiroshi

Functional Control Systems – Graduate School of Engineering and Science, Shibaura Institute of Technology; Department of Systems Engineering and Science, Graduate School of Engineering and Science, Shibaura Institute of Technology - Japan

**Tuesday, September 13, 2011 15:30-17:00**

*Room: Hama*

**DHSS: Cyber Security and Collective C2 - session 1**

**Chairs: Gianni Cantice, Italian Army, Italy**

DHSS\_29: Simulating Urban Environment for assessing impact of Alternative Command & Control Netcentric Maturity Models within Asymmetric Scenarios

Agostino Bruzzone, Enrico Bocca, Federico Tarone

MISS DIPTTEM University of Genoa; Mast srl; Simulation Team - Italy

DHSS\_7: Exploratory Sequential Data Analysis of a Cyber Defence Exercise

Dennis Andersson, Magdalena Granåsen, Thomas Sundmark, Hannes Holm, Jonas Hallberg

Swedish Defence Research Agency; KTH Royal Institute of Technology - Sweden

DHSS\_11: Visual Analytics Applications for Cyber Security and Intelligence

Valérie Lavigne, Denis Gouin

Defence R&D Canada - Canada



DHSS\_22: Detecting Deception within a Probabilistic Modelling Framework  
Ken R. McNaught  
Cranfield University; Defence Academy - UK

DHSS\_5: A Simulation Study of C4I Communications Network Under Cyber Attacks  
Agatino Mursia, Lucio Ganga, Alessandro Leonardi, Giacomo Morabito, Corrado Rametta, Lloyd Wihl  
Selex Elsag Spa; University of Catania; Scalable Network Technologies, Inc. - Italy/ USA

**Tuesday, September 13, 2011 15:30-17:00**

*Room: Sabratha*

**IMAACA: Modeling & Control of Mechanical Systems - Session 2**

**Chair: Geneviève Dauphin-Tanguy, École Centrale de Lille, France**

IMAACA\_46: Task Space Control of Grasped Object in the case of Multi-robots Cooperating System  
A Khadraoui, C. Mahfoudi, A. Zaatri, K Djouani  
Institute of Mechanics, Ain Beida; Institute of Mechanics, Constantin; LISSI Lab/University Paris - Algeria/  
France

IMAACA\_67: Optimization of Actuating System for Flapping Robot Design  
T. Imura, M. Fuchiwaki, K. Tanaka  
Graduate School of Computer Science and Systems Engineering Kyushu Institute of Technology;  
Department of Mechanical Information Science and Technology Kyushu Institute of Technology - Japan

IMAACA\_47: Design of a trajectory generator for a hexapod walking robot  
C. Mahfoudi, M. Bouaziz, A Boulahia, K. Djouani, S. Rechak  
Mechanical Engineering Department, Faculty of sciences and Technology, Larbi ben M'Hidi University;  
Mechanical engineering and development laboratory, National Polytechnic Superior School, Mechanical  
Engineering Department; Paris 12 University, LISII Laboratory - Algeria/ France

IMAACA\_32: Control Allocation Strategies For An Overactuated Electric Vehicle  
Jean-Yves Dieulot  
LAGIS, Polytech-Lille - France

IMAACA\_48: Using Linear Programming For The Optimal Control Of A Cart-Pendulum System  
Luiz Puglia, Fabrizio Leonardi, Marko Ackermann  
UNIP Universidade Paulista, São Paulo, Brazil, and Faculdades Integradas Torricelli; Centro Universitário  
da FEI, São Bernardo do Campo - Brazil

**Tuesday, September 13, 2011 17:15-18:45**

*Room: Leptis Magna III*

**Special Joint I3M/CAX Forum Session: SMACKDOWN at Liophant Booth Exhibition Area**

**Chair: Agostino G. Bruzzone, MISS DIPTEM, Italy - Bill Waite, Aegis Technologies, USA**

"Smackdown Initiative", Bill Waite, Aegis Technologies, USA  
SmackDown Demonstration & Teleconferences

**Tuesday, September 13, 2011 17:15-18:45**

*Room: Massalia II*

**Special Session 2012**

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

Presenting I3M2012  
I3M Proposals & New Initiatives

### ***Social Event***

**Tuesday, September 13, 2011 19:00-19:30**

***19:30 Bus Starting from Ergife to Casa dell'Aviatore (Italian Air Force Club) for Gala Dinner (Jacket Required)***

**Tuesday, September 13, 2011 20:00**

***20:00 I3M Gala Dinner at Casa dell'Aviatore (Italian Air Force Club); Jacket Required; Bus Service to come back to Hotel***

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**Wednesday, September 14, 2011 9:00-10:30**

*Room: Massalia I*

### **EMSS: Business, Economy and Finance MS - Session 1**

***Chair: Marina Massei, MISS DIPTM, Italy***

EMSS\_84: Data Stream Management in Income Tax Microsimulation Models

Istvan Molnar, Gyorgy Lipovszki

Department of Computer and Information Systems, School of Business, Bloomsburg University of Pennsylvania; Department of Mechatronics, Optics and Engineering Informatics, Faculty of Engineering, Budapest University of Technology and Economics - USA/ Hungary

EMSS\_87: An Extreme Learning Machine Algorithm for Higher Order Neural Network Models

Shuxiang Xu

School of Computing, University of Tasmania - Australia

EMSS\_104: A Framework For Enhanced Project Schedule Design To Aid Project Manager's Decision Making Processes

Sanja Lazarova-Molnar, Rabeb Mizouni, Nader Kesserwan

Faculty of Information Technology, United Arab Emirates University; Department of Software Engineering, Khalifa University - UAE

EMSS\_110: A Stochastic Approach To Risk Modeling for Solvency II

Vojo Bubevski

Bubevski Systems & Consulting™; TATA Consultancy Services™ - UK

EMSS\_118: A Simulation Study of The Interdependence of Scalability and Cannibalization in the Software Industry

