International Simulation Multiconference

Summer Simulation Multi-Conference 2008

Conference Chairs

Multi-conference Coordinator
Mr. Bill Waite
SCS Conference Chairman
Dr. David Cook
SPECTS Conference Chairman
Mohammad Obaidat
Grand Challenges Conference Chairman
Hamid Vakilzadian

Registration

The Registration Desk is located in the foyer of the William Robertson Building. All registrants need to check in at the registration desk to receive an identification badge and reference materials. Name badges must be worn at all Workshop functions.

REGISTRATION HOURS:
MONDAY 16 JUNE 2008, 7:30 AM - 5:30 PM
TUESDAY 17 JUNE 2008, 7:30 AM - 5:00 PM
WEDNESDAY 18 JUNE 2008, 7:30 AM - 3:00 PM
THURSDAY 19 JUNE 2008, 7:30 AM - 11:00 AM

The registration fee includes coffee/tea breaks Monday through Thursday, and the reception Monday evening.

Reception

Monday 16 June, 18:30-20:30
National Museum of Scotland
The museum will be closed to the public. Finger foods will be served and there will be a cash bar available.

Proceedings

Hard copies of the proceedings from this year's conference will be available for sale at the registration desk for 45 GBP. These may be purchased at the registration desk via cash, check, VISA, MasterCard or American Express. The SCS proceedings books will be mailed to you after the conference.

A final version of the proceedings on CD-ROM will be available for purchase, as well, for 25 GBP. This CD will be mailed to you approximately eight weeks after the conference to the address you provide at registration.

Messages

A message board will be located near the registration area. All incoming messages/faxes will be posted to this message board. If you have a message to leave for someone, please see the registration desk.

Incoming Telephone messages:
Within the UK: 0800 028 7118
From overseas +44 131 651 2189
(request to speak with registration)
Incoming FAX messages:
Within the UK: 0131 667 7271
From overseas: +44 131 667 7271

Please be sure to specify the correct conference/ symposia (SCSC, SPECTS, GCMS, SIW) on the cover sheet.

Key Dates

2008 Huntsville Simulation Conference
14-19 September 2008 Huntsville, Alabama
2009 Spring Simulation Multiconference
22-27 March 2009 San Diego, CA

ORDER OF SYMPOSIA IN THIS PROGRAM

For information about SCS, its products or activities, visit our website at: http://www.scs.org.

EXHIBITORS

AEgis

AEgis Simulation Technologies UK, Ltd. (www.aegissim.co.uk) offers products and services effective over a large segment of simulation domain applications. Our strategy in both products and services is to understand the simulation industry domain model, to appreciate the needs of the industry in using simulation to "do the real work", and to provide tools and effort suited to the need. AEgis Simulation is committed to establishing itself as an industrial M&S leader in the UK supporting the overall mission of AEgis as World Leadership In Modeling and Simulation. AEgis specializes in M&S solutions by applying expertise in the following areas: Simulation Based Business Practice - SeBA, SBA, SMARRT; Simulation and Software Development; Simulation Integration - HLA/DIS technologies; Simulation Studies and Analysis; Training Simulator Development; Verification, Validation and Accreditation (VV&A); Simulation Training - HLA, SEDRIS, and VV&A.

AEgis Simulation Technologies UK, Ltd. is located in Yeovil and was founded in 2004 as a wholly owned subsidiary of The AEgis Technologies Group, Inc. (www.aegistg.com), whose headquarters is located in Huntsville, Alabama, USA. This expansion supports AEgis as a leading international supplier of simulation products, training, and services to the Modeling and Simulation (M&S) Industry.

Contact: Mark Dumble, Abbey Manor Business Centre, Preston Road, Yeovil, Somerset, BA20 2EN. Phone: +44 (0)1935 848515, Fax: +44(0)1935 431269, email: mdumble@aegissim.co.uk.

Springer

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Ternion

Ternion Corporation's flagship product is FLAMESR, a powerful simulation framework that addresses all aspects of constructive simulation development and use, including customizable scenario development, execution, post-processing, visualization, and interfaces to constructive, virtual, and live systems. FLAMES minimizes the amount of software development needed to get a full-featured, working simulation. At the same time, the open, object-oriented architecture of FLAMES gives you the flexibility to modify or enhance your simulation as necessary to meet your specific requirements.

Get the simulation you need, when you need it, with FLAMES.

Since 1989, Ternion Corporation has provided quality commercial simulation products and custom software development and support services to government and commercial organizations worldwide. Ternion is a privately held, employee-owned company located in high-tech Huntsville, Alabama.

Pitch

Pitch Technologies (Pitch), based in Linköping, Sweden, is a leading provider of state-of-the-art interoperability products, services and solutions for the development of distributed systems. Our products and solutions are used by some of the largest and most complex simulation programs within governments and industries worldwide, including NASA, Boeing, Thales, EADS, Boeing and Mitsubishi.

At the 2008 Euro SIW in Edinburgh we are proud to present infrastructure, development and runtime tools for the HLA standard, including adapters for interoperability with DIS and Web Services.

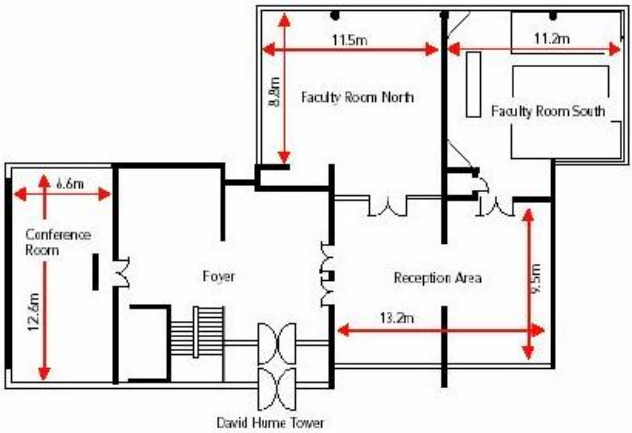
Read more on our web site, www.pitch.se. Pitch is a BAE Systems company.

