2007 Summer Computer Simulation Conference
Technical Program
July 15-18, San Diego Mission Valley Marriott

http://www.scs.org/summersim/scsc

(List of papers with abstracts: http://www.sce.carleton.ca/faculty/wainer/SCSC07/accepted.html)

Sunday, July 15

8:30 – 4:30 PM	SCS Board of Directors' Meeting
9:00 –12:00 Noon	MISS Board of Directors' Meeting
1:00 – 5:00 PM	M&SNet Meeting
1:00 - 5:00 PM	Tutorial: OpEMCSS+EXTEND: Graphical Discrete Event Simulation Tool Prof. John R. Clymer, Cal State Fullerton
1:00 - 5:00 PM	SCSC'07 Registration
5:00 – 6:00 PM	SCSC'07 Organizers' Meeting

Monday, July 16

7:00 – 5:00 PM	SCSC'07 Registration
7:00 – 8:00 AM	Speakers' Breakfast (for the speakers of this day)
8:30 – 10:00 AM	Opening Session and Keynote Speech Speaker: Prof. Allan Snavely, University of California-San Diego
10:00 – 10:30 AM	Coffee Break
3:00 – 3:30 PM	Coffee Break
5:30 – 7:00 PM	SCSC'07 Reception

Tuesday, July 17

7:00 – 5:00 PM	SCSC'07 Registration
7:00 – 8:00 AM	Speakers' Breakfast (for the speakers of this day)
8:30 – 9:30 AM	Keynote Speech Speaker: Prof. Mani Srivastava, University of California-Los Angeles
10:00 – 10:30 AM	Coffee Break
3:00 – 3:30 PM	Coffee Break

Wednesday, July 18

7:00 – 12:00 Noon	SCSC'07 Registration
7:00 – 8:00 AM	Speakers' Breakfast (for the speakers of this day)
8:30 – 9:30 AM	Keynote Speech Speaker: Prof. Roger Dougal, University of South Carolina
10:00 – 10:30 AM	Coffee Break
3:00 – 3:30 PM	Coffee Break
12:00 – 1:30 PM	SCSC'07 Luncheon Banquet Luncheon Speaker: Prof. Drew Hamilton, SCS President and Prof. of Auburn University

- Please note:
  - There might be slightly changes for the final program
  - Session numbers are marked by the start day followed by a number indicating the parallel session group, and the session in that day in that session group. For example, W32 means the Wednesday session in the 3rd parallel Session (group 3) and the second session in that group. 1= 10:30-12:00 Noon, 2 =1:30-3:00 PM, and 3=3:30-5:00 PM
  - Papers have been identified by the type of the paper. FP = Full Paper, SH=Short Paper, IN = Invited Paper, ST=Student Paper.

Parallel Sessions #1

Track A: Model-Based Specification & Simulation-Based Design and Procurement
Chair: Terry Ericsen, Office of Naval Research, USA

Monday

Monday 10:30 – 12:00 Noon
Session M11: Standardization Concepts and Processes: Interoperable, Tolerant, and Hierarchical
Chair: *Kelly Cooper*, Office of Naval Research, USA

- The NASA Standard for Models and Simulations (FP)
  Martin Steele

- Virtual Prototyping as a Mechanism for Simulation-Based Design (SH)
  Roger A. Dougal, Blake Langland, Antonello Monti

- Understanding Electric-Ship System Behavior Through Large-Scale Simulation (FP)
  Stephen Woodruff

- Modeling of Power Electronics for Simulation Based Stability Analysis of Power Systems (FP)
  S. Rosado, R. Burgos, S. Ahmed, F. Wang, D. Boroyevich

Monday 1:30 – 3:00 PM
Session M12: System Simulation: Scalable, Diverse, and Stable
Chair: *Roger Dougal*, South Carolina State University, USA

- Loading Studies for Power Transmission Line Models in the Presence of Non-Fundamental Frequencies (SH)
  Valentina Cecchi, Aaron St. Leger, Karen Miu, Chika Nwankpa

- Power System Load Modeling in Virtual Test Bed (FP)
  Jian Wu, Noel N. Schulz, Wenzhong Gao

- Realization of A Generalized Modeling Method for Ungrounded Power Systems in Matlab/Simulink (FP)
  Li Qi, Karen L. Butler-Purry, Stephen Woodruff

- Robust Stability and Performance Analysis using Polynomial Chaos Theory (FP)
  A.H.C. Smith, A. Monti, F. Ponci

- Modeling Considerations in Static and Dynamic Voltage Stability Studies of Shipboard Power Systems (ST)
  Minglan Lin, Anurag K. Srivastava, Noel N. Schulz

Monday 3:30 – 5:00 PM
Session M13: System Simulation: Reconfigurable, Robust, and Diagnostic
Chair: *Roy Crosbie,* California State University-Chico, USA

- A Design Paradigm for Integrated Protection of Shipboard Power Systems (SH)
  Jimena L. Bastos, Yujie Zhang, Anurag K. Srivastava, Noel N. Schulz

- A New Fault Location Method for Electric Power Grids (FP)
  W. Mack Grady, Mehrdad Vatani, Ari Arapostathis

- In System Emulation (ISE) of a Current Differential Back Up Protection Relay (FP)
  Jiee Tang, James Langston, Michael Sloderbeck, Peter McLaren

- Simulation-Based Design of Protection Schemes for Shipboard Power Systems (SH)
  Mesut Baran, Nikhil Mahajan, Sercan Teleke

- Network Reconfiguration of Distributed Controlled Homogenous Power Inverter Network using Composite Lyapunov Function Based Reachability Bound (IN)
  Sudip Mazumder