Francesco Novelli

SAP Research Darmstadt - Germany

**Wednesday, September 14, 2011 9:00-10:30**

*Room: Massalia II*

### **EMSS: Simulation Optimization in Industry, Services and Logistics - Session 2**

***Chair: Idalia Flores, University of Mexico, Mexico***

EMSS\_105: A Novel Approach To Realistic Modeling and Simulation Of State-Varying Failure Rates

Sanja Lazarova-Molnar

Faculty of Information Technology, United Arab Emirates University - UAE

EMSS\_89: Increasing Availability of Production Flow Lines Through Optimal Buffer Sizing: A Simulative Study

Vittorio Cesarotti, Alessio Giuiusa, Vito Introna

Department of Mechanical Engineering, "Tor Vergata" University of Rome - Italy

EMSS\_24: Simulation Highway – Direct Access Intelligent Cloud Simulator

Egils Ginters, Inita Sakne, Ieva Lauberte, Artis Aizstrauts, Girts Dreijja, Rosa Maria Aquilar China, Yuri Merkuryev, Leonid Novitsky, Janis Grundspenkis

Sociotechnical Systems Engineering Institute Vidzeme University of Applied Sciences; Universidad de La Laguna; Riga Technical University - Latvia/ Spain

MAS\_47: Modeling of Drying Process of Candies Obtained with Starch Molding Technique

Noemi Baldino, Lucia Seta, Francesca Romana Lupi, Domenico Gabriele, Bruno de Cindio

Department of Engineering Modeling, University of Calabria - Italy

MAS\_65: Sheeting Process Modelling and Rheological Analysis of an Olive-Oil-Emulsion-Based Puff Pastry

Francesca Romana Lupi, Noemi Baldino, Lucia Seta, Domenico Gabriele, Bruno de Cindio

Laboratory of Rheology and Food Engineering, Department of Engineering Modeling, University of Calabria - Italy

**Wednesday, September 14, 2011 9:00-10:30**

*Room: Mylasa*

**EMSS: Methodologies, Technologies and Applications MS - Session 1**

**Chair: Claudia Frydman, LSIS, France**

EMSS\_19: Calibration of Process Algebra Models of Discretely Observed Stochastic Biochemical System  
Paola Lecca

University of Trento - Italy

EMSS\_132: A Methodology for the DEVS Simulation Graph Construction

Adedoyin Adegoke, Ibrahima Amadou, Hamidou Togo, Mamadou K. Traoré

African University of Science and Technology; Université de Bamako (Mali); LIMOS, CNRS UMR 6158, Université Blaise Pascal - Mali/ Nigeria/ France

EMSS\_99: Improving Job Scheduling on a Heterogeneous Cluster by Predicting Job Execution Times Using Heuristics

Hannes Brandstätter-Müller, Bahram Parsapour, Andreas Hölzlwimmer, Gerald Lirk, Peter Kulczycki

Upper Austria University of Applied Sciences, School of Informatics, Communication, and Media, Department of Bioinformatics - Austria

EMSS\_44: 3G Mobile Network Planning Based on a Traffic Simulation Model and a Cost-Benefit Model to Service Los Cabos International Airport

Aida Huerta Barrientos, Mayra Elizondo Cortés

National Autonomous University of Mexico - Mexico

EMSS\_106: Modeling and Simulation of Order Sortation Systems

Fahrettin Eldemir, Elif Karakaya

Industrial Engineering Department, Fatih University - Turkey

**Wednesday, September 14, 2011 9:00-10:30**

*Room: Cesarea*

**MAS: Modeling and Applied Simulation - Session 1**

**Chair: Janos Sebestyen Janosy, MTA KFKI Atomic Energy Research Institute, Hungary**

MAS\_13: Mathematical Modeling and Simulation for Detection of Suicide Bombers

William Fox, John Vesecky, Kenneth Laws

Department of Defense Analysis, Naval Postgraduate School; Department of Electrical Engineering, University of California at Santa Cruz - Canada/ USA

MAS\_43: PLC Code Processing for Automatic Simulation Model Generation

Gergely Popovics, András Pfeiffer, Botond Kádár, Zoltán Vén, László Monostori

Fraunhofer Project Center on Production Management and Informatics, Computer and Automation Research Institute, Hungarian Academy of Sciences; Faculty of Mechanical Engineering, Budapest University of Technology and Economics - Hungary

MAS\_49: Improving Patient Safety: A Model of Drift in Health Care Teams

Rick. Severinghaus, C. Donald Combs

The AEGis Technologies Group, Huntsville; Eastern Virginia Medical School - USA

MAS\_50: Modelling of Gestures with Differing Execution Speeds: Are Hidden non-Markovian Models

Applicable for Gesture Recognition?

Sascha Bosse, Claudia Krull, Graham Horton

Otto-von-Guericke-University Magdeburg - Germany

MAS\_17: Improvement of the Forecast of Economic Processes Parameters

Yuri Menshikov

Dnepropetrovsk University - Ukraine

**Wednesday, September 14, 2011 9:00-10:30**

*Room: Hama*

**DHSS: Healthcare Simulation and Homeland Security - session 1**

**Chair(s): Richard Boyd, Lockheed Martin, USA; Gianluca De Leo, Old Dominion University, USA**

DHSS\_6: Modeling and Simulating Dynamic Healthcare Practices

Eugene Santos Jr., Keum Kim, Fei Yu, Deqing Li, Phoebe Arbogast, Elizabeth Jacob, Joseph Rosen

Dartmouth College; Dartmouth-Hitchcock Medical Center - USA

DHSS\_10: A Low-Cost Simulation Environment For Port Security Experimentation And Training

