

SUMMER COMPUTER SIMULATION CONFERENCE 2003

General Chair:

Agostino G. Bruzzone, MISS, DIP University of Genoa, Italy

Program Chair:

Mhamed Itmi PSI-MISS, INSA, Rouen

Steering Committee Chair

Mohammad S. Obaidat, Monmouth University, USA

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Track: Agent- Directed Simulation

Chair:

Tuncer Ören, MISS - Ottawa Center, ON Canada

Session 1: Agent Direct Simulation

Monday 21 July 2003 Room 4

3:30 pm - 5:00 pm

Chair: Tuncer Ören, MISS - Ottawa Center, ON Canada

-Code: S063 – *Fuzzy Agents with Dynamic Personality for the Simulation of Human Behavior*

Nasser Ghasem-Aghaee, Tuncer I. Oren

University of Ottawa, School of Information Technology and Engineering, Ottawa, Ontario, Canada

University of Isfahan, Computer Eng., Isfahan, Isfahan, Iran

-Code: S073 – *Personality Representation Processable in Fuzzy Logic for Human Behavior Simulation*

Tuncer Oren, Nasser Ghasem-Aghaee

Univ. Ottawa, Computer Science, Ottawa, Canada

University of Isfahan, Department of Computer Engineering, Isfahan, Iran

-Code: S101 – *Simulation Using Intelligent Mobile Agents*

András Jávör, Gergely Mészáros-Komáromy

Budapest University of Technology and Economics, Department of Information and Knowledge Management, Budapest, Hungary

Session 2: Agent Direct Simulation

Tuesday 22 July 2003 Room 4

3:30 pm - 5:00 pm

Chair: Tuncer Ören, MISS - Ottawa Center, ON Canada

-Code: S153 – *A Simulation-based Approach to Developing Real-time Distributed Control Systems*

Robert W. Brennan, James Wang

University of Calgary, Mechanical and Manufacturing Engineering,
Calgary, Alberta, Canada

-Code: S157 – *Agent-Based Modeling with Game Theory Constructs*

Raymond R Hill¹, Joseph C Price, Lance E Champagne

Wright State University, Biomedical, Industrial & Human Factors Eng., Dayton, OH,
USA

Air Force Institute of Technology, Operational Sciences, WPAFB, OH, USA

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Track: Business & Industry

Chair:

Priscilla Elfrey, NASA & NCS, FL USA

Session 1: Business & Industry

Monday 21 July 2003 Room 5

10:30 am - 12:00 pm

Chair: Roberto Revetria, ITIM, Italy

-Code: S064 – *Predicting the Impact on Throughput of a New Information System*

George Tompkins, Robert J Burnside, Johnell M Gonzales-Lujan

Los Alamos National Laboratory, Technology Modeling & Analysis, Los Alamos,
New Mexico, USA

-Code: S054 – *Engine Flow Fence Actuator Sensitivity Analysis Using Mathematical Modeling & Computer Simulation*

Oswald G. Harris

Honeywell Engines, Systems & Services, Controls Integration, Phoenix,
Arizona, USA

-Code: S053 – *Higher-Performance Arbitration Circuit for Inter-processor Communication*

Jih- Fu Tu, Ming-Chih Lu

St. John's & St. Mary's Institute of Technology, The department of Electronic
Engineering, Taipei, Taiwan

Session 2: Business & Industry

Tuesday 22 July 2003 Room 5

10:30 am - 12:00 pm

Chair: Priscilla Elfrey, NASA & NCS, FL USA

-Code: S081 – *Simulation for the Reverse Management of Business Processes*

Alessandra Orsoni, Agostino Bruzzone

University of Genoa, Production Engineering, Genoa, Italy

-Code: S082 – *Simulation-Based Assessment of Dense Gas Release Hazard in Industrial Facilities*

Alessandra Orsoni, Giribone Pietro

University of Genoa, Production Engineering, Genoa, Italy

-Code: S049 – *Identification and modeling of some of the effective factors in the decision-making process of Bushehr NPP-1 control room operators*

Kamran Sepanloo, Reza Jafarian, Fariba Dezhbankhan, Reza Zarghami

Atomic Energy Organisation of Iran, National Nuclear Safety, Tehran, Iran

University of Tehran, Engineering, Tehran, Iran

Session 3: Business & Industry

Tuesday 22 July 2003 Room 5

1:30 pm - 3:00 pm

Chair: Priscilla Elfrey, NASA & NCS, FL USA

-Code: S104 – *The Simulation Industry in search of recognition, The Next Step*

Lorraine Grace

UCF, School of EECS, Orlando Florida, Florida, USA

-Code: S111 – *Computer Aided Multi-Paradigm Modelling of Hybrid Systems with AToM3*

Juan de Lara, Hans Vangheluwe, Manuel Alfonseca

Universidad Autonoma Madrid, Computer Science, Madrid, Spain

McGill University, Computer Science, Montreal, Quebec, Canada

-Code: S074 – *SIMS: A Modeling and Simulation Platform for Intrusion Monitoring/Detection Systems*

Ashish Garg, Shambhu Upadhyaya, Ramkumar Chinchani, Kevin Kwiat

University at Buffalo, State University of New York, Computer Science and Engineering, Buffalo, New York, USA

Air Force Research Laboratory, Rome, New York, USA

Session 4: Business & Industry

Wednesday 23 July 2003 Room 5

10:30 am -

12:00 pm

Chair: Priscilla Elfrey, NASA & NCS, FL USA

-Code: S134 – *A Random Walk Toward Building an Agenda for the Future of Simulation*

Priscilla Elfrey

NASA KSC, NCS, Orlando, Florida, USA

-Code: S112 – *An Efficient Sampling Technique for Stochastic Supply Chain Simulations*

Wing Yan Hung, Sergei Kucherenko, Nouri J Samsatli, Nilay Shah

Imperial College London, Centre for Process Systems Engineering (CPSE), London, England, United Kingdom

-Code: S055 – *A Robust Design of a Static VAR Compensator Controller for Power System Stability Improvement*