Tuesday

Tuesday 10:30 – 12:00 Noon
Session T11: Circuits: Dynamic, Non-linear, and Discontinuous
Chair: *Joseph Borriccini,* Office of Naval Research, USA

- Characterization of the Transient Behavior of an AC/DC Conversion System for a Notional All-Electric Ship Simulation Using Sequential Experimental Design Methodology (FP)
  J. Langston, M.Steurer, S. Suryanarayanan, T. Baldwin, N. Senroy, S. Woodruff, M. Andrus, J. Simpson

- Carrier-Based Control of Matrix Converter in Linear and Over-Modulation Modes (FP)
  Satish Thuta

- Open-End Winding Induction Motor Driven With Indirect Matrix Converter For Common-Mode Elimination (FP)
  Krushna K. Mohapatra, Ned Mohan

- Open-Ended Three-Phase Drive With Matrix Converters For Common-Mode Elimination With Deadband Compensation (FP)
  Krushna Mohapatra, Ned Mohan

- A PEBB-based Direct-Link Drive for Open-Ended AC Machines (FP)
  Apurva Somani, T. Satish, K.K. Mohapatra, Ned Mohan

Tuesday 1:30 – 3:00 PM
Session T12: Real Time Simulation: Testable, Verifiable, and Empirical
Chair: *Ned Mohan*, University of Minnesota, USA

- A Standardized Simulation and Real Time Hardware in the Loop Simulation Procedure for Power Electronics and Power Systems Research (FP)
  Lewei Qian, David Cartes, Siyu Leng

- From simulation to hardware testing: a low cost platform for Power Hardware in the Loop experiments (FP)
  Antonello Monti, Salvatore D'Arco, Aalhad Deshmukh, Yuko Work, Antonio Lentini

- Web-based Speed Control of Induction Motor With Inverter Dead-time Compensation (FP)
  Sheng Yang, Venkataramana Ajjarapu

- Network Modeling for Distributed Simulations of Unbalanced Power Systems (SH)
  Michael Kleinberg, Karen Miu, Chika Nwankpa

- Hardware in the Loop Simulation of Distance Relay Using RTDS (ST)
  Chenfeng Zhang, Vamsi K Vijapurapu, Anurag K Srivastava, Jimena Bastos, Noel N. Schulz Rudi Wierckx

Tuesday 3:30 – 5:00 PM
Session T13: Co-Simulation: Multidisciplinary, Distributed, and Partitioned
Chair: *Terry Ericsen*, Office of Naval Research, USA

- A Cosimulation Approach to Model-Based Design for Complex Power Electronics and Digital Control Systems (FP)
  Bradley Oraw, Vijay Choudhary, Raja Ayyanar

- A Co-Simulation Approach for Real-Time Transient Analysis of Electro-Thermal System Interactions on Board of Future All Electric Ships (SH)
  Timothy Chiochhio, Rodrigo Leonard, Yuko Work, Ruixian Fang, Michael Steurer, Antonello Monti, Jamil Khan, Juan Ordonz, Michael Sloderbeck, Stephen Woodruff

- A Partitioning Approach for the Parallel Simulation of Ungrounded Shipboard Power Systems using Kron's Diakoptics and Loop Analysis (FP)
  Fabian M. Uriarte, Karen L. Butler-Purry

- Validation of Agent Based Reconfiguration Scheme Using Modeling and Simulation Approach (FP)
  Kai Huang, Sanjeev Srivastava, David Cartes

- Decoupling of Natural Systems in Multi-Rate Parallel Simulations (FP)
  Rodrigo Leonard, Roger A. Dougal

Wednesday

Wednesday 10:30 – 12:00 Noon

Session W11: Multi-Rate Simulation: Contemporaneous, Variable Integration, and Numerical Stable

Chair: *Noel Schultz,* Mississippi State University, USA

- Stability of Multi-Rate Simulation Algorithms (FP)
  Richard Bednar, Roy E. Crosbie

- Multi-Rate Real-Time Simulation Techniques (FP)
  Dale Word, John J. Zenor, Richard Bednar, Roy E. Crosbie, Narain G. Hingorani

- Testing of Multi-Rate Simulations Using the ESL Simulation Language (FP)
  John J. Zenor, John G. Pearce, Richard Bednar

- Simulation of an Unmanned Underwater Vehicle (UUV): A Multi-Rate Simulation (FP)
  John J. Zenor, Richard Bednar, Dale Word, Narian G. Hingorani, Euan McGookin

- A Multidiscipline and Multi-rate Modeling Framework for Planar Solid-Oxide Fuel Cell based Power-Conditioning System for Vehicular APU (IN)
  Sudip Mazumder

Wednesday 1:30-3:00 PM

Session W12: Machines: Physics Based, Reduced Order, Artificial Intelligence and Finite Element Analysis

Chair: *Narain Hingorani,* Consultant, USA

- A General Framework for Automated Physics-Based Reduced-Order Modeling of Electromechanical Systems (FP)
  Ali Davoudi, Patrick Chapman

- Magnetic field reconstruction in Electric Machines: A novel approach towards modeling of electric motor drives (FP)
  Babak Fahimi, Mahesh Krishnamurthy

- Radial Basis Networks for the Simulation of Stand Alone AC Generators During No-Break Power Transfer (FP)
  A.A. Arkadan, Y. Abou-Samra, Z.H. Ramadan

- Modeling and Simulation for Condition Based Maintenance: A Case Study in Navy Ship Application (FP)
  Li Liu, David Cartes, Jabid Quiroga

- Modeling and Simulation of Electric Ships' Power System Components and their Interaction (FP)
  A. Ouroua, J.R. Jackson, J.H. Beno, R.C. Thompson, E. Schroeder