Tania Randall, Allan Gillis

Defence Research & Development Canada - Canada

DHSS\_26: Automatic Maritime Surveillance With Visual Target Detection

Domenico Bloisi, Luca Iocchi, Michele Fiorini, Giovanni Graziano

Sapienza University of Rome; SELEX Sistemi Integrati S.p.A. - Italy

EMSS\_149: Modeling Of Obesity Epidemics By Intelligent Agents

Agostino Bruzzone, Vera Novak, Francesca Madeo, Cecilia Cereda

MISS DIPTM University of Genoa; BIDMC, Harvard Medical School; M&S Net; Simulation Team - Italy/ USA

**Wednesday, September 14, 2011 9:00-10:30**

*Room: Sabratha*

**IMAACA: Industrial Applications of Modeling and Control**

**Chair: Sergio Junco, Universidad Nacional de Rosario, Argentina**

IMAACA\_9: Modeling of Flexural Vibration of Rotating Rotating Shaft with in-span Discrete External Damping

Vikas Rastogi, Amalendu Mukherjee, Anirban Dasgupta

Mechanical Engineering Department, Sant Longowal Institute of Engineering and Technology; Mechanical Engineering Department, Indian Institute of Technology - India

IMAACA\_16: A Model for Dynamic Feed-Forward Control of a Semi-active Damper

Andreas Unger, Enrico Pellegrini, Kay-Uwe Henning, Boris Lohmann

Institute of Automatic Control, Fakultät Maschinenwesen, Technische Universität München - Germany

IMAACA\_20: Modelling and Control of an Effort Feedback Actuator In Helicopter Flight Control Using Energetic Macroscopic Representation

Mikaël Martin, Julien Gomand, François Malburet, Pierre-Jean Barre

LSIS, Arts et Métier ParisTech - France

IMAACA\_58: Modeling Multiphase Flow Dynamics In Offshore Petroleum Production Systems

Rafael Horschutz Nemoto, Jorge Luis Baliño

Departamento de Engenharia Mecânica, Escola Politécnica, Universidade de São Paulo - Brazil

IMAACA\_40: Development of A Transfer-Case Control system for Rear Wheel Based 4WD Vehicles

Woosung Park, Hyeongjin Ham, Kanghee Won, Hyeongcheol Lee

Department of Electrical Engineering, Hanyang University; Division of Electrical and Instrumentation Biomedical Engineering, Hanyang University - South Korea

**Wednesday, September 14, 2011 10:30-11:00**

***COFFEE BREAK Co-Sponsored by PRESAGIS - Exhibition Area: Leptis Magna IV and Bar***

**Wednesday, September 14, 2011 11:00-12:30**

*Room: Massalia I*

**EMSS: Cloud Simulation and High Performance Computing - Session 1**

***Chair(s): Paolo Proietti, Selex Elsag, Italy; Prof. Lin Zhang, Beihang University, China***

EMSS\_32: Study on the servilization of simulation capability

Y L Luo, L Zhang, F Tao, Y Bao, L Ren

School of Automation Science and Electrical Engineering, Beihang University - China

EMSS\_35: Modeling and Simulation Architecture for Cloud Computing and Internet of Things (IoT) Based Distributed Cyber-Physical Systems (DCPS)

Lulu Xie, Zhongjie Wang

College of Electronics and Information Engineering. Tongji University - China

EMSS\_65: Modelling Resilience in Cloud-Scale Data Centres

John Cartlidge, Ilango Sriram

Department of Computer Science, University of Bristol - UK

EMSS\_102: Key Issues In Cloud Simulation Platform Based On Cloud Computing

Lei Ren, Lin Zhang, Yabin Zhang, Yongliang Luo, Qian Li

School of Automation Science and Electrical Engineering, Beihang University; Beijing Simulation Center; School of Information Technology, Shandong Institute of Commerce and Technology - China

EMSS\_103: Research On Key Technologies of Resource Management in Cloud Simulation Platform

Lin Ting Yu, Chai Xu Dong, Li Bo Hu  
School of Automatic Science and Electrical Engineering, BeiHang University; Beijing Simulation Center,  
Second Academy of Aerospace Science & Industry Co; School of Automatic Science and Electrical  
Engineering, BeiHang University - China

**Wednesday, September 14, 2011 11:00-12:30**

*Room: Massalia II*

**EMSS: Modelling, Simulation, Optimization**

**Chair: Idalia Flores, University of Mexico, Mexico**

EMSS\_134: Plant Capacity Analysis in a Dairy Company, Applying Montecarlo Simulation  
Joselito Medina-Marin, Gilberto Perez-Lechuga, Juan Carlos Seck-Tuoh-Mora, Norberto Hernandez-  
Romero, Isaias Simon-Marmolejo  
Advanced Research Centre in Industrial Engineering, Autonomous University of Hidalgo State; Superior  
School of Cd. Sahagún, Autonomous University of Hidalgo State - Mexico

EMSS\_14: Temporal Neuro-Fuzzy Systems in Fault Diagnosis and Prognosis  
Rafik Mahdaoui, Leila Hayet Mouss, Djamel Mouss, Ouahiba Chouhal  
Université de Batna - Algeria

EMSS\_138: Research on co-simulation task scheduling in Cloud Simulation Platform  
Chen Yang, Bo Hu Li, Xudong Chai  
Beijing University of Aeronautics and Astronautics; Beijing Simulation Center - China

MAS\_100: Modeling Psychological Messages and Their Propagation  
Colette Faucher  
LSIS, Laboratoire des Sciences de l'Information et des Systèmes, Université Paul Cézanne - France

**Wednesday, September 14, 2011 11:00-12:30**

*Room: Mylasa*

**EMSS: Methodologies, Technologies and Applications MS - Session 2**

**Chair: Claudia Frydman, LSIS, France**

EMSS\_135: GPGPU Programming And Cellular Automata: Implementation Of The Sciara Lava Flow  
Simulation Code  
Giuseppe Filippone, William Spataro, Giuseppe Spingola, Donato D'Ambrosio, Rocco Rongo, Giovanni  
Perna, Salvatore Di Gregorio  
Department of Mathematics and HPCC, University of Calabria; Department of Earth Sciences and HPCC,  
University of Calabria - Italy