Abu Hamed Rahim, Samir A. Al-Baiyat

K.F. University of Petroleum and Minerals, Electrical Engineering, Dhahran, Saudi Arabia

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Track: Life Science Simulation

Chair

David R.C. Hill, ISIMA, France

Session 1: Life Science Simulation

Wednesday 23 July 2003 Room 5

1:30 pm - 3:00 pm

Chair: David R.C. Hill, ISIMA, France

-Code: S034 – *Simulation of microarray image experiments*

Vincent Barra, Christophe Gouinaud

LIMOS, AUBIERE, France

-Code: S043 – *FOREST: A System for Developing and Evaluating Ecosystem Simulation Models*

Heather K May, John S Conery

University of Oregon, Computer and Information Science, Eugene, OR, USA

-Code: S128 – *On the modeling and visualization of heart valve closure mechanisms*

Sriprakash Sarathy, Niranjana Talukder, Jarrell Reed

Clark Atlanta University, Engineering, Atlanta, GA, USA

-Code: S069 – *Forming of Controlled Living Microenvironments*

Alexander A. Amelkin

Moscow State University of Food Production, Moscow, Russian Federation

Session 2: Energy & Minerals Production Systems Simulation and Risks Engineering

Wednesday 23 July 2003 Room 5

1:30 pm - 3:00 pm

Chair: Samuel Frimpong, CAMDeR University of Alberta, Canada

-Code: S008 – *Performance Simulation of Shovel Excavators for Earthmoving Operations*

Samuel Frimpong¹, Yafei Hu, Zongyu Chang

University of Alberta, Civil & Environmental Engineering, Edmonton, AB, Canada

-Code: S077 – *Surface Mining Excavation Monitoring Using Spot Satellite Imaging*

Nuray Erdogan, Abdurrahim Ozgenoglu, Zuhail Akyurek, Samuel Frimpong

University of Alberta, Civil and Environmental Engineering, School of Mining and Petroleum, Edmonton, Alberta, Canada

-Code: S087 – *NUMSOSS: Numerical Simulation Software for Oil Sand Slurry Flow in Flexible Pipelines*

Samuel Frimpong, Rufus Ayodele, Jozef Szymanski

University of Alberta, School of Mining and Petroleum Engineering, Edmonton, Alberta, Canada.

-Code: S052 – *SIMULATION TOOLS FOR INDUSTRIAL NOISE LEVEL ESTIMATION: THE REAL CASE OF A POWER STATION*

Domenico Falcone, Vincenzo Duraccio, Angelo Pette

University of Cassino, Departmento of Industrial Engineering, Cassino, FR, Italy

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Track: Maritime Simulation

Chairs:

Pertti Broas, VTT, Finland

Aldo Zini, Cetena/Fincantieri, Italy

Session 1: Maritime Simulation

Monday 21 July 2003 Room 2

3:30 pm - 5:00 pm

Chair: Pertti Broas, VTT, Finland

-Code: S146 – *VISION Virtual Ship Simulation*

Francesco Perra, Aldo Guagnano, Riccardo Necrisi, Necrisi Tozzi

Orizzonte Sistemi Navali S.P.A, Simulation, Genova - CETENA, Genova, Italy

-Code: S170 – *Development, Validation, and Application of the Dynaface Helicopter / Ship Dynamic Interface Simulation Software Package*

Robert G. Langlois, Michael LaRosa, Atef R. Tadros

Carleton University, Mechanical and Aerospace Engineering, Ottawa, ON, Canada.

Indal Technologies Inc., Mississauga, Ontario, Canada

-Code: S171 – *Simulating the Effects of Ship Motion on Postural Stability Using Articulated Dynamic Models*

Robert G. Langlois, Joyce Wedge

Carleton University, Mechanical and Aerospace Eng., Ottawa, Ontario, Canada

-Code: S130 – *Simulation of Klapeida Oil Terminal*

Henrikas Pranevicius

Kaunas University of Technology, Business informatics, Kaunas, Lithuania

Session 2: Maritime Simulation

Tuesday 22 July 2003 Room 2

3:30 pm - 5:00 pm

Chair: Aldo Zini, Cetena/Fincantieri, Italy

-Code: S014 – *On-Board Training System with improved damage control model*

Luigi Vindigni, Yves Cote

CAE Inc., 53 - Power Systems & Simulation Dept., Saint-Laurent, Quebec, Canada

-Code: S105 –

Virtual Simulation of Open Sea and Harbour Manoeuvring of Cruise Vessels

Giovanni Cazzani, Alessia Coan, Roberta Depascale, Andrea Lommi, Luca

Sebastiani

Cetena S.P.A., Fincantieri S.P.A., Merchant Ship Division, Italy

-Code: S060 – *Computing Simulation Model of Shipbuilding Organization Process*

Ante Munitic, Slavko Simundic, Josko Dvornik

Maritime Faculty of Split, System Dynamics, Split, Croatia (Hrvatska)

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Track: Military Applications and Simulation

Chairs:

Robert Lutz, John Hopkins University APL, USA

Joe Uzdinski, Lockheed Martin, USA

Session 1: Simulation Methodologies for Military Network Applications

Monday 21 July 2003 Room 1

10:30 am - 12:00 pm

Chair: Kevin A Kwiat, Air Force Research Lab, Information Directorate, Rome, NY, USA

-Code: S048 – *Integrating Distributed Wireless Simulation Into Genesis Framework*

Boleslaw K. Szymanski, Kiran Madnani

Rensselaer Polytechnic Institute, Computer Science, Troy, NY, USA

-Code: S002 – *Fluid models of wireless networks*

R Srikant, Atilla Eryilmaz

University of Illinois, Coordinated Science Lab, Urbana, IL, USA

-Code: S031 – *Simulation-based Tools for Validation of Distributed Network Protocols*

Kaliappa N Ravindran, Kevin A Kwiat

City University of New York, Computer Science, New York, NY, USA

Air Force Research Lab, Information Directorate, Rome, NY, USA

Session 2: Air and Missile Defense Analysis

Monday 21 July 2003 Room 1

1:30 pm - 3:00 pm

Chair: Joe Uzdinski, Lockheed Martin, USA

-Code: S189 – *Using the High-Level Architecture to Evaluate C4ISR System Design in a Battlefield Context*