Wednesday 3:30 – 5:00 PM
Session W13: Materials and Devices: Physics Based, Hierarchical, and Variable Model Level
Chair: *Terry Ericsen*, Office of Naval Research, USA

- Computational Simulation of Electromigration Induced Damage in Copper Interconnects (FP)
  Cemal Basaran, Minghui Lin, Shidong Li

- Damage Mechanics Modeling of Concurrent Thermal and Vibration Loading On Electronics Packaging (FP)
  Cemal Basaran, Juan Gomez, Minghui Lin, Shidong Li

- Variable Model Levels for Power Semiconductor Devices (FP)
  Enrico Santi, Jerry Hudgins, Alan Mantooth

- Simulating Power Semiconductor Devices Using Variable Model Levels (FP)
  Enrico Santi, Liqing Lu, Zhyiang Chen, Jerry Hudgins, Alan Mantooth

Parallel Sessions #2

Track A: DEVS Workshop
Chairs: Mamadou K. Traoré, Université Blaise Pascal, France
Hans Vangheluwe, McGill University, Canada

Monday

Monday 10:30 – 12:00 Noon
Session M21: PLENARY SESSION: Current and future trends in DEVS
Chair: *Mamadou Kaba Traoré*, Université Blaise Pascal, France

- Dr. Bernard Zeigler
- Dr. Hans Vangheluwe
- Dr. Gabriel Wainer
- Discussions

Monday 1:30-3:00 PM
SESSION M22: DEVS modeling approaches
Chair: *Hans Vangheluwe*, McGill University, Canada

- Domain Driven Modeling for Simulation of Software Architectures (FP)
  Andrew Ferayorni, Hessam Sarjoughian

- Objective-driven DEVS Modeling Using OPI Matrix for Performance Evaluation of Discrete Event Systems (FP)
  Tag Gon Kim, Chang Ho Sung

- Formal Verification Approaches for DEVS (FP)
  Hernan Dacharry, Norbert Giambiasi

- Sharing Modeling Patterns in DEVS (SH)
  Olivier Dalle, Gabriel Wainer

Monday 3:30 – 5:00 PM
SESSION M23: DEVS engines
Chair: *Norbert Giambiasi*, Université Paul Cézanne, France

- eCD++: an engine for executing DEVS models in embedded platforms (FP)
  Gabriel Wainer, Henry Yu

- New design and simulation of the GDEVS abstraction of an integrator (FP)
  Jean Claude Carmona, Norbert Giambiasi

- A Flexible Dynamic Structure DEVS Algorithm towards Real-Time Systems (FP)
  Hui Shang, Gabriel Wainer

Tuesday

Tuesday 10:30 – 12:00 Noon
SESSION T21: DEVS frameworks
Chair: *Tag Gon Kim*, KAIST, Korea

- Conflict Management in PDEVS: An Experience in Modeling and Simulation of Time Petri Nets (FP)
  Franco Cicirelli, Angelo Furfaro, Libero Nigro

- DEVS-Based Simulation Web Services for Net-centric T&E (FP)
  Saurabh Mittal, Jose L. Risco, Bernard P. Zeigler

- VLE-A Multimodeling and Simulation Environment (FP)
  Gauthier Quesnel, Raphael Duboz, Eric Ramat, Mamadou Kaba Traoré

Track B: MTSA: Methodology, Tools and Software Applications
Chairs: Mhamed Itmi, INSA-Rouen, France
Ralph Huntsinger, California State University, Chico, USA

Tuesday 1:30-3:00 PM
Session T22: Distributed Simulation: Architectures and Protocols
Chair: *Srini Ramaswamy.* University of Arkansas at Little Rock. USA.

- Design and Implementation of Time Management Service for IEEE 1516 HLA/RTI (FP)
  Jeong Hee Hong, Jae Hyun Kim, Tag Gon Kim

- Design and Implementation of Data Distribution Management in IEEE 1516 HLA/RTI (FP)
  Jung Hyun Ahn, Jae Hyun Kim, Tag Gon Kim

- Time Management in a Service-Oriented Architecture for Distributed Simulation on the Grid (FP)
  Yong Wang, Stephen John Turner, Wentong Cai, Xinjun Chen

- Integration of Simulation and Fuzzy Multi Attribute Decision Making for Modeling and Assessment of Fuzzy Parameters (FP)
  Ali Azadeh, Maryam Seifoory

Tuesday 3:30 - 5:00 PM
Session T23: Simulation Applications I
Chair: *Luis Argüello*. European Space Agency, Netherlands

- Exploring the linearity of models on the basis of ranked data (FP)
  Leon Bobrowski, Ralph Huntsinger

- A Multi model based architecture for Control and diagnosis of a green house (SH)
  Aziz Naamane, Nacer Msirdi
- A Cellular Automata Framework for Studying Expandable Traffic Flow Models (SH)

Ourania Hatzi, Stephanos Thomas, Vassilis Dalakas, Mara Nikolaidou, Dimosthenis Anagnostopoulos

- Refinement of the Virtual Intermodal Transportation System (VITS) and Adoption for Metropolitan Area Traffic Simulation (SH)
  Jochen Wittmann, Johannes Göbel, Dietmar Möller, Bernard Schroer

Wednesday

Wednesday 10:30 – 12:00 PM
Session W21: Simulation Applications II
Chair: *Ralph Huntsinger,* California State University, Chico, USA

- Combined Simulation Modeling Using Simplified Discrete Event Simulation Approach – A Mining Case Study (FP)
  Ming Lu, Sze Chun Lau, Kit-Yu, Evan Chan