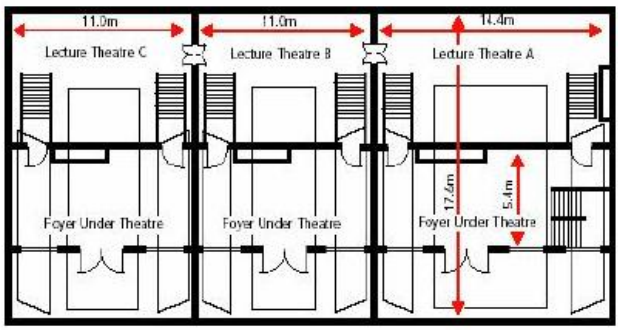
Other Exhibitors Include:

BAES
Antycip
CMSP / NTSA

David Hume Tower and Theatre

@ George Square



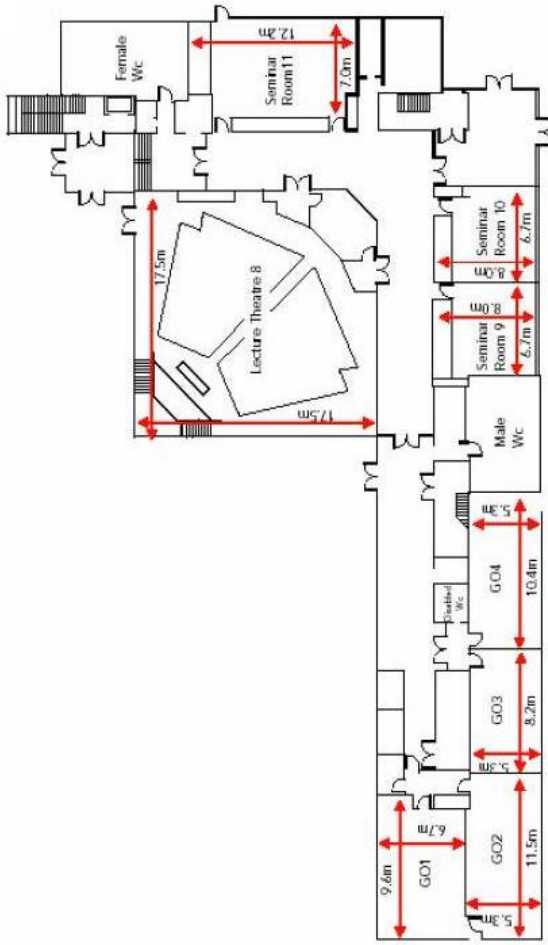


Rooms Located in David Hume Tower:

Theaters A, B, C

William Robertson Building

@ George Square



Rooms Located in William Robertson Building:

Rooms G01, G02, G03, G04
Theater 8
Seminar Rooms 8, 9, 10, 11

SCSC 2008 Program

General Chair:
David Cook

Program Co-Chairs:
Kent Taylor

MONDAY, JUNE 16, 2008

Monday 8:00 - 10:00 and 10:30 – 12:00
Room: Theater C
Session: HLA Tutorial

HLA Evolved Tutorial

Monday 8:00 – 9:00
Room: Theatre B
SESSION: SCS Opening Session
Session Chair: Bill Waite, Aegis Technologies

Monday 9:00 – 10:00
Room: Theatre B
SESSION 1: Keynote Speaker
Session Chair: M. Obaidad, University of Monmouth, USA

SPECTS 2008/SummerSim 2008 Keynote I –
Quality of Experience: The Route to Scalable Performance Evaluation of Networked Systems?
Keynote Speaker: ***Prof. Jonathan Pitts****, Queen Mary, University of London, UK*

BREAK – 1000-1030

Monday 10:30 – 12:00
Room: Theatre B
SESSION 2: Keynote Speaker
Session Chair: H. Szczerbcika, University of Hannover, Germany

SPECT 2008/ SummerSim 2008 Keynote II –
From questions to answers via models: Answers to questions?
Keynote Speaker: ***Prof. Rob Pooley****, Heriot-Watt University, Edinburgh, UK*

LUNCH – 1200-1330

Monday 13:30 – 15:00
Room: Theatre A
SESSION 3: Joint Plenary Session

SummerSim 2008/SISO Workshop Joint Plenary
Keynote Speaker 1: ***Mr. John C. Deal****, BAE Systems, Vice President, Systems Engineering Electronics and Integrated Solutions Operating Group*

Keynote Speaker 2: ***Mr. Paul Thompson****,*
Executive Director, NITEWorks

BREAK – 1500-1530

Monday 15:30 – 17:00

Room: Theatre A
SESSION 4: Tutorial
Session Chair: M. Drozda, Leibniz University of Hannover, Germany

An Introduction to Artificial Immune Systems
Speaker: J. Timmis, University of York, UK

Room: Theatre B
SESSION 5: Tutorial
Session Chair: S. Sastry, University of Akron

Introduction to Energy Efficient Mobile Ad hoc Networks (MANETs) Protocols
Speaker: H.M. Gupta, Indian Institute of Technology, Delhi, India

RECEPTION – 1900-2100
National Museum of Scotland

TUESDAY, June 17, 2008

Tuesday 8:30 – 10:00

Room: Theater A
SESSION 4A: SCSC08 DASD
DASD Track Chairman: Peter Kropf

Preventing Denial of Service Attacks through Software Architecture
Daniel Box and Drew Hamilton
State-Dependent Transitions in Discrete Stochastic Models: Deterministic Simulation Approach
Sanja Lazarova-Molnar
APPRASE: Automatic Parallelisation of FORTRAN to Run on an FPGA
John Collins, Brian T. Farrimond, and Ashutosh Sharma
Automatic Control Parameter Optimization via Controller-in-the-Loop Real-Time Simulation
Wei Ren, Mischa Steurer, Il-Yop Chung, John Hauer, and Ferenc Bogdan