C. Matthew Palmer

Lockheed Martin, Moorestown, NJ, USA

-Code: S152 – *Sea-Based Missile Defense System Effectiveness Analysis*

Joseph E. Uzdinski, Timothy J. Sullivan, Robert R. Koury

Lockheed Martin, Modeling and Operations Analysis, Moorestown, NJ, USA

-Code: S164 – *Missile Defense as a Capacity Planning Problem*

Jerry Couretas

Lockheed Martin, Arlington, VA, USA

-Code: S151 – *A Conceptual Model of the Capability to Deliver Military Capability-based Planning*

Chris Pogue, A Vallerand

Dept of National Defence, Synthetic Environment Coordination Office (SECO),

Ottawa, Ontario, Canada

Session 3: Defense Systems Performance Evaluation

Monday 21 July 2003 Room 1

3:30 pm - 5:00 pm

Chair: Robert Lutz, John Hopkins University APL, USA

-Code: S071 – *Use of a Hardware-in-the-Loop Simulation to Determine System Performance as Part of a Shelf Life Extension Study for an Air Defense Missile System*

David M Curry, Craig A Combs, Susan Christiansen, Marcia Holmes
US Army Aviation & Missile Command, Aviation & Missile RDEC, Redstone Arsenal, Alabama, USA

-Code: S160 – *Search Algorithm for Nonlinear Stochastic System – Bay of Biscay Scenario*

Subhashini Ganapathy, Sundaram Narayanan, Raymond Hill
Wright State University, Dept. of Biomedical and Industrial Eng. Dayton, Ohio, USA

-Code: S163 – *On the use of Virtual Prototyping in Ship Design*

A.I. Lommi, A.Zini, Davide Tozzi, Riccardo Necrisi, Alessio Carta, Marco Parapetto
CETENA, Information Technologies, Genoa - Italian Navy, SPM, Roma, Italy

-Code: S029 – *The Research of Simulation Grid Oriented Large-Scale Simulation*

LING Yun-xiang, QIU Di-shan, GAO Ming
College of humanities and management,NUDT, Changsha, Hunan, China.

Session 4: Military Simulation

Tuesday 22 July 2003 Room 1

10:30 am - 12:00 pm

Chair: Joe Uzdinski, Lockheed Martin, USA

-Code: S003 – *A Simulation/Prototype Co-Design Approach for Assuring the Effectiveness of Securing a Distributed System*

Kevin A. Kwiat, Joseph V. Beasock
Air Force RL, AFRL/IFGA, - PAR, Government Systems, Rome, NY, USA

-Code: S045 – *Suggesting a Common Framework for the Classification of Military Training and Computer Game Simulators*

Torben Svane, Lars Karlsson
Halmstad University, School of Information Science, Halmstad, Sweden

-Code: S190 – *Converging Voice Over Internet Protocol (VoIP) with Distributed M&S*

Scott Holben, Robert Johnson
Lockheed Martin, Marietta, Georgiz, USA

-Code: S078 – *„TAMIZA” - THE SIMULATION BASED TRAINING SYSTEM EMBEDDED IN REAL MILITARY EQUIPMENT*

Piotr S Michalowski, Marek Iwaniuk
Air Force Institute of Technology, Warszawa, Poland

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Track: M&S Methodology, Tools and Applications

Chairs:

Fernando Barros, University of Coimbra, Portugal

Ralph Huntsinger, MISS - CSUChico, CA USA

Session 1: M&S Methodology, Tools and Applications

Monday 21 July 2003 Room 3

10:30 am - 12:00 pm

Chair: Ralph Huntsinger, MISS - CSUChico, CA USA

-Code: S001 – *MDA Compliant Design of SimExplorer A software tool to handle simulation experimental frameworks*

F.Amblard, David R.C. Hill, Stéphan Bernard, Jérôme Truffot, Guillaume Deffuant
Cemagref, LISC, Aubiere, France - CNRS, LIMOS, Aubière, France

-Code: S016 – *Knowledge-based Computational Model Assembling*

Martin Th. van Hees

MARIN, Ships - Knowledge Based Solutions, Wageningen, The Netherlands.
Qnowledge BV, Wageningen, The Netherlands

-Code: S036 – *From Class Diagrams to Zope Products with the Meta-Modelling Tool AToM3*

Andriy Levytskyi, Eugene J.H. Kerckhoffs

TU Delft, ITS\Mediamatica, Delft, The Netherlands

-Code: S199 – *Beyond limits in Kohonen's self-organized clustering*

Miroslav Snorek

Czech Technical University, Computer Science and Engineering, Praha 2, CZ

Session 2: M&S Methodology, Tools and Applications

Monday 21 July 2003 Room 3

1:30 pm - 3:00 pm

Chair: Bernard Ziegler, University of Arizona, USA

-Code: S042 – *A new Framework for the Analysis of Simultaneous Events*

Christoph Barz, Rolf Göppfarth, Peter Martini, Andre Wenzel

University of Bonn, Computer Science IV, Bonn, Germany

-Code: S046 – *A New Approach for The Parallel Solution of ODE's Expressed in Symmetric Form*

Osman Abou-Rabia

Laurentian University, Mathematics & Computer Science, Sudbury, Ontario, Canada

-Code: S047 – *Identifying Equivalence of DEVSS: A Language Approach*

Moon Ho Hwang

Cubictek, Co., Ltd., Simulation & Control Center, Troy, MI, USA

-Code: S056 – *Periodic Time Series Evaluation & Model Construction*

Jerry M Couretas

LM, Arlington, Virginia, USA

Session 3: M&S Methodology, Tools and Applications

Monday 21 July 2003 Room 3

3:30 pm - 5:00 pm

Chair: Fernando Barros, University of Coimbra, Portugal

-Code: S061 – *Using Simulations as a Persuasive Technology in Secondary School Technical Curriculum*