- Verification, Validation, and Accreditation (VV&A) One Voice Unified, Common & Cross-Cutting (FP)
  Frank Schwartzenburg, Jennifer Park, Marcy Stutzman, William Oates, Donald Johnson, Michael Bailey, Simone Youngblood

- Using LSCs for Scenario Authoring in Tactical Simulators (ST)
  Yoram Atir, David Harel

- Performance Evaluation: Running DSR and TORA Routing Protocols Concurrently (SH)
  Suhair Amer, Drew Hamilton

- An Improved Replacement Algorithm in fault-tolerant meshes (FP)
  Maryam Sadrmousavi, Saina Jalili

Track C: Simulation Tools Interfaces
Chairs: Charles Santoni, LSIS, France
Fatima Vieira, Universidad de Campina Grande, Brazil

Wednesday 1:30 – 3:00 PM
Session W22 Simulation Tools and Interfaces
Chair: *Ralph Huntsinger,* California State University, Chico, USA

- The Leading-Digit Procedure and Format for Displaying Tables of Simulation Output (SH)
  Wheyming Song, Bruce Schmeiser, Yi-Chun Chen

- Integration of ANN MLP and Computer Simulation for Intelligent Design of Queuing Systems (FP)
  Ali Azadeh, Zahra Faiz

- A real-time interface simulator for operator's training: a proposed architecture (FP)
  Charles Santoni, Jean-Marc Mercantini, Maria Fatima Vieira Turnell, Alexandre Scaico, José Alves

- State-Oriented Programming for TinyO (ST)
  Siarhei Smolau, Ronald Beaubrun

Parallel Sessions #3

Track A. Computational Modeling and Simulation of Embedded Systems

Chairs: Gabriela Nicolescu, Ecole Polytechnique de Montréal, Canada
Pieter Mosterman, The MathWorks, Inc., USA

Monday

Monday 10:30 – 12:00 Noon
Session M31: Track Keynote Session
Chair: *Gabriela Nicolescu,* Ecole Polytechnique de Montréal, Canada

Speaker: Dr. *Stephen J. Koffman*, The Boeing Company
"Benefits and Challenges of Using Model-Based Designs in a Production Environment"

Monday 1:30 – 3:00 PM
Session M32: Modeling and Simulation of Real-Time Embedded Systems
Chair: *Roy Crosbie,* California State University, Chico, USA

- Algebraic Software Analysis and Embedded Simulation of a Driving Robot (FP)
  Leon Merkx, Pieter Cuijpers, Hans-Martin Duringhof

- Heuristic Scheduling Algorithms Designed Based on Properties of Optimal Algorithm for Soft Real-Time Tasks (FP)
  Arezou Mohammadi, Selim Akl

- Accuracy Evaluation in Power Hardware-in-the-Loop (PHIL) Simulation (FP)
  Wei Ren, Mischa Steurer, Stephen Woodruff

Monday 3:30 – 5:00 PM
Session M33: Model-Based Design of Heterogeneous Embedded Systems
Chair: *Pieter Cuijpers,* Technische Universiteit Eindhoven, Netherlands

- Simulink based Hardware-Software Codesign Flow for Heterogeneous MPSoC (IN)
  Katalin Popovici, Ahmed Amine Jerraya

- Multi-formalism Modelling and Model Transformation for the Design of Reactive Systems (FP)
  Thomas Huining Feng, Miriam Zia, Hans Vangheluwe

- A Graphical Variant Approach to Object-Oriented Modeling of Dynamic Systems (FP)
  Paul Kinnucan, Pieter Mosterman

Tuesday

Tuesday 10:30 – 12:00 Noon
Session T31: Embedded System Applications of Model-Based Design
Chair: *Roger Dougal*, University of South Carolina, USA

- Simulating Magnetic Storage Elements: Implementation of the Micromagnetic Model into MATLAB - Case Study for Standardizing Simulation Environments (ST)
  Markus Bolte, Massoud Najafi, Guido Meier, Dietmar Möller

- Modeling, Verification, and Implementation of PLC Program using Timed-MPSG (FP)
  Devinder Thapa, Sang Chal Park, Chang Mok Park, Gi-Nam Wang

- Modeling and Simulation of the Thermal and Psychrometric Transient Response of All Electric Ships, Internal Compartments and Cabinets (FP)
  Jose Vargas, Juan Ordonez, Rob Hovsapian

- Consistency between Geometric and Dynamic Views of a Mechanical System (SH)
  Chahé Adourian, Hans Vangheluwe

Tuesday 1:30 – 3:00 PM
Session T32: Modeling and Simulation of Continuous/Discrete Systems
Chair: *Hans Vangheluwe*, McGill University, Canada

- Behavioral modeling and simulation for heterogeneous design applied to aerospatial inertial microinstrumentation development (IN)
  Carles Ferrer

- A Formalization of Global Simulation Models for Continuous/Discrete Systems (FP)
  Luiza Gheorghe, Faouzi Bouchhima, Gabriela Nicolescu, Hanifa Boucheneb

- Hierarchical Modeling of Mode-Switching Systems (FP)
  James E. Weimer, Bruce H. Krogh

- Migrating to a Real-Time Distributed Parallel Simulator Architecture (ST)
  Bernardt Duvenhage, Derrick Kourie

Tuesday 3:30 – 5:00 PM
Session T33: Track Keynote Session
Chair: *Pieter J. Mosterman*, The MathWorks Inc., USA
Speaker: ***Gautam Biswas,*** Vanderbilt University, USA
"Issues in Efficient Simulation of Component-Oriented Hybrid System Models"