Room: Theater B
SESSION 4B: SCSC08 GENERAL
SCSC08 Program Chair: Kent Taylor

Modeling the Colombian Counter-Insurgency: A System Dynamics Approach to Assessing the Effects of Strategy Change
Catherine Banks and John Sokolowski

CAMiCS: Civilian Activity Modelling in Military Constructive Simulation

Jérôme Levesque, Tony Garneau, Leif Gruenwoldt, Jimmy Hogan, Jimmy Perron, and Capt. Chris Taff

Simulating Low Temperature Electromigration and Thermomigration in Power Electronics Packaging

Cemal Basaran, Shidong Li, and Mohammed Abdulhamid

PRO@CTIF: An Expert System to Improve Performance of Production Lines

Philippe Bouché and Cécilia Zanni

BREAK – 1000-1030

Tuesday 10:30 – 12:00

Room: Theater A
SESSION 5A: SCSC08 DASD
DASD Track Chairman: Peter Kropf

Design of a Reliable Distributed Secure Database System

Albert Ortiz, Donald Dalessandro, Kevin Brown, Frank Ferrese, Qing Dong, and Li Bai

Distributed Simulations Integration Toolset

Nacer Abdellaoui

Identifying Future Needs for Large-Scale, Real-Time, Transient Simulations of All-electric Navy Ship Integrated Power Systems from Practical Experiences

Michael Andrus, Mischa Steurer, Lisa Qi, James Langston, Michael Sloderbeck, and Antonello Monti

Room: Theater B
SESSION 5B: SCSC08 GENERAL
SCSC08 Program Chair: Kent Taylor

Analysis of Shipboard Reconfigurable Fire Main Systems

Donald Dalessandro, Ortiz Albert, Kevin Brown, Qing Dong, Li Bai, and Saroj Biswas

System of Systems Simulation

Kevin Brown, Donald Dalessandro, Donald Longo, and Michael Zink

Large-Scale Model Development of System-of-Systems

Santiago Balestrini Robinson, Yongchang Li, Janel Nixon, and Dimitri Mavris

LUNCH – 1200-1330

Tuesday 13:30 – 15:00

Room: Theater A
SESSION 6A: SCSC08 DASD
DASD Track Chairman: Peter Kropf

High Fidelity Modeling and Simulation of Surface Platforms in a Computer Generated Forces Toolkit

Mehmet Haklidir, Deniz Aldogan, and Isa Tasdelen

Analysis of a Discrete-Time Priority Queue with Place Reservations and Geometric Service Times
Bart Feyaerts, Stijn De Vuyst, Sabine Wittevrongel, and Herwig Bruneel

Modeling and Simulation of Large Power Electronics Conversion Systems
Sara Ahmed, Rolando Burgos, Sebastian Rosado, Fred Wang, and Dushan Boroyevich

Room: Theater B
SESSION 6B: SCSC08 GENERAL
SCSC08 Program Chair: Kent Taylor

Magnetic Tunnel Junctions for Innovative Computing Devices and Architectures
Bernd Güde, Markus Bolte, and Dietmar P.F. Möller

Thermal-Mechanical Damage Prediction Toolkit for Composite Structures Subjected to Fire
Jim Lua

Hardware in the Loop Simulation of a Hybrid Power Train
Siegfried Helm, Martin Kozek, Lukas Magerl, and Stefan Winter

BREAK – 1500-1530

Tuesday 15:30 – 17:00

Room: Theater A
SESSION 7A: SCSC08 DASD
DASD Track Chairman: Peter Kropf

Querying Networked Observables for Control Applications
Ari Arapostathis

Priority-Based Speculative Locking Protocols for Distributed Real-Time Database Systems
Waqar Haque and Jonas Bambi

Video Encoding Analysis for Parallel Execution on Reconfigurable Architectures
Muhammad Rashid, Jean-Christophe Le-Lann, and Bernard Pottier

Room: Theater B
SESSION 7B: SCSC08 GENERAL
SCSC08 Program Chair: Kent Taylor

Inclusion of Social and Behavioral Individual-Difference Variables in Crowd Simulations: A Literature Review and Theoretical Framework
Florian Jentsch, Holly Blasko-Drabik, Rex Oleson, Linda Malone, and David Kaup

Modeling of Apoptotic Signaling Pathway Relevance to Cancer
Isaac Barjis, Jonathan Natov, and Walied Samarrai

Performance Improvement of an Automatic Blast Furnace Through Integrated Fuzzy Simulation and Genetic Algorithm
Ali Azadeh and Samaneh Shokravi

WEDNESDAY, JUNE 18, 2008

Wednesday 8:00 – 10:00

Room: Theater B
SESSION 8B: SCSC08 Emergency Simulation
Emergency Simulation Track Chairman: Francesco Longo

Optimal Scheduling of Evacuation Orders for Cities
Vinayak Dixit and Essam Radwan

A Methodology for Evacuation Design for Urban Areas: Theoretical Aspects and Experimentation
Francesco Russo and Antonino Vitetta

An Ontology-Driven Incident Management System for Scenario Analysis of Disasters
S. Kanala, R. Lephiew, S. Ramaswamy, and R. Seker

Use of Computer Simulation in the Evacuation System for Hospitals
Syi Su, Shin-Tsung Tsai, Chung-Liang Shih, Ren-Jieh Kuo, and Jen-Chieh Chen

Room: Seminar 10
SESSION 8L: SCSC08 DASD
DASD Track Chairman: Peter Kropf

Visualisation of 3D Graphic Simulations on PC-Clusters using Open Scene Graph
Johann Loewen and Kaies Chaouch