EMSS\_49: On the Use of Minimum-Bias Computer Experimental Designs  
Husam Hamad  
Electronic Engineering Department  
Hijjawi College of Engineering Technology  
Yarmouk University - Jordan

EMSS\_51: A Practical Guide for the Initialisation of Multi-Agent Systems with Random Number  
Sequences from Aggregated Correlation Data  
Volker Nissen, Danilo Saft  
Ilmenau Technical University, Faculty of Economics - Germany

EMSS\_52: Multi-agent Multi-level Modeling – A methodology to Simulate Complex Systems  
Jean-Baptiste Soye, Gildas Morvan, Rochdi Merzouki, Daniel Dupont

Univ. Lille Nord de France; LAGIS UMR CNRS; LGI2A, Univ. Artois Technoparc Futura; HEI Hautes Études d'Ingénieurs - France

MAS\_99: A Process Mining Approach Based on Trace Alignment Information for Very Large Sequential Processes with Duplicated Activities

Pamela Viale, Claudia Frydman, Jacques Pinaton

Laboratoire des Sciences de l'Information et des Systèmes; STMicroelectronics - Argentina/ France

**Wednesday, September 14, 2011 11:00-12:30**

*Room: Cesarea*

**MAS: Modeling and Applied Simulation - Session 2**

**Chair: Janos Sebestyen Janosy, MTA KFKI Atomic Energy Research Institute, Hungary**

MAS\_102: Competition and Information: Cumana a Web Serious Game for Education in the Industrial World

Marina Massei, Alberto Tremori, Alberto Pessina, Federico Tarone

MISS-DIPTEM, University of Genoa; Simulation Team - Italy

MAS\_78: Evaluation of the Performance of Solar Air Collector by Using Bond Graph Approach

Hatem Oueslati, Salah Ben Mabrouk, Abdelkader Mami

Laboratoire d'Energétique et Procédés Thermiques (LEPT), Centre de Recherches et des Technologies de l'Energie (CRTE); Laboratoire Analyse et Commande des Systèmes, École Nationale d'Ingénieurs de Tunis - Tunisia

MAS\_81: Logical Operator Usage in Structural Modelling

Leva Zeltmate

Riga Technical University, Faculty of Computer Science and Information Technology, Department of System Theory and Design - Latvia

MAS\_85: Scheduling Patients Based on Provider's Availability

Jose Sepulveda, Waldemar Karwowski, Francisco Ramis, Pablo Concha

University of Central Florida, Orlando - Chile/ USA

MAS\_24: Analysis of a Warehouse Management System for Perishable Products by Means of Simulation Experiments

Giuseppe Aiello, Mario Enea, Muriana Cinzia

Dipartimento di Ingegneria Chimica, Gestionale, Informatica e Meccanica, University of Palermo - Italy

**Wednesday, September 14, 2011 11:00-12:30**

*Room: Hama*

**DHSS: LVC Simulation and Human Behavior Modeling - session 1**

**Chair: Agatino Mursia, Selex Elsag Italy**

DHSS\_12: Is LVC a Pandora for all Training Needs?

Ian McVeigh, Jon Sackett

AgustaWestland - UK

DHSS\_15: Distributed Simulation Science

Margaret Loper

Georgia Tech Research Institute - USA

DHSS\_14: Simulated Realtime Multi-Channel IQ Data Generator For an Aesa Radar

Romolo Gordini, Michele Giorgiutti

SELEX Galileo S.p.A - Italy

DHSS\_13: Distributed Simulation of Electronic Warfare Command and Control Scenarios

Sergio Tortora, Davide Cannone, Massimo Giovacchin, Giuseppe Italiano, Maurizio Naldi, Andrea Sindico  
Elettronica S.p.A.; University of Rome "Tor Vergata" - Italy

DHSS\_17: Cultural Considerations in a Simulated Emergency

Elizabeth Whitaker, Rita Gonzalez, Ethan Trewitt, Reid MacTavish, Margaret Loper  
Georgia Tech Research Institute - USA

**Wednesday, September 14, 2011 11:00-12:30**

*Room: Sabratha*

**IMAACA: Mathematical Methods with Applications in Control and Optimization**

**Chair: Sergio Junco, Universidad Nacional de Rosario, Argentina**

IMAACA\_8: Analysis of Controlled Semi-Markov Queueing Models

Victor Kashtanov, Elizaveta Kondrashova

Department of Operation research, Moscow State Institute of Electronics and Mathematics - Russia

IMAACA\_12: Reducing Computation Time in Optimization Procedure for Fixture Layout based on SwarmItFIX

Xiong Li, Matteo Zoppi, Rezia Molfino

DIMEC, University of Genoa - Italy

IMAACA\_13: Robust Trajectory Tracking Problem: Cheap Control Approach

Vladimir Turetsky, Valery Glizer

Department of Mathematics, Ort Braude College - Israel

IMAACA\_14: Integrated Damping Parameters and Servo Controller Design for Optimal H2 Performance in Hard Disk Drives

Tingting Gao, Weijie Sun, Chunling Du, Lihua Xie

School of EEE, Nanyang Technological University - Singapore

IMAACA\_28: A Final Marking Planning Method for Join Free Timed Continuous Petri Nets

Hanife Apaydin Özkan, Aydin Aybar

- Turkey

**Wednesday, September 14, 2011 11:00-12:30**

***LUNCH Co-Sponsored by CAE, CAL-TEK, MAST***

**Wednesday, September 14, 2011 13:30-15:00**

*Room: Massalia I*

**EMSS: Agent Directed MS - Session 1**

**Chair: Claudia Frydman, LSIS, France**

EMSS\_23: An Agent-Based Information Foraging Model of Scientific Knowledge Creation and Spillover in Open Science Communities

Ozgur Ozmen, Levent Yilmaz

Auburn University - USA

EMSS\_34: Fast Marching Method Based Path Planning for Wheeled Mobile Robots

Gregor Klančar, Gasper Music



University of Ljubljana - Slovenia

EMSS\_40: Job Satisfaction Modelling in Agent-Based Simulations  
Alexander Tarvid  
University of Latvia - Latvia