Track B. Applications in Business Management, Planning & Forecasting

Chairs: Marina Massei, Liophant Simulation, Italy
Matteo Brandolini, BRB Studio, Italy; Pertti Broas, VTT, Finland
Co-Chair: Edward Williams, University of Michigan, USA

Wednesday

Wednesday 10:30 – 12:00 Noon
Session W31: Production & Manufacturing
Chair: *Marina Massei,* Liophant Simulation, Italy

- Simulation to Evaluate Several Critical Factors Effecting Manufacturing (FP)
  Bernard Schroer, Gregory Harris, Dietmar Moeller

- An Analysis of Semiconductor Reticle Management Using Discrete Event Simulation (FP)
  P. J. Byrne

- A Simulation Architecture for Manufacturing Interoperability Testing (FP)
  Charles McLean, Sanjay Jain, Frank Riddick, Tina Lee

- An Integrated FDEA-PCA Method as Decision Making Model and Computer Simulation for System Optimization (FP)
  Ali Azadeh, Mona Anvari, Hamidreza Izadbakhsh

- A New Design of the Bi-Directional Automated Guided Vehicle System (SH)
  Che-Fu Hsueh, Mei-Shiang Chang

Wednesday 1:30-3:00 PM
Session W32: Management and Forecasting I
Chair: *Matteo Brandolini,* BRB Studio, Italy

- Activity-based Optimization of Cooperative Development Processes in Chemical Engineering (FP)
  Bernhard Kausch, Morten Grandt, Christopher M. Schlick

- Development of a Prototype Model for Civilian Occupational Group Projections (SH)
  Adrian Erkelens, Stan Isbrandt, Fariya Syed

- Predicting Business Cycle Turning Points with Neural Networks in an Information-Poor Economy (FP)
  George Nasr, Ghassan Dibeh, Antoine Achkar

- Application of A Multi-Criteria Simulation Optimization Based DSS (FP)
  Ali Azadeh, Farid Ghaderi, Azadeh Dabbaghi, Mariam Dehghan

Wednesday 3:30 – 5:00 PM
Session W33: Management and Forecasting I
Chair: *Pertti Broas,* VTT, Finland

- Managing Trade-Offs in Call Center Agent Scheduling: Methodology and Case Study (FP)
  Robert Saltzman, Vijay Mehrotra

- Hybrid Simulation on Qualitative and Quantitative Integrated Model using Monte Carlo Method (SH)
  Masaki Samejima, Keisuke Negoro, Masanori Akiyoshi, Norihisa Komoda, Koshichiro Mitsukuni

- Developing A Geographic Information System for Flood Emergency Logistics Planning (FP)
  Mei-Shaing Chang, Che-Fu Hsueh

- Supply Chain Management and Vulnerability (IN)
  Agostino Bruzzone

Parallel Sessions #4

Track A. DASD: Workshop on the Design, Analysis and Simulation of Distributed systems

Chair: Dr. Dietmar Tutsch, Technical University Berlin, Germany
Co-Chairs: Dr. Peter Kropf, University of Neuchatel, Switzerland
Dr. Herwig Unger, University of Hagen, Germany

Monday

Monday 10:30 – 12:00 Noon
Session M41: Petri Nets and Theoretical Analysis
Chair: *Dietmar Tutsch*, University of Technology, Berlin, Germany

- Versatile Boxes: a Multi-Purpose Algebra of High-Level Petri Nets (FP)
  Franck Pommereau

- Transformation of Live Sequence Charts to Colored Petri Nets (FP)
  Boleslaw Mikolajczak, Binsan Khadka

- A Distributed Verification Approach For Modular Petri Nets (FP)
  Chiheb Ameur Abid, Belhassen Zouari

- DAG-Guided Parallel Asynchronous Variational Integrators with Super-Elements (FP)
  Jen-Chih Huang, Xiangmin Jiao, Richard, Richard M. Fujimoto, Hongyuan Zha

Monday 1:30 – 3:00 PM
Session M42: Network Architectures
Chair: *Carsten Gremzow*, University of Technology, Berlin, Germany

- Mirrored Arbiter Architecture-- A Network Architecture for Large Scale Multiplayer Games (FP)
  Lan Yang, Peerapong Sutinrerk

- Lossless Static vs. Dynamic Reconfiguration of Interconnection Networks in Parallel and Distributed Computer Systems (FP)
  Daniel Lüdtke, Dietmar Tutsch

- Secure Routing Protocol for Mobile Ad-Hoc Networks (FP)
  J. Martin Leo Manickam, R. Bhuvaneswari, M.A. Bhagyaveni, S.Shanmugavel

- Modeling and Simulation of Common Primitive Operations Used in Block Ciphers (IN)
  Praveen R. Samala, Hamid Vakilzadian, Dietmar P.F. Möller

Monday 3:30 – 5:00 PM
Session M43: Real-Time and Embedded Systems
Chair: *Franck Pommereau*, University of Paris, France

- Compiled Low-Level Virtual Instruction Set Simulation and Profiling for Code Partitioning and ASIP-Synthesis in Hardware/Software Co-Design (FP)

Carsten Gremzow, Jan Lucas, Nico Moser

- High-Level Dynamic Resource Management for Distributed, Real-Time Embedded Systems (FP)
  Kurt Rohloff, Richard Schantz, Yarom Gabay

- Distributed Simulation using the Virtual Test Bed and its Real-Time Extension (FP)
  Jimena L. Bastos, Jian Wu, Noel N Schulz, Rong Liu, Antonello Monti

- Optimizing Model Interoperability in Parallel Discrete Event Simulation for Cluster Environment (FP)
  Yaocheng Zhang, Ge Li, Kedi Huang

