





WISH



















### I3M Multiconference Program

## 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

#### 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

# 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 Merkuriev, Riga Technical University, Latvia

#### HMS Program Chair:

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

### 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

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

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: Special I3M Event 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: Special CAX Forum Event 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

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 DIPTEM 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 Merkuryev, 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 DIPTEM
- -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 Merkuriev, 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 Landspitali; 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\_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\_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: Mvlasa

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-proces design and feed optimization

Eliosbel Márquez González, Débora Castro Espín, Margarita Núñez de Villavicensio, 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 Najafi, Rassoul Kadkhodaee

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 - Algerie

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, Vasilijs Demidovs, Natalia Petukhova

Transport and Telecommunication Institute, Riga; State Join-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, Kjoto 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.Günal, 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, Landspitali-University Hospital, Reykjavik, Iceland; Department of Biomedical engineering, University of Reykjavik, Iceland; Department of Rehabilitation Medicine, Landspitali-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 Uangpairoi. 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 Manoeuvers 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\_47: Modeling of Drying Process of Candies Obtained with Starch Molding Tecnique Noemi Baldino, Lucia Seta, Francesca Romana Lupi, Domenico Gabriele, Bruno de Cindio Department of Engineering Modeling, University of Calabria - Italy

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, Univerisity 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 exploting 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, Univesity of Genoa, Italy

"Experimentation on a Complex CIMIC/PSYOPS Scenario", Francesca Madeo, MISS DIPTEM, 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

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, Ilaria Bagnaro, Thordur Helgason, Páll Ingvarsson, Marcello Bracale, Winfried Mayr, Ugo Carraro, Helmut Kern,

University Hospital Landspitali; 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 Coinstrained 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

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 Della Valle, 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: Indutrial 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 - Algerie

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 Alpbaz 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

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 Consecuence 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, Masuomeh Gardeshi

Islamic Azad University: Allameh Tabatabee 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.I; VMASC, Old Dominium University - Italy/ USA

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

Room: Mylasa

### MAS: Indutrial 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 Görges, 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, Teeranan Nandhakwang, 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, Diamel 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

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, litaly

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 Bucureşti, Faculty of Electronics, Telecommunications, and IT; University Bucureşti, Faculty of Foreign Languages and Literatures - Romania

EMSS\_75: A New Devs-Based Generic Artficial 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 Politechnica 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. Deptartment 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 equivalente classes in alternative Petri nets Juan Ignacio Latorre-Biel, Emilio Jimenez-Marcia

Public University of Navarre. Deptartment 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: Indutrial 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 Görges

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, Kourosh 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 Taffic 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 EnergyTechnocentre, 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, Valencienne; CNRS, Valencienne - 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 Idrisssi

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 Autonoma 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 Optimiziation: 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 encription 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. Deptartment 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: Indutrial 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'Ingnieurs 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 DIPTEM 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 iat 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 Merkuriev, 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

Wednesday, September 14, 201 9:00-10:30

Room: Massalia I

EMSS: Business, Economy and Finance MS - Session 1

Chair: Marina Massei, MISS DIPTEM, 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, 201 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\_106: Modeling and Simulation of Order Sortation Systems

Fahrettin Eldemir, Elif Karakaya

Industrial Engineering Department, Fatih University - Turkey

EMSS 24: Simulation Highway - Direct Access Intelligent Cloud Simulator

Egils Ginters, Inita Sakne, Ieva Lauberte, Artis Aizstrauts, Girts Dreija, Rosa Maria Aquilar Chinea, 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\_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, 201 9:00-10:30

Room: Mylasa

EMSS: Methdologies, 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

Wednesday, September 14, 201 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, 201 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 Dominium 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 DIPTEM University of Genoa; BIDMC, Harvard Medical School; M&S Net; Simulation Team - Italy/USA

#### Wednesday, September 14, 201 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 Maschinenewesen, 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

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

IMAACA\_40: Development of A Tranfer-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, 201 10:30-11:00

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

Wednesday, September 14, 201 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, 201 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, 201 11:00-12:30

Room: Mylasa

#### EMSS: Methdologies, 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 Soyez, 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, 201 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 (CRTEn); 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 aWarehouse 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, 201 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? lan 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 Trewhitt, Reid MacTavish, Margaret Loper Georgia Tech Research Institute - USA

#### Wednesday, September 14, 201 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, 201 11:00-12:30 LUNCH Co-Sponsored by CAE, CAL-TEK, MAST

#### Wednesday, September 14, 201 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

Özgur Özmen, Levent Yilmaz

Auburn University - USA

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

Gregor Klancar, 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, 201 13:30-15:00 *Massalia II* 

Joint Meeting for McLeod Institute of Simulation Science & MSNet Directors

Wednesday, September 14, 201 13:30-15:00

Room: Mylasa

EMSS: Methdologies, 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\_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\_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, 201 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, 201 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 DIPTEM University of Genoa; Mast srl; Simulation Team - Italy

Wednesday, September 14, 201 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, Nélida 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, 201 15:00-15:30

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

Wednesday, September 14, 201 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, 201 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, 201 15:30-17:00

Room: Mylasa

EMSS: Methdologies, 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

Institude 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, 201 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

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 Técnca Superior de Ingeniería ICAI, Universidad Pontificia Comillas de Madrid - Spain

#### Wednesday, September 14, 201 15:30-17:00

Room: Hama

DHSS: Adaptive and predictive computer-based tutoring - session1

Chair: Robert Sottilare, 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 Sottilare, 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, 201 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 Bohlmann, 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, 201 17:15-18:45

Room: Leptis Magna IV

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

Chair: Joseph Rosen, Dartmouth College, USA

G.Santos - Dartmouth College, USA

#### Wednesday, September 14, 201 19:00-19:30

<sup>&</sup>quot;Simulating Pandemics & Border Security" J.Rosen - Dartmouth College, USA

<sup>&</sup>quot;The Dark Winter Exercise" J.Riess - Educational Training Solution, USA

<sup>&</sup>quot;Security and Safety Training",

<sup>&</sup>quot;Border Security & Pandemics", E.Santos, IDS UTEP, USA

#### 13M Closing Ceremony

#### 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

#### **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 DIPTEM)

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 DIPTEM)

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

Room: Leptis Magna IV

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

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

Room: Tarragona

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

#### CAX Forum, Tuesday, September 13, 2011 11:00-12:30

Room: Leptis Magna IV

Distributed Training & 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&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 & 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&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

#### 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 and sending it to venue.l3M2011@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

#### **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.

#### 13M 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 or write to I3M2012 Program Chair Francesco Longo (f.longo@unical.it)

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Further details on I3M Conferences are available in www.liophant.org/i3m