EMSS\_81: Simulation Of Human Behavior In Situation Of Emergency  
Benkhedda Samira, Bendella Fatima, Belmabrouk Karima  
SIMPA Laboratory, Department of Computer Science, University of Science and Technology of Oran - Algeria

EMSS\_97: A High Resolution Distributed Agent-Based Simulation Environment for Large-Scale Emergency Response  
Glenn Hawe, Graham Coates, Duncan Wilson, Roger Crouch  
School of Engineering and Computing Sciences, Durham University - UK

**Wednesday, September 14, 2011 13:30-15:00**

***Massalia II***

**Joint Meeting for McLeod Institute of Simulation Science & MSNet Directors**

**Wednesday, September 14, 2011 13:30-15:00**

*Room: Mylasa*

**EMSS: Methodologies, Technologies and Applications MS - Session 3**

***Chair: Wenhui Fan, Tsinghua University, China; Michele Turi, DIMS, Italy***

EMSS\_64: Insights into the Practice of Expert Simulation Modellers  
Rizwan Ahmed, Mahmood H. Shah  
Lahore Business School University of Lahore; Lancashire Business School, University of Central Lancashire - UK

EMSS\_67: Global Context Influences Local Decisions  
Terry Bossomaier, Michael Harré  
CRiCS (Centre for Research in Complex Systems) Charles Sturt University - Australia

EMSS\_66: Advanced Container Transportation Equipment using Transfer Robot and Alignment System  
Young Jin Lee, Dong Seop Han, Dae Woo Kang, Duk Kyun Lee, Geun Choi, Kwon Soon Lee  
Korea Aviation Polytechnic College; Dong A University; Bumchang Eng. Co., Ltd - South Korea

EMSS\_70: Online Collaborative Simulation Conceptual Model Development  
Bhakti S. S. Onggo, Suchismita Hoare  
Department of Management Science, Lancaster University Management School; b) Digital Modelling Research Group (Faculty of S & T), Anglia Ruskin University - UK

EMSS\_100: Agent-Based Simulation of Electronic Marketplaces With Ontology-Services  
Maria João Viamonte, Nuno Silva, Paulo Maio  
GECAD - Knowledge Engineering and Decision Support Research Group, Institute of Engineering of Porto - Portugal

**Wednesday, September 14, 2011 13:30-15:00**

*Room: Cesarea*

**HMS: Innovative Transport Systems for Urban Areas - session 1**

***Chair: Elvezia M. Cepolina, University of Pisa, Italy***

HMS\_8: A car Sharing System for Urban Areas with Fully Automated Personal Vehicles  
Cepolina E.M. , Farina A. , Holloway C.  
University of Pisa; University College of London - Italy/ UK

HMS\_16: Modelling of Urban Pedestrian Environments for Simulation of the Motion of Small Vehicles  
Elvezia Maria Cepolina, Nick Tyler, Clement Boussard, Alessandro Farina, Catherine Holloway  
University of Pisa; ARG, University College London; IMARA, INRIA Paris-Rocquencourt; University of Pisa; ARG, University College London - Italy/ UK

HMS\_20: Evaluation Methodology of The Impacts of Bus Rapid Transit Corridors (BRT) in Livorno Network  
Claudio Disperati, Saverio Gini, Giorgio Ambrosino  
MemEx s.r.l. - Italy/ UK

HMS\_44: Bus for HLS lines in Urban Context  
Domenico Gattuso, Antonio Restuccia  
Università Mediterranea di Reggio Calabria - Italy

HMS\_45: Modeling The Empty Container Flow: Identifying Primary Influencing Factors Through Scenario Analysis  
Mandar Tulpule, Rafael Diaz, Joshua G. Behr, Francesco Longo  
Virginia, Modeling, Analysis and Simulation Center, Old Dominion University; Modeling & Simulation Center - Laboratory of Enterprise Solutions, University of Calabria - Italy/ USA

**Wednesday, September 14, 2011 13:30-15:00**

*Room: Hama*

**DHSS: SBA and Netcentric Warfare Simulation - session 1**

***Chair: John A. Sokolowski, Virginia Modeling, Analysis and Simulation Center, VA, USA***

DHSS\_3: Interface Forms for an Underwater Warfare Simulation Environment  
Kyung-Min Seo, Changbeom Choi, Jung Hoon Kim, Tag Gon Kim  
Korea Advanced Institute of Science and Technology; Naval Systems R&D Institute, Agency for Defense Development - South Korea

DHSS\_21: Verification Methodology for Simulation Model based on System Morphism  
Changbeom Choi, Jangwon Bae, Minwook Yoo, Tag Gon Kim, Soohan Kim  
Korea Advanced Institute of Science and Technology; Video Display Biz. Technical Planning Group, SAMSUNG Electronics HQ - South Korea

DHSS\_23: DEVS-Based Validation Of UAV Path Planning In Hostile Environments  
Alejandro Moreno, Luis de la Torre, José L. Risco-Martín, Eva Besada-Portas, Joaquín Aranda Almansa  
Univ. Nacional de Educación a Distancia Spain; Univ. Complutense de Madrid - Spain

DHSS\_18: A Canadian Approach Towards Network Enabled Capabilities – I: Simulation Validation & Illustrative Examples  
Rick McCourt, Kevin Ng, Roy Mitchell  
Centre for Operational Research and Development, Defence Research and Development Canada; University of Ottawa - Canada

DHSS\_28: CAPRICORN: Using Intelligent Agents and Interoperable Simulation for Supporting Country Reconstruction  
Agostino Bruzzone, Marina Massei, Alberto Tremori, Enrico Bocca, Francesca Madeo, Federico Tarone  
MISS DIPTTEM University of Genoa; Mast srl; Simulation Team - Italy