Track B. Bioinformatics/Biology
Chair: Isaac Barjis, New York City College of Technology, USA
Igor Zwir, Howard Hughes Medical Institute, USA

Tuesday

Tuesday 10:30 – 12:00 Noon
Session T41: Bioinformatics 1
Chair: Isaac Barjis, New York City College of Technology, USA

- BetaWB: Modelling and Simulating Biological Processes (FP)
  Lorenzo Dematté, Corrado Priami, Alessandro Romanel

- A Neurocomputational Model of the Role of Cholesterol in the Development Process of Alzheimer's Diseas (FP)
  Gizelle Kupac Vianna, Artur Emílio Reis, Luis Alfredo Carvalho

- A Stochastic Particle-Based Biological System Simulator (FP)
  Laurier Boulianne, Michel Dumontier, Warren J. Gross

- Visualization of the simulation data of biochemical network models: a painted Petri net approach (FP)
  Simon Hardy, Pierre N. Robillard

Tuesday 1:30:3:00 PM
SessionT42: Bioinformatics 2
Chair: *Dietmar Moeller*, University of Hamburg, Germany

- A Discrete Cell Migration Model (FP)
  James Nutaro, Kara Kruse, Richard Ward, Elizabeth O'Quinn, Stacy Kirkpatrick, Deidra Mountain, Oscar Grandas

- Dissecting network motifs by identifying promoter features that govern differential gene expression (FP)
  Oscar Harari, Igor Zwir

- Genetic Network Construction using Static and Dynamic Models (FP)
  Cristina Rubio-Escudero, Oscar Cordón, Igor Zwir

- Mining and Predicting CpG Islands (FP)
  Christopher Previti, Oscar Harari, Coral del Val

Tuesday 3:30-5:00 PM
Session T43: **Bioinformatics 3**
Chair: *Isaac Barjis*, New York City College of Technology, USA

- Microarray analysis reveals CC Chemokine CCL-1 responsivegene expression in human HeLa Cells (IN)
  Lauren Tal, Diane Huang, Niloufar Haque, Nasreen Haque

- Petri Net based Description and Modeling of Metabolic Pathway (FP)
  Isaac Barjis, Vijay Gehlot

- Modeling and Simulation of IRES - Engagement during the process of mRNA Translation in Cells infected with Hepatitis C Virus (FP)
  Isaac Barjis, Ajmal Zemmar, Faisal Mohammad, Fakhreldin A. Sabel

Track C. Environment, Agriculture and Ecology

Chairs: Frits van Evert, PRI, Netherlands
Jon C. Cline, Case Western Reserve University, USA

Wednesday

Wednesday 10:30-12:00 Noon
Session W41: Environment, Agriculture and Ecology I
Chair: *Frits van Evert*, PRI, Netherlands

- Use of Simulation for The Prevention of Environmental Problems (FP)
  Vincenzo Duraccio, Domenico Falcone, Alessandro Silvestri, Gianpaolo Di Bona

- Estimating Soil Erosion Using the USPED Model and Consecutive Remotely Sensed Land Cover Observations (SH)
  Jinxun Liu, Shuguang Liu, Larry Tieszen

- Uncertainty decomposition in environmental modelling and mapping (FP)
  Alessandro Fassó, Michela Cameletti

- Optimization of An Ecosystem Model Through the Assimilation of Eddy Flux Observations Using Smoothed Ensemble Kalman Filter (FP)
  Mingshi Chen, Shuguang Liu, Larry L. Tieszen

Wednesday 1:30-3:00 PM
Session W42: Environment, Agriculture and Ecology II
Chair: *Jon C. Cline*, Case Western Reserve University, USA

- Practical Use of Components in Agro-Ecological Simulation (SH)
  Frits K. van Evert, Peter A. Leffelaar, Marco Acutis, Myriam Adam, Frank Ewert, Herman van Keulen, Patrizia Trevisiol

- DOTAGWA: A Case Study in WEB Based Architectures for Connecting Surface Water Models to Spatially Enabled WEB Applications (FP)
  Averill Cate Jr., Darius Semmens, D. Phillip Guertin, David Goodrich

- Modeling and Simulation in Analyzing Geological Repositories for High Level Nuclear Waste (SH)
  Dietmar P. F. Möller

- Using Artificial Neural Networks (ANN) for Real Time Flood Forecasting, the Omo River Case in Southern Ethiopia (SH)
  Lulseged Ayalew, Dietmar P.F. Möller, Gerhard Reik

Parallel Sessions #5

Track A. Agent-Directed Simulation
Chairs: Tuncer Ören, SITE, University of Ottawa, Canada
Levent Yilmaz, Auburn University, USA

Monday

Monday 10:30 – 12:00 Noon
Session M51: Theory and Methodology
Chair: *Hessam Sarjoughian*, Arizona State University, USA

- Agent-directed Simulation Systems Engineering (FP)
  Levent Yilmaz, Tuncer Ören

- Agent-based Simulation of Group-Task Interaction in Knowledge Team (FP)
  Jiang Wu, Bin Hu

- Modeling and Simulation of Individual User Behavior for Building Performance Predictions (FP)
  Gerhard Zimmermann

Monday 1:30 – 3:00 PM
SESSION M52 - Tools, Languages, and Infrastructures
Chair: *Tuncer Ören*, University of Ottawa, Canada

- From a Multi-agent Simulation Theory to GALATEA (FP)
  Jacinto Dávila, Mayerlin Uzcátegui, Kay Tucci

- Building Computer Models from Small Pieces (FP)
  Ken Kahn

- A Programming Environment for Multi Agent Simulation Based on Graph Representation (ST)
  Gou Hatakeyama, Keishi Kimura, Masanori Akiyoshi, Norihisa Komoda