Gestural Simulation of Singing Voices for Polyphonic Songs Learning
Jean-Sébastien Gualtieri, Paul-Antoine Bisgambiglia, Jean-François Santucci, and Dominique Federici

Simulation of Virtual Instruction Sets for ASP/ASIP Design Space Exploration and Code Partitioning
Carsten Gremzow

BREAK – 1000-1030

Wednesday 10:30 – 12:00

Room: Theater B
SESSION 9B: SCSC08 Emergency Simulation
Emergency Simulation Track Chairman: Francesco Longo

Critical Issues in HLA Integration: PIOVRA CGF vs. Wargaming System
Agostino Bruzzone, Roberto Mosca, Enrico Bocca, and Marina Massei

A Review of Simulation Modeling Methodologies for Large-scale Evacuations
Huong Pham, Jennifer Pittman, and Mary Court

Distributed Agent-Based Building Evacuation Simulator
Avgoustinos Filippoupolitis, Erol Gelenbe, Daniele Gianni, Laurence Hey, Georgeous Loukas, and Stelios Timotheou

LUNCH – 1200-1330

Wednesday 13:30 – 15:00

Room: Theater B
SESSION 10B: SCSC08 Bioinformatics
Bioinformatics Track Chairman: Isaac Barjis

Simulating Degradation in High Density Power Electrinics Packaging
Cemal Basaran and Mohammed Abdulhamid
Application of Modelling and Simulation in Early Drug Discovery
Neil Benson
Testing and VVA for the Joint Operational Effects Federation (JOEF) CBRN Medical and Operational Effects Simulator
John Richardson

BREAK – 1500-1530

Wednesday 15:30 – 17:00

Room: Theater B
SESSION 11B: SCSC08 Bioinformatics
Bioinformatics Track Chairman: Isaac Barjis

Design of a Spatial and Stochastic Simulator for Bird Flu Spreading in Corsica
David Hill and Lizandru Muzy
The Evolution of Medical Simulation
C. Donald Combs

THURSDAY, JUNE 19, 2008

Thursday 8:00 – 10:00

Room: G01
SESSION 12E: SCSC08 Agent-Directed Simulation
ADS Track Co-Chairmen: Tuncer Oren and Dr. Levent Yilmaz

Autonomic Simulation Systems: Concepts and Applications
Levent Yilmaz
Individual, Group and Crowd Behaviours in Simulations, Modelling Psychological and Situational Variables
Robert St.John, Allister MacIntyre, Jerome Levesque, Greg Phillips, Roger Roy, and Fred Cameron
Efficient Communication in Autonomous Logistic Processes by Application of Cluster-based Routing Methods
Gulshanara Singh, Bernd-Ludwig Wenning, and Carmelita Görg
The CROWDSim Modeling Framework and Some Example Cases
Rex Oleson II and Dr. D. J. Kaup

Room: G02
SESSION 12F: SCSC08 Computer Graphics for Simulation
Graphics Track Chair: John Richardson

Prototyping Pervasia: The Environment of the Future
Mohammad Hamdhaidari, Phil Watten, Nik Martin and Paul Newbury
Technology to Develop Shape and Space Geometry Learning Tools (Geovel)for Primary School Mathematics
Haslina Hassan, George Weir, and John Ferguson
Real-Time Virtual Sound Modeling and Rendering Based on Musical and Room Acoustics
Yang Xinying and Gong Guanghong
Flight Maneuver Simulation:Attainable Sets for Flight Trajectories
Stanislaw Raczynski

Room: G03
SESSION 12G: SCSC08 Toward a Common Infrastructure and Services
Infrastructure Track Chairman: Mark Dumble

Dimensions of Credibility in Models & Simulations
Martin Steele
Effective Exploitation of MS&SE to Support Preparation For Operations
Peter Jackson, et al
Validation of Crowd Simulations
Linda Malone, Rex Oleson, Tom Clarke, D.J. Kaup, Florian Jentsch, Mario Rosa, and Jennifer Reedy
UK Defence Common Simulation Infrastructure and Services
David Edmondson and Bharat Patel

BREAK – 1000-1030

Thursday 10:30 – 12:00 pm

Room: G01
SESSION 13E: SCSC08 Agent-Directed Simulation
ADS Track Co-Chairmen: Tuncer Oren and Dr. Levent Yilmaz

Constraint Mechanisms in Simulations of Emergent Behavior Systems
Orgal Holland
A Distributed Simulation Engine for a Time-Driven Multi-Agent Simulation
Reinhard Hatko and Franziska Klügl
Modelling Behaviour in Software Agents Using Transactional Analysis
Manuel Castañón-Puga, Antonio Rodríguez-Díaz, Guillermo Licea, Eugenio Dante Suarez, Daniel Hernández-Morales, Dora Luz Flores, and Carelia Gaxiola-Pacheco

Room: G02
SESSION 13F: SCSC08 Computer Graphics for Simulation
Graphics Track Chairman: John Richardson

A Simulation Study for Semi-automatic Assembly Line for Auto-focusing Lens Module of Phone-Camera
Dug Hee Moon, Bing Lin Zhang, Kyeong Wook Shin, and Young Gyoo Kim

Robust Design Through the Use of Dynamically Created Parametric Urban Environments
Kemp Kernstine, K. Daniel Cooksey, and Dimitri Mavris

An Example of Web Application for Scientific Simulation
Donato D'Ambrosio, William Spataro, Rocco Rongo, Carlo Cirimele, and Eugenio Riccetti

Room: G03
SESSION 13G: SCSC08 Toward a Common Infrastructure and Services
Infrastructure Track Chairman: Mark Dumble

COSTEX – A Study into the Exploitation of Commercial Off-The-Shelf Synthetic Environment Technologies
David Joyce