**Wednesday, September 14, 2011 13:30-15:00**

*Room: Sabratha*

**IMAACA: System Identification**

**Chair: Sergio Junco, Universidad Nacional de Rosario, Argentina**

IMAACA\_11: A Recursive Nonlinear System Identification Method Based On Binary Measurements

Laurent Bourgois, Jérôme Juillard

SUPELEC E3S - France

IMAACA\_18: Autofocusing Slow-moving Objects Sensed by an Airborne Synthetic Aperture Radar SAR

José Luis Pasciaroni, Juan Edmundo Cousseau, Néida Beatriz Gálvez

DIEC - CONICET - Universidad Nacional del Sur; SIAG - Base Naval Puerto Belgrano - Argentina

IMAACA\_25: Identification by Hybrid Algorithm: Application to the identification of Dynamics Parameters of Synchronous Machine

Jean N. Razafinjaka, Jean Claude A. Rakotoarisoa

Laboratoire d'Automatique, Ecole Supérieure Polytechnique - Madagascar

IMAACA\_52: Monitoring Steady-State Gains In Large Process Systems

Germán A. Bustos, José L. Godoy, Alejandro H. González, Jacinto L. Marchetti

INTEC (CONICET and Universidad Nacional del Litoral) - Argentina

**Wednesday, September 14, 2011 15:00-15:30**

***COFFEE BREAK Co-Sponsored by PRESAGIS - Exhibition Area: Leptis Magna IV and Bar***

**Wednesday, September 14, 2011 15:30-17:00**

*Room: Massalia I*

**MAS: Artificial Intelligence Techniques - session 1**

**Chair: Yilin Huang, Delft University of Technology, Netherlands**

MAS\_18: Solving Fully Fuzzy Linear Programming Problem with equality and inequality constraints

Ahmad Jafarnejad, Mahnaz Hosseinzadeh, Hamed Mohammadi Kangarani

Faculty of Management, University of Tehran; University of social welfare and rehabilitation sciences, Tehran - Iran

MAS\_36: Genetic Algorithm approach to modelling fractal manufacturing layout

Sameh Saad, Julian Aririguzo

Faculty of Arts, Computing, Engineering and Sciences, Sheffield Hallam University - UK

MAS\_53: Dynamic Spectrum Management with Minimizing Power Allocation

Tawiwat Veeraklaew, Settapong Malisuwan

Laboratory of Mechanical and Aeronautic Engineerings, Defence Technology Institute, THAILAND;

Dynamic Spectrum Management Project Dynamic Spectrum Management Project - Thailand

MAS\_66: New Evolutionary Algorithm Based on Particle Swarm Optimization and Adaptive Plan System With Genetic Algorithm

Pham Ngoc Hieu, Hiroshi Hasegawa

Functional Control Systems - Graduate School of Engineering and Science, Shibaura Institute of Technology; Department of Systems Engineering and Science, Graduate School of Engineering and Science, Shibaura Institute of Technology - Japan

MAS\_27: Multi-Objective Optimization in Urban Design  
Michele Bruno, Kerri Henderson, Hong Min Kim  
Columbia University - USA

**Wednesday, September 14, 2011 15:30-17:00**

*Room: Massalia II*

**EMSS: Human-centred and Human-focused Modelling and Simulation - Session 1**

**Chair: Gaby Neumann, Technical University of Applied Sciences Wildau, Germany**

EMSS\_53: Indoor Pedestrian Navigation Simulation Via a Network Framework  
John Usher, Eric Kolstad  
Dept. of Industrial & Systems Engineering, Mississippi State University - USA

EMSS\_85: Experimental Manufacturing System For Research And Training On Human-Centred Simulation  
Diego Crespo Pereira, David del Rio Vilas, Rosa Rios Prado, Nadia Rego Monteil, Adolfo Lamas Rodriguez  
Integrated Group for Engineering Research (GII), University of A Coruña - Spain

EMSS\_113: How to Benefit more from intuitive Power and Experience of the Human Simulation Knowledge Stakeholder  
Gaby Neumann  
Faculty of Engineering / Industrial Engineering Technical University of Applied Sciences Wildau - Germany

EMSS\_145: Developing a Simulation Training Tool from a Medical Protocol  
Catherine M. Banks, John A. Sokolowski  
Virginia Modeling, Analysis and Simulation Center, Old Dominion University - USA

EMSS\_26: Using Semantic Web Technologies to Compose Live Virtual Constructive (Lvc) Systems  
Warren Bizub, Julia Brandt, Meggan Schoenberg  
Joint Advanced Concepts, Joint and Coalition Warfighting; General Dynamics Information Technology; U.S. Navy, Naval Sea Systems Command - USA

**Wednesday, September 14, 2011 15:30-17:00**

*Room: Mylasa*

**EMSS: Methodologies, Technologies and Applications MS - Session 4**

**Chair: Gerson Cunha, GRVA Lamce, UFRJ, Brazil**

EMSS\_79: Simulation and Model Calibration With Sensitivity Analysis For Threat Detection in The Brain  
Keegan Lowenstein, Brian Leventhal, Kylie Drouin, Robert Dowman, Katie Fowler, Sumona Mondal  
Clarkson University, Department of Computer Science; Clarkson University, Department of Mathematics; Clarkson University, Department of Psychology - USA

EMSS\_108: Development Of The Surface To Air Missile Simulator Through The Process Of Component Composition And Dynamic Reconfiguration Of Weapon System  
Jeebeom Suk, Jaeoh Lee, Yoonho Seo  
Department of Industrial Management Engineering, Korea University - South Korea

EMSS\_130: Formal Framework For The Devs-Driven Modeling Language  
Ufuoma Ighoroje, Oumar Maïga, Mamadou Traoré

African University of Science and Technology; University of Bamako; Blaise Pascal University - Mali/  
Nigeria/ France