Monday 3:30-5:00 PM
Session M53: Applications
Chair: *Andreas Tolk*, Old Dominion University, USA

- Controller Agent Approach for solving DCSP (FP)
  Sami Al-Maqtari, Habib Abdulrab

- A Cooperative Multi-agent System Simulation Model for Urban Traffic Intelligent Control (FP)
  Xu Jin, Mhamed Itmi, Habib Abdulrab

- A Multi-Agent Simulation of Retail Management Practices (FP)
  Peer-Olaf Siebers, Uwe Aickelin, Helen Celia, Chris Clegg

Tuesday

Tuesday 10:30 – 12:00 Noon
Session T51: Theory and Methodology
Chair: *Levent Yilmaz*, Auburn University, USA

- Specifying, Detecting and Analyzing Emergent Behaviors in Multi-Level Agent-Based Simulations (FP)
  Chih-Chun Chen, Sylvia Nagl, Christopher Clack

- Synthesizing agents interaction through the concept of conversation (SH)
  Tiana Ralambondrainy, Rémy Courdier

- The Centrifugal Development of Artificial Agents: a research agenda (ST)
  Ana Sofia Esteves, Luís Miguel Botelho

Track B. Workshop on R&D at the MISS Centers

Chairs: András Jávor, Budapest University of Technology and Economics, Hungary
Lou Birta, University of Ottawa, Canada.

Tuesday 1:30 – 3:00 PM
Session T52: MISS R&D Workshop, Part 1
Chair: *Stefano Saetta*, University of Perugia, Italy

- ABCmod: A Conceptual Modeling Framework for Discrete Event Dynamic Systems (FP)
  Gilbert Arbez, Louis Birta

- The Importance of a Comprehensive and Integrative View of Modeling and Simulation (FP)
  Tuncer Ören

- Modeling Unmanned Aerial Vehicle Communications at the Auburn MISS Center University MISS Center (FP)
  Drew Hamilton, Richard Chapman, David Umphress

Tuesday 3:30 – 5:00 PM
Session T53: MISS R&D Workshop, Part 2
Chair: *Tuncer Ören*, University of Ottawa, Canada

- Optimizing Soft Subsystems of Regions by Agent Controlled Simulation (FP)
  Andras Javor, Attila Fur

- A Cooperative Problem-Solving Process in Hierarchical Organization (FP)
  Waled Alshabi, Srini Ramaswamy, Mhamed Itmi, Habib Abdulrab

Track C. At Man's Step
Chairs: Stefania Bandini, Sara Manzoni. Universita di Milano-Bicocca, Italy

Wednesday

Wednesday 10:30-12:00 Noon
Session W51: At Man's Step
Chair: *Sara Manzoni.* Universita di Milano-Bicocca, Italy

- An intelligent flour field cellular automation model for pedestrian dynamics (SH)
  Ekaterina Kirik, Tat'yana Yurgel'yan, Dmitriy Krouglov

- Macroscopic Pedestrian Flow Simulation for Designing Crowd Control Measures in Public Transport after Special Events (FP)
  Dietmar Bauer, Stefan Seer, Norbert Braendle
- Walking Between Free Will and Determinism (FP)

Armando Aazzani, Bruno Giorgini, Sandro Rambaldi, Marco Brambilla, Luca Cattelani

- SCA Approach to Micro-Scale Modelization of Paradigmatic Emergent Crowd Behaviors (FP)
  Stefania Bandini, Mizar Luca Federici, Sara Manzoni

- A Qualitative Evaluation of Technologies and Techniques for Data Collection on Pedestrians and Crowded Situations (FP)
  Stefania Bandini, Mizar Luca Federici, Sara Manzoni

Wednesday 1:30-3:00 PM
Session W32: PIOVRA (Invited Session)
Chair: *Claudia Frydman*, LSIS, Marseille

- Demonstration for Human Behavior Modeling Within Civil Disorder Scenarios (IN)
  Agostino Bruzzone

- Intelligent Agents for Moving and Operating Computer Generated Forces (IN)
  Enrico Bocca

- Mapping PIOVRA in GDEVS/HLA Environment (IN)
  Gregory Zacharewicz

- From abstract representation to formal modelling of tactical military operations (IN)
  Jean Caussanel, Norbert Giambiasi, Agostino Bruzzone

Parallel Sessions #6

Track A. Military Application & Simulation

Chair: Andreas Tolk, Old Dominion University, USA
Co-Chair: Erik M. Esselaar, Defence Research and Development Canada

Monday

Monday 10:30 – 12:00 Noon
Session M61: Engineering Methods for Military M&S
Chair: *Sasanka Prabhala*, Digital Home Group/Intel Corporation, USA

- Efficacy of Modeling & Simulation in Defense Life Cycle Engineering (FP)
  Don Cox, Salim Hariri

- Model-Based Data Engineering: Preparing a Paradigm Shift towards Self-Organizing Information Exchange (FP)
  Andreas Tolk, Saikou Diallo, Charles Turnitsa

- From Empirical Data to Mathematical Model: Using Population Dynamics to Characterize Insurgencies (FP)
  John Sokolowski, Catherine Banks

- The OSA Project: an Example of Component Based Software Engineering Techniques Applied to Simulation (IN)
  Olivier Dalle

Monday 1:30-3:00 PM
Session M62: Applications of Emerging Technologies for Military M&S
Chair: *John Sokolowski,* Virginia Modeling Analysis & Simulation Center, USA

- Agents with Personality: Human Operator Assistants (FP)
  Robert Woodley, Michael Gosnell, Jennie Gallimore, Sasanka Prabhala