Thomas W Mastaglio, George C Harrison

Norfolk State University, Computer Science, Norfolk, VA, USA

-Code: S062 – *Remote execution and 3D visualization of Cell-DEVS model*

Gabriel A Wainer, Wenhong Chen

Carleton University, Systems and Computer Engineering, Ottawa, ON, Canada

-Code: S065 – *On a Difference Equations Model for HIV/AIDS Development*

Bhagwan D Aggarwala

University of Calgary, Mathematics and Statistics, Calgary, Alberta, Canada

-Code: S066 – *Improving Finite Elements Method models using Cell-DEVS*

Gabriel A Wainer, Hesham Saadawi

Carleton University, Systems and Computer Engineering, Ottawa, ON, Canada

Session 4: M&S Methodology, Tools and Applications

Tuesday 22 July 2003 Room 3

10:30 am - 12:00 pm

Chair: Hesham Sarjoughian, Arizona State University, USA

-Code: S070 – *A Model for Software Error Estimation*

Darush Davani, Goran Trajkovski

Towson University, Computer and Information Sciences, Towson, MD, USA

-Code: S075 – *A Faster Implementation of Devs in the Joint MEASURE Simulation Environment*

Steven B Hall, Shankar M Venkatesan, Donald B Wood

Lockheed Martin, Advanced Simulation Center, Sunnyvale, CA, USA

-Code: S106 – *Automated Symbolic Generation of Vector Graph Theoretic Object Based Non-Linear Dynamic Simulation Models*

Sriprakash Sarathy, Khalil Shujaee, Kayin Canon

Clark Atlanta University, Engineering, Atlanta, GA, USA

Georgia Institute of Technology, Aerospace, Atlanta, GA, USA

-Code: S090 – *Technique for Identifying an Observable Process with one of several Simulation Models*

Nicholas A. Nechval, Konstantin N. Nechval, Edgars K. Vasermanis

Institute of Transport and Telecommunication, Department of Applied Mathematics, Riga, Latvia

Session 5: M&S Methodology, Tools and Applications

Tuesday July 2003 Room 3

1:30 pm - 3:00 pm

Chair: Gabriel Wainer, Carleton University, Canada

-Code: S118 – *Efficient Simulation of Large Dynamic Structure Cell Spaces*

Alexandre MUZY¹, Eric INNOCENTI¹, Fernando J. BARROS², Antoine AIELLO,
Jean-francois SANTUCCI

University of Corsica, Computer science, Corti, Corsica, France

Universidade de Coimbra, Dept. Eng. Informática, Coimbra, Portugal

-Code: S120 – *Explanatory reasoning: from knowledge based systems to simulation systems*

Elamri Fouad, Itmi Mhamed, Pécuchet Jean-Pierre¹

INSA, PSI laboratory, Rouen, France

College of Engineering, Computer Science and Technology, Chico, California, USA

-Code: S123 – *Simulating the Inter-Component Interactions in Software Systems*

Boris Shishkov, Joseph Barjis, Jan Dietz

Delft University of Technology, Information Systems & Algorithms, Delft, n/a, The Netherlands

Thames Valley University, Department of Computer Science, Slough, UK

The University of Reading, Department of Computer Science, Reading, UK

-Code: S108 – *Simulation Speedup for DEVS Models by Composition-based Compilation*

Wan Bok Lee, Tag Gon Kim¹

KAIST, EECS, Daejeon, Korea, Republic of

Session 6: M&S Methodology, Tools and Applications

Tuesday 22 July 2003 Room 3

3:30 pm - 5:00 pm

Chair: J.M.Couretas, Lockheed Martin, USA

-Code: S129 – *Mapping ODEs to DEVS: Adaptive Quantization*

Jean-Sebastien Bolduc, Hans L Vangheluwe

McGill University, School of Computer Science, Montreal, Quebec, Canada

-Code: S137 – *The Antic 2 training multi agent simulation system*

Samuel Morisset, Jean-Pierre Pecuchet, Marc Savall

Insa of Rouen, PSI, Déville les Rouen, Normandie, France

-Code: S124 – *A Simulation based DSS for Modelling passenger arrivals and departures in an Immigration System of a Major International Airport*

Masood Badri

United Arab Emirates University, Faculty of Business & Economics, NA, United Arab Emirates

Session 7: M&S Methodology, Tools and Applications

Wednesday 23 July 2003 Room 3

10:30 am -

12:00 pm

Chair: Hans Vangeleuwe, MCGills University, Canada

-Code: S141 – *A unified view of time and causality and its application to distributed.*

James Nutaro Hessam S. Sarjoughian

Arizona State University, Computer Science & Engr., Tempe, AZ, USA

University of Arizona, Electrical & Computer Engineering, Tucson, AZ, USA

-Code: S145 – *Modeling and Simulation of Switched Systems: a dynamic structure approach*

Fernando J Barros

University of Coimbra, Informatics, Coimbra, NA, Portugal

-Code: S159 – *Empirical Analysis of Legacy Heuristics using Simulation-Based Methods*

Raymond R Hill¹, Yong Kun Cho, James T Moore

Wright State University, Biomedical, Industrial & Human Factors Eng., Dayton, OH

Air Force Institute of Technology, Operational Sciences, WPAFB, OH, USA

-Code: S168 – *An Application of Lean Concepts and Simulation for Drainage Systems Maintenance Operations*

Albert Agbulos, John Roesch, Mohamed Al-Hussein, Simaan AbouRizk

University of Alberta, Civil and Environmental Engineering, Edmonton, Canada

City of Edmonton, Office of the City Auditor, Edmonton, Alberta, Canada

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Session 2: Optimization of Logistic Systems Through Simulation

Tuesday 22 July 2003 Room 4

1:30 pm - 3:00 pm

Chair: Antoni Guasch, UPC, Spain

-Code: S033 – *Professional Support for Cooperative Simulation Projects - A Challenge for the Simulation of Logistics and Production Networks*

Carlos Jahn, Fraunhofer IFF, Germany

-Code: S086 – *Uncertainty in Modelling and Its Impact on Optimisation Domain; Network Services Pricing*