SE Interoperability – Barriers and Enablers
Colin Petford and Steve Frank

Synthetic Natural Environment Special Interest Group Overview and Update
Paul Clarke

LUNCH – 1200-1330

Thursday 13:30 – 15:00

Room: G01
SESSION 14E: SCSC08 ADS/GENERAL
SCSC08 Program Chair: Kent Taylor

Distributed Agent-based Building Evacuation Simulator
Avgoustinos Filippoupolitis, Erol Gelenbe, Daniele Gianni, Laurence Hey, Georgeous Loukas, and Stelios Timotheou

Optimal Allocation of Operators in a Flexible Manufacturing Cell by Genetic Algorithm
Ali Azadeh and Bahareh Pourvalikahn

Service-Oriented, Net-Centric M&S Enterprise Progress
Donald Hodge and George M. Parsons III

Room: G02
SESSION 14F: SCSC08 Computer Graphics for Simulation
Graphics Track Chairman: John Richardson

LibAuToti, A Parallel Cellular Automata Library for Simulation: An example of Application to Landslides
William Spataro, Donato D'Ambrosio, Giuseppe Spingola, Giuseppe Zito, and Rocco Rongo

VIP - Virtual Interactive Port
Agostino Bruzzone and Francesco Longo

Voice Navigation in 3-D Virtual Simulation Environments for the Macintosh
John Richardson

Room: G03

SESSION 14G: SCSC08 Toward a Common Infrastructure and Services
Infrastructure Track Chairman: Mark Dumble

The Emergent NATO Virtual Ship Standard to realise Efficiency and Effectiveness in Simulation Support to Naval Acquisition
John Duncan, Mark Dumble, and Kevin McTaggart

BREAK – 1500-1530

Thursday 15:30 - 17:00

Room: G01

SESSION 15E: SCSC08 GENERAL
SCSC08 Program Chair: Kent Taylor

Development of Two Data Interfaces Compliant With CMSD - Describing Results and a Development Guideline
Bjorn Johansson

VAT4Net - a Visualization and Animation Tool for Network Simulations
Torsten Braun

Study on a Simulation Method for Safety Stock Decision in Logistics System
Zuo Peng

SPECTS 2008 Program

General Chair:
Mohammad Obaidat

Program Co-Chairs:
Jose Marzo and Helena Szczerbicka
Program Vice Chairs
Jose Luis Sevillano and Pawel Gburzynski
Tutorial Chair
S. Dharmaraja
Awards Chair
Franco Davoli
Web Masters
Antonio Bueno and Mike Chinni
Publication Chair
Dr. Pere Vilà
Publicity Committee Chair
Dr. Essia Elhafsi

MONDAY, JUNE 16, 2008

Monday 8:00 – 9:00
Room: Theatre B
SESSION: SCS Opening Session
Session Chair: Bill Waite, Aegis Technologies

Monday 9:00 – 10:00
Room: Theatre B
SESSION 1: Keynote Speaker
Session Chair: M. Obaidad, University of Monmouth, USA

SPECTS 2008/SummerSim 2008 Keynote I –
Quality of Experience: The Route to Scalable Performance Evaluation of Networked Systems?
Keynote Speaker: ***Prof. Jonathan Pitts****, Queen Mary, University of London, UK*

BREAK – 1000-1030

Monday 10:30 -12:00
Room: Theatre B
SESSION 2: Keynote Speaker
Session Chair: H. Szczerbcika, University of Hannover, Germany

SPECT 2008/ SummerSim 2008 Keynote II –
From questions to answers via models: Answers to questions?
Keynote Speaker: ***Prof. Rob Pooley****, Heriot-Watt University, Edinburgh, UK*

LUNCH – 1200-1330

Monday 13:30 - 15:00

Room: Theatre A

SESSION 3: Joint Plenary Session

SummerSim 2008/SISO Workshop Joint Plenary

Keynote Speaker 1: ***Mr. John C. Deal****,*
BAE Systems, Vice President

Keynote Speaker 2: ***Mr. Paul Thompson****,*
Executive Director, NITEWorks

BREAK – 1500-1530

Monday 15:30-17:00

Room: Theatre A

SESSION 4: Tutorial

Session Chair: M. Drozda, Leibniz University of Hannover, Germany

An Introduction to Artificial Immune Systems
Speaker: J. Timmis, University of York, UK

Monday 15:30-17:00

Room: Theatre B

SESSION 5: Tutorial

Session Chair: S. Sastry, University of Akron

Introduction to Energy Efficient Mobile Ad hoc Networks (MANETs) Protocols
Speaker: H.M. Gupta, Indian Institute of Technology, Delhi, India

RECEPTION – 1900-2100
National Museum of Scotland

TUESDAY, June 17, 2008

Tuesday 8:30-10:00

Room: Theatre B

SESSION 6: Keynote Speaker

Session Chair: Jose Marzo, University of Girona, Spain

SummerSim 2008/Grand Challenges 2008 Keynote --
Quantized State System Simulation
Keynote speaker: ***Prof. F. Cellier****,*
ETH Zürich, Switzerland

BREAK – 1000-1030

Tuesday 10:30 - 12:00

Room: G02

SESSION 7: Modeling & Simulation

Session Chair: Zrinka Puljiz, Univesrity of Texas, USA

Performance Evaluation of Gang Scheduling in Distributed Real-Time Systems with Possible Software Faults
Georgios L. Stavrinides and Helen D. Karatza

Efficient and accurate solution of multiserver retrial systems with user impatience through the value extrapolation technique

Jose Manuel Gimenez-Guzman, Mª Jose Domenech-Benlloch, Vicent Pla, Vicente Casares-Giner and Jorge Martinez-Bauset

Analytical Modeling of Token Bucket Based Load Transformations

Stephan Heckmüller and Bernd E. Wolfinger

Event Scheduling based on Combined Rollback Cost in Time Warp Parallel Simulation