- Application of Autonomic Agents for Global Information Grid Management and Security (FP)
  Donald Cox, Youssif Al-Nashif, Salim Hariri

- Towards A COTS-Based Service-Oriented Simulation Architecture (FP)
  Tswen-Juh Gu, Nei-Wei Lo, Wei-Ning Yang

- XML Socket Server Applications as an Alternative for Simulation Interoperability (FP)
  Traian Nicula

Track B. Education and Body of Knowledge
Chair: Bill Tucker, Boeing, USA

Monday 3:30 – 5:00 PM
Session M63: Education and Body of Knowledge
Chair: *Bill Tucker*, Boeing, USA

- Supporting Personalized Simulations: A Pedagogic Support Framework for Modeling and Composing Adaptive Dialectic Simulations (FP)
  Conor Gaffney

- Use Transatlantic E-Learning Network: Follow-up Report (SH)
  Dietmar P.F. Möller, Hamid Vakilzadian, Roy E. Crosbie

- Introducing ICT Supported Education for Sustainable Rural Development in Ethiopia (SH)
  Berhanu Beyene, Dietmar P.F. Möller, Jochen Wittmann

Track B. 3D Simulation and Visualization

Chairs: Sebastian Enrique, Electronic Arts Canada, Canada;
Marc-Emmanuel Bellemare, LSIS, France; Alejandro Troccoli, NVIDIA Corp., USA

Tuesday

Tuesday 10:30 - 12:00 Noon
Session T61: 3D Simulation and Visualization
Chair: *Alejandro Troccoli*, NVIDIA Corp., USA

- Ergonomic and Work Methods Optimization in a Three Dimensional Virtual Environment (FP)
  Giuseppe De Sensi, Francesco Longo, Giovanni Mirabelli

- Construction Planning Methodology Integrating Operations Simulation and Four Dimensional Computer Aided Design (4D-CAD) (FP)
  Yang Zhang, Ming Lu, Jian-Ping Zhang

- A Slicing Algorithm of Point Cloud for Rapid Prototyping (SH)
  Park Hyeongtae, Chang Minho, Park Sangchul

- A new scheme of robust image watermarking: “The double watermarking algorithm” (FP)
  Chokri Chemak, Mohamed Salim Bouhlel

- Task Characteristics Specification for Virtual Human Avatars (SH)
  John Richardson

Track C. Emergency Simulation
Chair: Francesco Longo, University of Calabria, Italy

Tuesday 1:30-3:00 PM
Session T62: Emergency Simulation I
Chair: *Francesco Longo,* University of Calabria, Italy

- Ontology for Disaster Mitigation and Planning (SH)
  Hemant Joshi, Remzi Seker, Coskun Bayrak, Srini Ramaswamy, Jeffrey Connelly

- Force on Force Simulation That Provides Facility Stability Analysis (SH)
  Joe Lake, Robert Sanders

- A Simulation Learning Approach to Training First Responders for Radiological Emergencies (SH)
  Robert Sanders, Graham Rhodes

Tuesday 3:30-5:00 PM
Session T63: Emergency Simulation II
Chair: *Francesco Longo,* University of Calabria, Italy

- Towards Standards For Integrated Gaming And Simulation For Incident Management (FP)
  Sanjay Jain, Charles McLean, Tina Lee

- An Analysis Approach to Large-Scale Vehicular Network Simulations (FP)
  Kalyan Perumalla, Martin Beckerman

- Interdependency Modeling and Emergency Response (FP)
  Donald Dudenhoeffer, May Permann, Steven Woolsey, Robert Timpany, Tony McDermott, Chuck Miller, Milos Manic

Track D. Inventory Control and Production Planning
Chair: Stefano Saetta, University of Perugia, Italy

Wednesday

Wednesday 10:30 – 12:00 Noon
Session W61: Inventory Control and Production Planning
Chair: *Stefano Saetta,* University of Perugia, Italy

- Analyzing A Drum-Buffer-Rope Scheduling System Executability Through Simulation (FP)
  Servet Hasgul, Zuhal Kartal

- Process-oriented simulation for mixed-model assembly lines (FP)
  Lorenzo Tiacci, Stefano Saetta

- Design and analysis of Web-based Inventory Control System for E-Commerce (ST)
  Lim Lyheng

Poster Session

Chairs: Gabriel Wainer, Carleton University, Canada
Hamid Vakilzadian, University of Nebraska-Lincoln, USA

Tuesday 9:30-10:30 AM

- Realistic Virtual Environments Navigable Over the WWW
  Ioannis Giannopoulos, Ourania Hatzi, Mara Nikolaidou, Dimosthenis Anagnostopoulos

- A New Simple Formulation of Workflow Patterns
  Kun Guo

- Modeling and simulation of the Dynamic Control of a Cascaded Multilevel Inverter Using Single DC Source for Induction Motor Drive Application
  Sardis Azongha, Hui Li

- Simulating and Evaluating the Impact of RFID on Warehousing Operations: a case study
  Angeliki Karagiannaki, Ioannis Mourtos, Katerina Pramatari

- Embedding DEVS Methodology in CBD Process for Development of War Game Simulators
  Jung H. Kim, Tag G. Kim, JinLip Jeong

- Simulation as an Intuition Building Tool For Factory Physics
  José Arturo González Gómez

- Strain energy change due to an atomic defect in solder alloy lattice
  Cemal Basaran, Michael Sellers, David Kofke, Andrew Schultz

- Low intensity conflicts modeling framework based on Dynamic hierarchical structure DEVS approach
  Lassaad Baati, Claudia Frydman, Norbert Giambiasi, Mamadou Seck