Mariusz Kamola, Piotr Arabas, Krzysztof Malinowski

Warsaw University of Technology, Poland

-Code: S097 – *Web Integrated Logistics Design: an HLA Framework for Supplying Negotiation*

Agostino Bruzzone, Roberto Revetria

University of Genoa, Italy

Session 3: Optimization of Logistic Systems Through Simulation

Wednesday 23 July 2003 Room 4

10:30 am - 12:00 pm

Chair: Miquel Angel Piera, UA Barcelona, Spain

-Code: S144 – *Simulation and Optimization of Logistic and Production Systems Using Discrete and Continuous PN*

Emilio Jiménez, Mercedes Pérez

University of La Rioja, Spain

-Code: S037 – *Optimization of Logistic Systems Through Simulation: Simulation based Value-added-services - Analysis and Evaluation of Predictive Alteration Planning*

Andreas Hellmann, Ulrich Jessen

Fraunhofer Institute for Material Flow and Logistics, Germany

-Code: S148 – *A Methodology to Improve Simulation Optimization Approach for Process Scheduling Through Petri Net Formalism*

Miquel Angel Piera, Toni Guasch, Mercedes Elisabet Narciso

Universitat Autònoma de Barcelona, Spain

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Track: Production & Manufacturing

Chairs:

Edward Williams, PMCorp, USA

Session 1: Production & Manufacturing

Monday 21 July 2003 Room 4

10:30 am - 12:00 pm

Chair: Edward Williams, PMCorp, USA

-Code: S022 – *Exploring Alternatives in an Automotive Industry Job Shop Using Simulation*

Edward J. Williams, Ryan VanBelle

University of Michigan - Dearborn, Industrial & Manufacturing Systems

Engineering, Dearborn, Michigan, USA

-Code: S023 – *Simulation-based Order Acceptance in Make-to-order Manufacturing Systems*

Amitava Nandi, Paul Rogers

Nortel Networks, Optical Components Division, Ottawa, Ontario, Canada

The University of Calgary, Department of Mechanical and Manufacturing

Engineering, Calgary, Alberta, Canada

-Code: S040 – *The use of data Envelopment Analysis and Simulation in Process Engineering*

Andrew Greasley Aston University, Operations and Information Management Group,
Birmingham, United Kingdom

-Code: S174 – *A new dispatching rule for stochastic and dynamic job scheduling*

Umar M. Al-Turki, Abdulbasit A. Andijani, Shaikh Arifulsalam

KFUPM, Systems Engineering, Dhahran, Saudi Arabia

Session 2: Production & Manufacturing

Monday 21 July 2003 Room 4

1:30 pm - 3:00 pm

Chair: Edward Williams, PMCorp, USA

-Code: S050 – *Design and Validation of an IFDI System by the employment of artificial neural Networks*

Domenico Falcone, Fabio De Felice, Alessandro Silvestri, Vincenzo Duraccio, GianPaolo Di Bona

University of Cassino, Department of Industrial Engineering, Cassino, Italy

-Code: S138 – *Simulation as a Tool in Understanding the Concepts of Lean Manufacturing*

Bernard J Schroer

Univ AL Huntsville, Research, Huntsville, AL, USA

-Code: S142 – *A Simulation Study on Color Rescheduling Storage in an Automotive Factory*

Dug Hee Moon¹, Ha Seok Kim

Changwon National University, Industrial & Systems Engineering, Changwon, Gyeongnam - GM Daewoo Auto and Technology Co, Production Engineering Center, Changwon, Gyeongnam, Korea, Republic of

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Track: Simulation in Transportations

Chairs:

Fred Wieland, MITRE, USA

Essam Radwan, UCF, FL USA

Session 1: Aviation Applications

Monday 21 July 2003 Room 2

10:30 am - 12:00 pm

Chair: Fred Wieland, MITRE, USA

-Code: S021 – *An Organizational Approach to Assessing the Need for a Distributed Simulation*

Patricia A Liguori, Celesta G Ball

The MITRE Corporation, CAASD, McLean, Virginia, USA

-Code: S080 – *Building the Timetable from Bottom-Up Demand A Micro-Econometric Approach*

Jennifer L Gentry, Dipasis Bhadra, Wells Michael, Brendan Hogan

MITRE/CAASD, F066, McLean, VA, USA

-Code: S194 – *A Simulation Study of the Passenger Check-in System at the Ottawa International Airport*

Yuheng Cao, Aaron Nsakanda, Irwin Pressman

Carleton University, Sprott School of Business, Ottawa, Ontario, Canada

Carleton University, School of Mathematics and Statistics, Ottawa, Ontario, Canada

Session 2: Ground Transportation

Monday 21 July 2003 Room 2

1:30 pm - 3:00 pm

Chair: Essam Radwan, UCF, FL USA

-Code: S067 – *Overview of Driving Simulator Research Capabilities at The University of Central Florida*

Harold I Klee

University of Central Florida, Computer Engineering, Orlando, FL, USA

-Code: S015 – *Driving Simulators Application to Left Turn Gap Acceptance*

Essam Radwan

UCF, CATSS, Orlando, FL, USA

-Code: S006 – *Investigating Compressibility of Large-Scale Microscopic Transportation Systems Simulation*

Sherif Ishak, Ciprian Alecsandru

Louisiana State University, Civil Engineering, Baton Rouge, LA, USA

-Code: S030 – *Simulation of the Shuttle-Bus Pilgrim Transportation System Between the Holy Shrines of Hajj*

Hussam M Soliman¹, Sahl A Al-Sabban, Osama I Abduh

King Saud University, Riyadh - Ministry of Hajj, Projects & Holy Shrines, Makkah -

Ministry of Communication, Riyadh, Saudi Arabia

Session 3: Invited Talk of Simulation in Transportations

Tuesday 22 July 2003 Room 2

10:30 am - 12:00 pm

Chair: Fred Wieland, MITRE, USA

Speaker: Dr. Amy Pritchett

Session 4: Ground Transportation

Tuesday 22 July 2003 Room 2

1:30 pm - 3:00 pm

Chair: Essam Radwan, UCF, FL USA

-Code: S027 – *SHAKER: a Maximum Throughput Model for Toll Collection Facilities*