Hussam Ramadan

ROOM: G04

SESSION 10: Methods & Tools

Session Chair: S. Heckmueller, Iuniversity of Hamburg, Germany

Distributed Response Time Analysis of GSPN Models with MapReduce

Oliver Haggarty, William Knottenbelt and Jeremy Bradley

Pseudo Random Numbers Generators Available as Web Services

Sébastien Rumley and Markus Becker

Model Checking of Steady-State Rewards Using Bounding Aggregations

Hind Castel, Lynda Mokdad and Nihal Pekergin

On the Use of a Genetic Algorithm in High Performance Computer Benchmark Tuning

Dominic Dunlop, Sebastien Varrette and Pascal Bouvry

Room: Seminar 10

SESSION 13: Mobility in Wireless Networks

Session Chair: Sebastia Galmes, University of Baleares, Spain

Neighbour Coverage: A Dynamic Probabilistic Route Discovery for Mobile Ad Hoc Networks

Jamal-Deen Abdulai, Mohamed Ould-Khaoua, Lewis Mackenzie and Aminu Mohammed

Performance Evaluation of Multi-path and Single-path Routing Protocols for Mobile Ad-Hoc Networks

Christos Tachtatzis and David Harle

Performance Evaluation of an Efficient Counter-Based Scheme for Mobile Ad Hoc Networks based on Realistic Mobility Model

Aminu Mohammed, Mohamed Ould-Khaoua, Lewis M. Mackenzie and Jamal Abdulai

Hierarchical Trajectory-Based Routing Protocol for Vehicular Ad Hoc Networks

Floriano De Rango, Fiore Veltri and Salvatore Marano

LUNCH – 1200-1330

Tuesday 13:30-15:00

Room: G02

Special SESSION 8: Biologically Inspired Wireless Networks I

Session Chair: Jon Timmes, University of York, UK, M. Drozda, Leibniz University of Hannover, Germany

Modified Binary PSO Training of Recurrent Neural Network for 1/n Rate Convolutional Decoders
Reza Asvadi and Mahmoud Ahmadian

Exploring Self-star Properties in Cognitive Sensor Networking
Pruet Boonma and Junichi Suzuki

Influence of Network Payload and Traffic Models on the Detection Performance of AIS
Sven Schaust and Martin Drozda

Room: G04

SESSION 11: Energy Conservation in Ad-Hoc Networks

Session Chair: Dr. Kumar Padmanabh, India

Analysis of Minimum-Energy Path-Preserving Graphs for Ad-hoc Wireless Networks
Mahmuda Ahmed, Mehrab Shariar, Shobnom Zerin and Ashikur Rahman

EAGR: Energy Aware Greedy Routing Scheme for Wireless Ad hoc Networks
Sachin Sharma, H.M. Gupta and Dharmaraja S.

MEA-DSR: A Multipath Energy-aware Routing Protocol for Wireless Ad Hoc Networks
Floriano De Rango and Salvatore Marano

Transmission Range Management for Lifetime Maximization in Wireless Sensor Network
Kumar Padmanabh

Room: Seminar 10

SESSION 14: Channel Models

Session Chair. Manuel Villen-Altamirano, Telefonica I+D, Madrid, Spain

A New Algorithm for Common Phase Error Estimation for Multipath Fading Channel in OFDM Systems
Mohammad Noroozi, Abdulhamid Zahedi and Hamidreza Bakhshi

New Low Computational Complexity Partial Crosstalk Cancellation and Multi-User Power Control Algorithm in New xDSL Networks
Mohsen Maesoumi and Mohammad Ali Masnadi-Shirazi

Using Adaptive Agent-Based Approach to Iterative Distributed Swapping Prediction for Interference Reduction in Cellular Systems
Jamal Raiyn

BREAK – 1500-1530

Tuesday 15:30-17:00

Room: G02

Special SESSION 9: Biologically Inspired Wireless Networks II

Session Chair: Jon Timmes, University of York, UK, M. Drozda, Leibniz University of Hannover, Germany

Computing the state of Specknets: an immune inspired approach
Despina Davoudani and Emma Hart

Bio-inspired Energy-aware Medium Access Control Protocol for Cooperative Wireless Networks
Gian Paolo Perrucci, Puri Anggraeni, Satya Wardana, Frank Fitzek and Marcos Katz

Traffic Analysis and Classification with Bio-Inspired and Classical Algorithms in Sensor Networks
Matthias Becker, Sebastian Bohlmann and Sven Schaust

Wireless Discussion Forums: Automatic Management via Artificial Immune Systems
Luca Albergante

Room: G04

SESSION 12: Protocols for Wireless Networks

Session Chair: H. Gupta, Indian Institute of Technology, Delhi, India

Enhanced Partial Dominant Pruning (EPDP) Based Broadcasting in Ad hoc Wireless Networks
Endadul Hoque, Farzana Rahman, Sabuj Kundu, Ashikur Rahman and Pawel Gburzynski

Optimizing Access in an Integrated Wireless Network Environment
Weizhi Luo and Eliane Bodanese

Minimal Cost Clock Synchronization Using a Sender-Receiver Protocol in Wireless Sensornets
Hesham Elmahdy, Iman Ali, Mohamed Elshrkawey and Abdelatif Elkouny

Room: Seminar 10

SESSION 15: Quality of Service

Session Chair: Jose Sevillano Ramos, University of Sevilla, Spain

Localized Quality Based QoS Routing
Abdulbaset Mohammad and Michael Woodward

Resource Allocation and Game Theoretic Scheduling with Dynamic Weight Assignment in IEEE 802.16 Fixed Broadband Wireless Access Systems
Jayaparvathy R and Geetha S

User-Managed QoS: Model and Validation
Jean-Charles Grégoire, André Girard and Linda Dadjo