EMSS\_61: A Methodology For Developing Des Models: Event Graphs And Sharpsim  
Arda Ceylan, Murat Gunal  
Institute of Naval Science and Engineering  
Turkish Naval Academy; Department of Industrial Engineering  
Turkish Naval Academy - Turkey

MAS\_101: NAV – The Advanced Visualization Station: a Mobile Computing Center for Engineering Project  
Support  
Gabriel A. Fernandes, Gerson G. Cunha, Tiago Mota, Celia Lopes  
Universidade Federal do Rio de Janeiro - Brazil

**Wednesday, September 14, 2011 15:30-17:00**

*Room: Cesarea*

**HMS: Simulation of Transportation and Intermodal Systems - session 1**

**Chair: Toni Guasch, Universitat Politècnica de Catalunya , Spain**

HMS\_10: Intelligent Supervision Of Autonomous Heavy Vehicles : Application To Maritime Area  
Nizar Chatti, Wissam Khalil, Anne-Lise Gehin, Belkacem Ould-Bouamama, Rochdi Merzouki  
LAGIS, CNRS-FRE 3303, Polytech'Lille - France

HMS\_31: Efficiency of Triple Left-Turn Lanes at Signalized Intersections  
Khaled Shaaban  
Department of Civil Engineering, Qatar University - Quatar

HMS\_36: D<sup>2</sup>CTS : a Dynamic and Distributed Container Terminal Simulator  
Gaëtan Lesauvage, Stefan Balev, Frédéric Guinand  
Université du Havre - France

HMS\_41: GLOBALOG: A Simulation case of Freight Multimodal Transportation  
Rosa Rios Prado, Diego Crespo Pereira, David del Rio Vilas, Nadia Rego Monteil  
Integrated Group for Engineering Research, University of A Coruna - Spain

**Wednesday, September 14, 2011 15:30-17:00**

*Room: Hama*

**DHSS: Adaptive and predictive computer-based tutoring - session1**

**Chair: Robert Sottolare, Army Research Laboratory, USA**

DHSS\_8: Realtime Clustering of Unlabelled Sensory Data for Trainee State Assessment  
Keith Brawner, Avelino Gonzalez  
Army Research Laboratory – Human Research & Engineering Directorate; University of Central Florida -  
USA

DHSS\_9: The Impact Of Student Expectations And Tutor Acceptance On Computer-Based Learning  
Environment Acceptance And Future Usage Intentions  
Heather Holden, Benjamin Goldberg  
U.S. Army Research Laboratory – Human Research and Engineering Directorate Simulation and Training  
Technology Center - USA

DHSS\_16: Research Gaps For Adaptive and Predictive Computer-Based Tutoring Systems  
Robert Sottolare, Stephen Goldberg, Paula Durlach

U.S. Army Research Laboratory – Human Research and Engineering Directorate; U.S. Army Research Institute - USA

DHSS\_20: Incorporating Reflection into Learner and Instructor Models For Adaptive And Predictive Computer-Based Tutoring

Elaine Raybourn

Sandia National Laboratories and Advanced Distributed Learning Initiative - USA

DHSS\_4: Excel-Based Analysis and Dynamisation of Probabilities for Logistics Planning

Markus Klug, Andreas Alexa

University of Applied Sciences Technikum Vienna; Austrian National Defence Academy - Austria

**Wednesday, September 14, 2011 15:30-17:00**

*Room: Sabratha*

**MAS Modelling & Simulation Applications**

**Chair: Miquel Angel Piera, UAB**

MAS\_105: Command Feedback and Response (CFR) - The Evolution of Command & Control in an Immersive and Interactive Environment (C2I2)

Marco Biagini, Michele Turi

DIMS (Department of Mathematic Engineering and Simulation), Genova University - Italy

MAS\_100: Modeling Psychological Messages and Their Propagation

Colette Faucher

LSIS, Laboratoire des Sciences de l'Information et des Systèmes, Université Paul Cézanne - France

EMSS\_114: Object-oriented modelling and verification aided by model simplification techniques

Anton Sodja, Borut Zupancic

Faculty of Electrical Engineering, University of Ljubljana - Slovenia

EMSS\_147: Model Synthesis Using A Multi-Agent Learning Strategy

Sebastian Bohmann, Arne Klauke, Volkhard Klinger, Helena Szczerbicka

Department of Simulation and Modeling, Leibniz University Hannover; Department of Embedded Systems, FHDW Hannover - Germany

HMS\_46: A System Dynamics Approach To Modeling The Cost Elements Of Chronic Disease Management Interventions

Rafael Diaz, Mandar Tulpule, Joshua G. Behr

Virginia, Modeling, Analysis and Simulation Center, Old Dominion University - USA

**Wednesday, September 14, 2011 17:15-18:45**

*Room: Leptis Magna IV*

**Special Joint I3M/CAX Forum Session on Border Security & Pandemics**

**Chair: Joseph Rosen, Dartmouth College, USA**

"Simulating Pandemics & Border Security" J.Rosen - Dartmouth College, USA

"The Dark Winter Exercise" J.Riess - Educational Training Solution, USA

"Security and Safety Training ",

G.Santos -Dartmouth College, USA

"Border Security & Pandemics ", E.Santos, IDS UTEP, USA

**Wednesday, September 14, 2011 19:00-19:30**

***I3M Closing Ceremony***

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**Social Event****Thursday 14:00-17:00*****Guided Tour to Vatican Museum***

**Due to Limited Seats please book early as possible and Complete on CAX Forum Desk Your Registration; the Visit is a special event Organized for Conference Attendees; Further info is available on the web under Related Events and Social Events**

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**General Regulations**

-CAX Forum attendees in order to access I3M / DHSS/ EMSS/ IMAACA/ MAS Scientific Sessions need to finalize the registration for the access at I3M registration Desk

-I3M/DHSS/EMSS/HMS/IMAACA/MAS Attendees are entitled to assist for free to the Unclassified CAX Forum Sessions on going from Monday afternoon till Thursday morning in Leptis Magna IV and Tarragona Rooms