Marguerite L Zarrillo, A. Essam Radwan, Daniel Schmitt

University of Massachusetts Dartmouth, Physics Department, N. Dartmouth, USA

-Code: S166 – *A brake disc's temperature estimation module*

Saïd Hayat¹, Samuel Artus, Marcel Staroswiecki, Vincent Cocquemot

INRETS, IPSIS Université des Sciences et Technologies de Lille, Laboratoire LAIL, Lille, France

-Code: S059 – *Modeling Driver Behavior: A Combined Equation-Based and Fuzzy-Based Approach*

Anis Ben Amor, Shigeyoshi Watanabe

The University of ElectroCommunications, Information and Communication Engineering, Tokyo, Japan

Session 5: Ground Transportation

Wednesday 23 July 2003 Room 2

1:30 pm - 3:00 pm

Chair: Fred Wieland, MITRE, USA

-Code: S026 – *TNCC and the No-Queue-Maximum-Throughput Indicator at Toll Facilities*

Marguerite L Zarrillo, A. Essam Radwan, Ali Jaffery

University of Massachusetts Dartmouth, Physics Department, N. Dartmouth, Massachusetts, USA

-Code: S169 – *Traffic Accident Simulation and Animation*

Mohamed Abdel-Aty1, Hala ElAarag

University of Central Florida, Civil & Environmental Engineering, Orlando, USA

Stetson University, Dept. of Mathematics and Computer Science, DeLand, FL, USA

-Code: S135 – *A Simulation Study for Automated Path Planning in Transportation Systems*

Balqies Sadoun

Al-Balqa' Applied University, Dept. of Surveying Eng.&Geomatics, Al-Salt, Jordan

Session 6: Ground Transportation

Wednesday 23 July 2003 Room 2

3:30 pm - 5:00 pm

Chair: Abdellah El Moudni, UTBM, France

-Code: S109 – *A Game-Based, Multi-Agent Coordination Mechanism - Application to Road Traffic and Driving Simulations -*

Alexis Champion1, Stéphane Espié, René Mandiau, Jean-Michel Auberlet,

Christophe Kolski

INRETS, MSIS, Arcueil, France

CS-Srilog, R&D, Clamart, France

LAMIH, RAIHM, Valenciennes, France

-Code: S089 – *Predictive Quantization-based Filtering in Distributed Traffic Simulation*

JongKeun Lee, SungDo Chi, Bernard P. Zeigler

ACIMS, Electrical & Computer Engineering, Tucson, Arizona, USA

Intelligent Research lab, Computer Engineering, Seoul, Korea, Republic of

-Code: S083 – **VEHICLE ORIGIN-DESTINATION PETRI NET: ANALYSIS TECHNIQUES**

Abdellah El Moudni, A ABBAS-TURKI, O. GRUNDER

Université de technologie de Belfort, Montbeliard, France

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Track: Science & Technology

Chair:

Robert McGraw, RAM, CA USA

Session 1: Science & Technology

Wednesday 23 July 2003 Room 3

1:30 pm - 3:00 pm

Chair: Abdelkhalak El Hami, INSA Rouen, France

-Code: S009 – *JavaHASE: Automatic Generation of Applets from HASE Simulation Models*

Frederic G Mallet, Roland N Ibbett, School of Informatics, ICISA, Edinburgh, UK
Institute for System Level Integration, Livingston, United Kingdom

-Code: S072 – *Simulating General Relativity*

Stanislaw Raczynski

Universidad Panamericana, McLeod Institute for Simulation Sciences, Mexico City
DF, Mexico

-Code: S085 – *Numerical simulation of a piezoelectric engine with progressive wave via a reliability technique.*

Abdelkhalak El Hami, Bouchaib Radi

INSA Rouen, Dept.Mecanique, Rouen, France - ENSAM-Meknès, BP: 4042, Béni
M'Hamed, Marjane II, Meknès, Morocco

Session 2: Science & Technology

Wednesday 23 July 2003 Room 3

3:30 pm - 5:00 pm

Chair: Robert McGraw, RAM, CA USA

-Code: S092 – *Simulation in the mobile telephony market: price discrimination strategy under asymmetrical conditions*

Claudio Ferragine, Livio Cricelli, Nathan Leviaidi, Francesca Di Pillo

University of Tor Vergata, Rome - University of Cassino, Frosinone, Italy

-Code: S093 – *Simulation of 2-Dimensional Torus Networks*

Chang-Shyh Peng

California Lutheran University, Computer Science, Thousans Oaks, CA, USA

-Code: S162 – *Impact of Wavelet Decomposition Levels on Watermarking Robustness and Invisibility*

Mohammad S. Obaidat, M. Suhail

Monmouth University, Computer Science Department, W. Long Branch, NJ, USA.
University of Bradf, EE, United Kingdom

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Track: Verification Validation & Accreditation

Chairs:

Lou Birta, MISS - Ottawa Center, ON Canada

Simone Youngblood, DMSO, USA

Session 1: VV&A

Tuesday 22 July 2003 Room 1

1:30 pm - 3:00 pm

Chair: Lou Birta, MISS - Ottawa Center, ON Canada

-Code: S076 – *Research Issues in Verification and Validation from Foundations*

D. E. Stevenson

Clemson University, Computer Science, Clemson, SC, USA

-Code: S198 – *Simulation Validation Qualitative Assessment Process Improvement*

Dale K. Pace

JHU/APL, JWAD, Laurel, MD, USA

-Code: S115 – *From DEVS to Formal Methods*

D. E. Stevenson

Clemson University, Computer Science, Clemson, SC, USA

-Code: S126 – *Verification & Validation Program at Lawrence Livermore National Laboratory: Goals, Methods, Levels, and Metrics*