Improving TCP QoS Over OBS Networks: A Scheme Based on Optical Segment Retransmission
Mohammad Obaidat, A. Lazzez and N. Boudriga

WEDNESDAY, June 18, 2008

Wednesday 8:30-10:00

Room: G02

SESSION 16: Optical Networks

Session Chair. M.H. MacGregor, University of Alberta, Canada

A Real-time TCP Management Scheme over OLS Networks
Y. Khlifi, N. Boudriga and Mohamamd S. Obaidat

Time-Slotted Scheduling for Agile All-Photonics Networks: Performance and Complexity
Hana Bilbeisi and Lorne Mason

Burst Loss Reduction Schemes in Optical Burst Switching Networks
Abdelilah Maach, Abdelhakim Senhaji Hafid and Abdetawab Belbekkouche

Dynamic Unicast/Multicast Traffic Grooming Using S/G Light-tree In WDM Networks
Javier Emilio Sierra, Fernando Solano Donado, Luis Fernando Caro, Jose Luis Marzo, Ramon Fabregat and Yezid Donoso Meisel

Room: G04

SESSION 20: Safe, Dependable & Real-Time Systems

Session Chair: Alejandro Linares-Barranco. University of Sevilla, Spain

Effects of Simultaneous Stimulation on the Event Stream Densities of Fixed-Priority System
Steffen Kollmann, Karsten Albers and Frank Slomka

A Methodology to Evaluate the Availability of Reconfigurable Conveyor Systems
Qui Zhu, Swapna Gokhale and Shivakumar Sastry

Performance Modelling and Evaluation of an Adaptation Management System
Abdelhak Attou, Jie Ding, Dave Laurenson and Klaus Moessner

Investigating Intrusion Detection Systems That Use Trails of System calls
Suhair Amer and John Hamilton

Room: Seminar 10

SESSION 24: Network Performance Evaluation II

Session Chair: M. Bateman, University of St. Andrews, UK

Analysis of prediction performance of training-based models using real network traffic
Mohamed Faten Zhani, Halima Elbiaze and Farouk Kamoun

Hardware Bottleneck Evaluation and Analysis of A Software PC-based Router
Qinghua Ye and Mike MacGregor

Heavy Traffic Analysis of State-Dependent Fork-Join Queues with Triggers and an Application to Web Search Systems
Saul Leite and Marcelo Fragoso

Performance Analysis of Rate Regulation Mechanism using Trajectory Tracking Control
Zitoune Lynda, Mounier Hugues, Vèque Véronique and Hamdi Amel

BREAK – 1000-1030

Wednesday 10:30-12:00

Room: G02
SESSION 17: Content Delivery
Session Chair: M. Faulkner, University of Lancaster, UK

Adaptive Smooth Multicast Protocol for Multimedia Data Transmission
Christos Bouras, Apostolos Gkamas and George Kioumourztis

A Measurement Study of Shared Content on Pee-to-Peer Networks
Mohammed Hawa

Design and Performance Evaluation of an Optimized Peer-to-Peer Content Replication Scheme for Vehicular Networks
Luca Caviglione and Cristiano Cervellera

An Experiment with Globus over a Satellite Link
Franco Tommai, Simone Molendini and David Camassa

Room G04
SESSION 21: Distributed Systems
Session Chair: S.Majumdar, Carleton University, Canada

Performance evaluation on multiprocessor task scheduling with resource augmentation
Deshi Ye and Qinming He

Evaluation of scheduling policies in a Mobile Grid architecture
Konstantinos Katsaros and George Polyzos

Modeling the Effects of Node Heterogeneity on the Performance of a Real Grid Application
Paolo Cremonesi, Roberto Turrin and Vassil N. Alexandrov

Efficient Multiple-Keyword Search in DHT-based Decentralized Systems
Sivanthan Sivaraja, Mayatheepan Thiyagarajah, Thiruvarangan Piranavam, Chung-Horng Lung and Shikharesh Majumdar

Room: Seminar 10
SESSION 25: Network Performance Evaluation III
Session Chair: S. Schasut, Leibniz University of Hannover, Germany

End-to-End Inference of Link Level Queueing Delay Distribution and Variance
Andrea Di Pietro, Domenico Ficara, Stefano Giordano, Francesco Oppedisano and Gregorio Procissi

On the Threshold for Observing Approximate Invariance of Effective Bandwidth
Kishore Angrishi

Performance analysis of a decentralized network simulator

Zrinka Puljiz, Roberto Penco and Miljenko Mikuc

BRUNO: A High Performance Traffic Generator for Network Processor

Gianni Antichi, Andrea Di Pietro, DomenicoFicara, Stefano Giordano, Gregorio Procissi and Fabio Vitucci

LUNCH – 1200-1330

Wednesday 13:30-15:00

Room: G02

SESSION 18: Network Performance Evaluation I

Session Chair: M. Hawa, University of Jordan, Jordan

The Windowed Moments Change Test: A Novel Technique for Assessing Stationarity in Network Traffic

Kristof Sleurs, Jan Potemans, Johan Theunis, Dagang Li, Emmanuel Van Lil and Antoine Van de Capelle

Slot-by-slot maximum likelihood estimation of tag populations in framed slotted aloha protocols

Bastian Knerr, Martin Holzer, Christoph Angerer and Markus Rupp

Performance Analysis of Scheduling Policies for Delay-Tolerant Applications in Centralized Wireless Networks

Mohamed Shaqfeh and Norbert Goertz

ParaSynTG: A Parameterized Synthetic Trace Generator for Representation of WWW Traffic

Rachid El Abdouni Khayari, Mathias Ruecker, Axel Lehmann and Adisa Musovic

Room: G04

SESSION 22: Internet Protocols

Session Chair: S. Heckmueller, University of Hamburg, Germany

Integration of Linux TCP Implementation into Simulation: Verification and Validation