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**I3M Co-Located Event September 12-15, 2011*****CAX Forum*****CAX Forum, Monday, September 12, 2011 13:30-15:00***Room: Leptis Magna IV*

CAX Process (JWC)

**CAX Forum, Monday, September 12, 2011 13:30-15:00***Room: Tarragona*

Interoperable simulation (MISS DIPTM)

**CAX Forum, Monday, September 12, 2011 15:30-17:00***Room: Leptis Magna IV*

CAX Process (JWC)

**CAX Forum, Monday, September 12, 2011 15:30-17:00***Room: Tarragona*

Interoperable simulation (MISS DIPTM)

**CAX Forum, Tuesday, September 13, 2011 9:00-10:30***Room: Leptis Magna IV*

Distributed Training &amp; Events (HQ SACT JET/ M&amp;S COE / JWC)

**CAX Forum, Tuesday, September 13, 2011 9:00-10:30***Room: Tarragona*

MEL/MIL Tools &amp; Synchronization (M&amp;S COE / JWC)

**CAX Forum, Tuesday, September 13, 2011 11:00-12:30***Room: Leptis Magna IV*

Distributed Training &amp; Events (JWC)

**CAX Forum, Tuesday, September 13, 2011 11:00-12:30***Room: Tarragona*

CAX support Tools during an exercise (JWC)

**CAX Forum, Tuesday, September 13, 2011 13:30-15:00***Room: Leptis Magna IV*

NATO M&amp;S overview (NMSG, SACT, JWC)

**CAX Forum, Tuesday, September 13, 2011 13:30-15:00****CAX Forum, Tuesday, September 13, 2011 15:30-17:00***Room: Leptis Magna IV*

NATO Models Updates: JTLS, JCATS, VBS2 (Rolands, Lawrence Livermore, Bohemia Interactive)

**CAX Forum, Tuesday, September 13, 2011 15:30-17:00****CAX Forum, Wednesday, September 14, 2011 9:00-10:30***Room: Leptis Magna IV*

Special Topics Cyberdefense, ALTBMD, CBRN

**CAX Forum, Wednesday, September 14, 2011 9:00-10:30***Room: Tarragona*

Cloud Computing &amp; Virtualization (JWC)

**CAX Forum, Wednesday, September 14, 2011 11:00-12:30***Room: Leptis Magna IV*

Data for Simulation (Presagis, MS COE, Selex, France MoD)

**CAX Forum, Wednesday, September 14, 2011 11:00-12:30***Room: Tarragona*

Complex Crisis Simulation (McLeod Inst., Dartmouth, LLNL)

**CAX Forum, Wednesday, September 14, 2011 13:30-15:00***Room: Leptis Magna IV*

M&amp;S COE (Italian MoD, Selex SI)

**CAX Forum, Wednesday, September 14, 2011 13:30-15:00***Room: Tarragona*

Data Security (CCD, JWC, TNO)

**CAX Forum, Wednesday, September 14, 2011 15:30-17:00***Room: Leptis Magna IV*

CAX Training (BLG MOD, DMO, DLSELFDTs, Plexsys)

**CAX Forum, Wednesday, September 14, 2011 15:30-17:00***Room: Tarragona*

Irregular Threats (ICTAC, VMASC, DIPTeM)

**CAX Forum, Wednesday, September 14, 2011 9:00-10:30***Room: Leptis Magna IV*



System Demonstrations

**CAX Forum, Wednesday, September 14, 2011 9:00-10:30**

*Room: Tarragona*

National Simulation Centres & NATO Training Centres

**CAX Forum, Wednesday, September 14, 2011 11:00-12:30**

*Room: Leptis Magna IV*

CAX Forum Closing Session

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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 I3M2011:

-International Journal of Simulation and Process Modeling

***Special Issue: Multidisciplinary Approach to Complex Systems Design and Management: Modeling & Simulation based Methodologies and Tools***

-International Journal of Simulation and Process Modeling

***Special Issue: Research Challenges in Developing Advanced Solutions in Industry and Supply Chains: Modelling and Simulation for Building 21st Century Enterprises***

-International Journal of Defense Modeling and Simulation

***Special Issue on: Simulation and Intelligent Agents to support Defense and Homeland Security***

## 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.

## I3M Hotel and Venue

the I3M 2011 multiconference will be held at Ergife Palace Hotel in Rome

*Rooms Rates, Conditions and Reservation at Ergife Palace Hotel*

The organizing committee has arranged special rooms rates for I3M 2011 participants booking at the Ergife Palace Hotel:

-Single Room: 130.00 euro/night; this rate includes the international breakfast and the conference luncheon for one person (note that the luncheon is included in the rate only during the three conference days)

-Double Room: 145.00 euro/night; this rate includes the international breakfast for two persons and the conference luncheon for one person (note that the conference luncheon is included in the rate only during the three conference days; the eventual additional conference luncheon for the second guest will be charged at 30.00 euro/person)

Please note that conference luncheons will be not provided to those participants that book in a different hotel. The rates listed above include free wi-fi connection in the conference area. You make your reservation at the Ergife Palace Hotel by filling the booking form on [www.msc-les/conf/i3m2011](http://www.msc-les/conf/i3m2011) and sending it to [venue.I3M2011@msc-les.org](mailto:venue.I3M2011@msc-les.org)

## I3M and CAX Forum Shuttle Bus Transportation

A shuttle bus will be available from the Ergife Palace Hotel to the Leonardo da Vinci International Airport (not vice-versa), please ask to CAX Forum Desk for Details

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### **Author and Chair Guidelines for I3M2011**

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 I3M2011 Quality Assessment Forms for providing your feedback, thanks in advance for your support.

### **I3M2012, Wien Austria**

I3M2012 will be held next year in Wien, Austria during September. 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/i3m2012.html](http://www.liophant.org/i3m/i3m2012.html) or write to I3M2012 Program Chair Francesco Longo ([f.longo@unical.it](mailto:f.longo@unical.it))

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