Roger W Logan, Cynthia K Nitta

Lawrence Livermore Nat Lab, Mech Engr, Livermore, CA, USA

Session 2: VV&A

Tuesday 22 July 2003 Room 1

3:30 pm - 5:00 pm

Chair: Simone Youngblood, DMSO, USA

-Code: S156 – *From High-level Specifications to Event Graphs*

Norbert Giambiasi, Géraldine BLANC, Jean-Luc PAILLET

LSIS, POLYTECH, Marseille, France

LSIS,, CMI, Marseille, France

-Code: S161 – *Tailoring Verification, Validation and Accreditation of Models & Simulation Systems: Canadian DND/CF Approach*

Orhun O. Molyer1, Andrew L. Vallerand

TU Navy, DND/CF Synthetic Environment Coordination Office, Ottawa,, Ontario, Canada

DND/CF, DND/CF Synthetic Environment Coordination Office, Ottawa, Ontario, Canada

-Code: S197 – *Towards a Metric Suite for Discrete Event Trace Validity*

Levent Yilmaz

Trident Systems Incorporated, Simulation and Software, Fairfax, VA, USA

Session 3: VV&A

Tuesday 22 July 2003 Room 2

10:30 am - 12:00 pm

Chair: Lou Birta, MISS - Ottawa Center, ON Canada

-Code: S200 – *Practical Application of Formal Methods in Modeling and Simulation*

David Richard Kuhn, Dan Craigen, Mark Saaltink

National Institute of Standards and Technology, Information Technology Laboratory,
Gaithersburg, MD, USA

ORA Canada, Ottawa, Ontario, Canada

-Code: S210 – *Human Performance Model Validation: One Size Does Not Fit All*

Michael J Young

Air Force Research Laboratory, Human Effectiveness, Wright-Patterson AFB, USA

-Code: S205 – *Validating Human Behavioral Models for Combat Simulations Using
Techniques for the Evaluation of Human Performance*

Simon R Goerger

Naval Postgraduate School, MOVES Institute, Monterey, CA, USA

-Code: S099 – *VV&A for Innovative Concept Design in New Vessels Simulation and
Virtual Prototypes*

Agostino G Bruzzone, Revetria Roberto

University of Genova, MISS/DIP, Genova, GE, Italy

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Track: Virtual Reality, Visualization and Simulation

Chairs:

Marielle Den Hengst, TU Delft, NL

Carlos Luis N. dos Santos, UFRJ/COPPE/PEC/LAMCE, Brasil

Session 1: VR, Visualization and Simulation

Tuesday 22 July 2003 Room 6

10:30 am - 12:00 pm

Chair: Carlos Luis N. dos Santos, UFRJ/COPPE/PEC/LAMCE, Brasil

-Code: S041 – *User Behavior in 3D Videoconferencing Applications*

Mojtaba Hosseini¹, Nicolas Georganas

DISCOVERLab, University of Ottawa, School of Information Technology and
Engineering, Ottawa, Ontario, Canada

Code: S127 – *Animation Model to Support Exploratory Analysis of Dynamic
Environments*

Jorge A Campos, Max J Egenhofer, Kathleen Hornsby

University of Maine, Spatial Information Science & Engineering, Orono, ME, USA

-Code: S010 – *Character and Language of Scientific Visualization: Applications in
Medicine*

Klaus de Geus, José H Dometerco, Cássio A Rúbio

Copel, Tecnologia da Informação, Curitiba, PR, Brazil

Session 2: VR, Visualization and Simulation

Tuesday 22 July 2003 Room 6

1:30 pm - 3:00 pm

Chair: Carlos Luis N. dos Santos, UFRJ/COPPE/PEC/LAMCE, Brasil

-Code: S098 – *Logistics Cooperative Functional Training System based on HLA Distributed Simulation*

Agostino G Bruzzone, Roberto Mosca, Simone Viazzo, Chiara Briano, Marina Massei, Matteo Brandolini, Attilio Rocca

University of Genova, MISS/DIP, Genova, GE, Italy

Liophant Simulation Club, Savona, Italy

BRB Studio, Genova, GE, Italy

-Code: S044 – *Visualization of Data Filtered by Mathematical Formulations*

Djalma Inacio Silva¹, Klaus de Geus

Universidade Tuiuti do Paraná, Matemática, Curitiba, Paraná, Brazil

Universidade Federal do Paraná, Informática, Curitiba, Paraná, Brazil

-Code: S051 – *Collaborative Immersive Visualization Environments at Oil Companies*

Carlos Luiz Nunes Dos Santos, Giuseppe Bacoccoli, Luiz Landau

COPPE/UFRJ, Civil Engineering, Rio de Janeiro, RJ, Brazil

Session 3: VR, Visualization and Simulation

Tuesday 22 July 2003 Room 6

3:30 pm - 5:00 pm

Chair: Carlos Luis N. dos Santos, UFRJ/COPPE/PEC/LAMCE, Brasil

-Code: S119 – *The use of innovative technologies in the case of the space reduction in urban environment: study of a lane keeping system*

Jean-Michel Auberlet, Antonino Tripodi, Stéphane Espie, Domenico Gattuso

INRETS, MSIS, ARCUEIL, France

-Code: S028 – *Vsualization and Simulation for restoration of historical monuments through Virtual Heritage*

Victorino Oliveira Neto, Carlos Luiz Nunes dos Santos

UFRJ, Escola de Belas Artes, Rio de Janeiro, RJ, Brazil

UFRJ/COPPE, Laboratório de Métodos Computacionais em Engenharia, Rio de Janeiro, RJ, Brazil

-Code: S095 – *Virtual Reality as a Training Tool in a Hospital Simulation*

Ludmila Gabcan, Carlos Luiz Nunes Santos, Luiz Landau

COPPE/UFRJ, Civil Engineering, Rio de Janeiro, RJ, Brazil

-Code: S140 – *3D Visualization of Airport Ground Information*

Xiaoyong Lei

Dept. of Automatic Control, Beijing University of Aeronautics & Astronautics, Beijing, China

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Student Workshop

Chairs:

Peter Kropf, University of Montreal, Canada

Ling Rothrock, Penn State University, USA

Session 1: Student Workshop

Monday 21 July 2003 Room 6

10:30 am - 12:00 pm

Chair: Peter Kropf, University of Montreal, Canada

-Code: S079 – *Formal Methods in the Verification and Validation of Simulation Models*

Ken E. Kennedy

Clemson University, Computer Science, Clemson, SC, USA

-Code: S139 – *Generation of DEVS Modelling and Simulation Environments*

Ernesto Posse, Jean-Sebastien Bolduc, Hans Vangheluwe

McGill University, Computer Science, Montreal, Quebec, Canada

-Code: S147 – *A Virtual Machine Supporting Multiple Statechart Extensions*

Huining Feng, Hans Vangheluwe

McGill University, Computer Science, Montreal, Quebec, Canada

Session 2: Student Workshop

Monday 21 July 2003 Room 6

1:30 pm - 3:00 pm

Chair: , Peter Kropf, University of Montreal, Canada

-Code: S167 – *Applying Cell-DEVS in models of complex systems*

Gabriel A Wainer, Javier Ameghino, Ezequiel Glinsky

Carleton University, Systems and Computer Engineering, Ottawa, ON, Canada.

Universidad de Buenos Aires, Computer Science Dept., Buenos Aires, Argentina

-Code: S175 – *Modelling a sand pile application using Cell-DEVS*

Gabriel A Wainer, Hesham Saadawi

Carleton University, Systems and Computer Engineering, Ottawa, ON, Canada

-Code: S191 – *Modeling of Maze-Solving Systems using Cell-DEVS*

Gabriel A Wainer, Kevin Lam

Carleton University, Systems and Computer Engineering, Ottawa, ON, Canada

Session 3: Student Workshop

Monday 21 July 2003 Room 6

3:30 pm - 5:00 pm

Chair: Peter Kropf, University of Montreal, Canada

-Code: S217 – *A Multiagent Frigate Movement Survival Approach*

P.Plamondon, Brahim Chaib-draa, Patrick Beaumont, Dale Blodgett, Peter Kropf

Laval University, Computer Science, Ste-Foy, Canada

-Code: S165 – *Implementing Finite State Machines Using the CD++ toolkit*

Gabriel A Wainer, Tao Zheng

Carleton University, Systems and Computer Engineering, Ottawa, ON, Canada

-Code: S154 – *Transforming Statecharts to DEVS*

Spencer C Borland, Hans Vangheluwe

McGill, Computer Science, Montreal, Canada

Student Workshop Overview

Monday 21 July 2003 Room 6

5:30 pm - 6:30 pm

Chairs:

-Peter Kropf, University of Montreal, Canada

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SCS International Technical Council Workshop: SIMPLEST

(SIMulation applications in Management, PLanning & forEcaSTing)

Chairs:

Agostino Bruzzone, DIP, Italy

Marina Massei, Liophant Simulation Club

Session 1: SIMPLEST

Monday 21 July 2003 Room 5

1:30 pm - 3:00 pm

Chair: Agostino Bruzzone, DIP, Italy

-Code: S150 – *Specifying and Simulation of Reactive Knowledge Based Systems*

Claudia Frydman, Lucile Torres, Aguinaldo Garrido de Ceita

LSIS, marseille, France

-Code: S172 – *A Supervised Multi-Agent Architecture for APS in multi-site production systems for demand validation and evaluation*

Flavio Tonelli, Massimo Bernocco, Maurizio Schenone, Filippo Queirolo

University of Genoa, DIP, Genoa, Italy

ATOMOS, Savona, Italy

Politecnico di Torino, Torino, Italy

-Code: S173 – *Application of Simulation to Small Enterprise Management & Logistics*

Simone Simeoni, Marina Massei

Liophant Simulation Club, Savona, Italy

DIP University of Genoa, DIP, Genoa, Italy

Standards Workshop

Chair:

Peggy Gravitz, Aegis Technologies Group, Inc., USA

Steve Swenson NUWC, U.S. Navy, USA

Session 1: Standards

Wednesday 23 July 2003 Room 1 10:30 am - 12:00 pm

Chair: Peggy Gravitz, Aegis Technologies Group, Inc., USA

-Code: S025 – *Discrete Event Modeling and Simulation of Distributed Architectures using the DSSV Methodology*

Fabrice Bernardi, Emmanuelle De Gentili, Jean-François Santucci

University of Corsica, SPE, UMR CNRS 6134, Corte, France

-Code: S024 – *Domain Management in a Hierarchical Generic Models Library*

Fabrice Bernardi, Jean-François Santucci

University of Corsica, SPE, UMR CNRS 6134, Corte, France

-Code: S007 – *The Layer of Interest Oriented To HLA*

Zhong Zhou, Wei Wu

Beihang University, Computer Science and Technology, Beijing, Beijing, China

Session 2: Standards

Wednesday 23 July 2003 Room 1 1:30 pm - 3:00 pm

Chair: Steve Swenson, NUWC, U.S. Navy, USA

-Code: S133 – *A Comparative Analysis of UML and IDEF0 for Modeling and Simulation*

Brian Goldiez, Jose A Sepulveda

U. Central Florida, Institute for Simulation and Training, Orlando, FL, USA

-Code: S155 – *Hybrid System Modeling Using Generalised Discrete Event Specification G-Devs*

Abdelaziz Naamane, Norbert Giambiasi, Sumit Ghosh

Ecole Polytechnique Unversitaire De Marseille, Lsis, Marseille, France -

Stevens Institute of Technology, N.Y., USA

-Code: S018 – *Towards a UML Profile For HLA Federation Design, Part II*

Okan Topcu, Halit Oguztuzun, Mark G. Hazen

Defense Research and Development, Virtual Combat Systems, Dartmouth, Nova

Scotia, Canada -Middle East Technical University, Computer Engineering

Department, Ankara, Turkey

Session 3: Standars Panel Discussion

Wednesday 23 July 2003 Room 1 3:30 pm - 5:00 pm

Chairs: Peggy Gravitz, Aegis Technologies Group, Inc., USA

Steve Swenson, NUWC, U.S. Navy, USA

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