Songrith Kittiperachol and Zhili Sun

Optimal Bandwidth Allocation in IP network; the case of QoS-sensitive user utility functions

Piotr Paulski and Mariusz Kamola

Fuzzy Logic Controller of Random Early Detection based on Average Queue Length & Packet Loss Rate

Hussein Abdel-jaber, Fadi Thabtah, Mike Woodward and Mohamed Mahafzeh

A Comparative Performance Evaluation of DCCP

Saleem Bathi, Martin Bateman, Dimitrios Miras

Room: Seminar 10

SESSION 26: Local & Edge Networking

Session Chair: Floriano de Rango, University of Calabria, Italy

A New Bandwidth Statistical Multiplexing Scheme for 2D WLAN Environments with Passive Reservations

F. de Rango, P. Fazio, S. Marano

Enhanced Forward Explicit Congestion Notification (E-FECN) Scheme for Datacenter Ethernet Networks

Chakchai So-In, Raj Jain and Jinjing Jiang

Design and Performance Evaluation of a MAC Protocol for a Cellular Indoor Optical Wireless Network under Poisson and Self-Similar Traffic

Bilal Qazi and Jaafar Elmirghani

Augmented Grooming in Networks with Elastic Traffic

Zoltán Zsóka, Renato Lo Cigno and Balázs Farkas

BREAK – 1500-1530

Wednesday 15:30-17:00

Room: G02

SESSION 19: Evaluation & Measurements

Session Chair: S. Majumdar, Carleton University, Canada

Evaluating SIP Proxy Servers Based on Real Performance Data

Tugrul Yanik, H. Hakan Killijnc, Mustafa Sariöz, Serdar S. Erdem

Neuro-Inspired Real-Time USB & PCI to AER Interfaces for Vision Processing

A. Linares-Barranco, R. Paz-Vicente, A. Jimenez-Fernandez, C. Lujan-Martinez, M. Rivas-Perez, J. L. Sevillano-Ramos, G. Jimenez-Moreno and A. Civit-Balcells

Simple and practical disk performance evaluation method in virtual machine environments

Teruyuki Baba and Atsuhiro Tanaka

Passive Capacity Estimation: Comparison of Existing Tools

Taoufik En-Najjary and Guillaume Urvoy-Keller

Room: G04

SESSION 23: Reliability & Security

Session Chair: M. Kamola, Technical University of Warsaw, Poland

A New Statistical Approach to Network Anomaly Detection

Christian Callegari, Sandrine Vaton and Michele Pagano

An Adoption of Kerberos to 3G Network for Mutual Authentication: Challenges and Evaluations

Chan-Kyu Han and Hyoung-Kee Choi

Providing Protection and Restoration with Distributed Multipath Routing

Pascal Merindol, Jean Jacques Pansiot and Stephane Cateloin

On the Scalability of Storage Sub-System Back-end Networks

Yan Li, Tim Courtney, Roland Ibbett and Nigel Topham

M&S Net 2008 Program

MONDAY, JUNE 16, 2008

Monday 8:00 to 9:00
Room: Theater B

SCS Plenary Session

Monday 9:00 – 11:00

Room: Theater A
Session 1A: M&S Net Joint Directors Meeting
Chair: Andras Javor and Mike McGinnis

MISS Centers Presentations

M&SNet Centers Presentations

Round Table: Approaching the Effective Cooperation

BREAK – 1100-1130

Monday 11:30 - 13:00
Room: Theater A
Session 2A/WS-1: M&S Net Joint Workshop
Chair: Andras Javor

Simulation of Memetics by Means of Knowledge Attributed Petri Nets
Andras Javor

Subjective and Objective Conjunctive Weights Evaluation in Virtual Observer Modeling
Yang Xinying, Gong Guanghong and Tian Yuan

Testing and VVA for the Joint Operational Effects Federation (JOEF) CBRN Medical and Operational Effects Simulator
John Richardson

Line Production Analysis. Using Simulation for the Study of Flow Materials in a Case of a Bottling Line
Stefano Saetta, Lorenzo Tiacci

LUNCH – 1300-1330

Monday 13:30 - 15:00
Room: Theatre A
SESSION 3: Joint Plenary Session

SummerSim 2008/SISO Workshop Joint Plenary
Keynote Speaker 1: ***Mr. John C. Deal****, BAE Systems*
Keynote Speaker 2: ***Mr. Paul Thompson****, Executive Director, NITEWorks*

THURSDAY, JUNE 19, 2008

Thursday 9:00 - 11:00

Room: G04
Session WS-2: M&S Net
Chair: Mike McGinnis

VIP- Virtual Interactive Port
Agostino Bruzzone, Francesco Longo
Real-time Virtual sound modeling and rendering based on musical and room acoustics
Xinying Yang, Guanghong Gong
Certify: A Parameter Extraction Tool for Power Semiconductor Device Models
W. Li, Y. Feng, P. R. Wilson, H. A. Mantooth, E. Santi, and J. L. Hudgins
Decentralized Optimal Sequence-based Control of Switching Power Converters in Interactive Power Networks
Kaustuva Acharya, Sudip K. Mazumder

BREAK – 1100-1130

Thursday 11:30 - 13:00

Room: G04
Session WS-3: M&S Net
Chair: Mike McGinnis

Simulation Tools, Ergonomics Principles and Work Measurement Techniques for Workstations Design
Enrico Bocca, Francesco Longo
Web-Based Inventory Management: an Application to a Manufacturing Plant
Antonio Cimino, Duilio Curcio, Giovanni Mirabelli
Introducing Pooling by using Artificial Intelligence supported by Simulation
Agostino Bruzzone, Enrico Bocca

LUNCH – 1300-1430

Thursday 14:30 - 16:00

Room: G04
Session WS-4: M&S Net
Chair: Mhamed Itmi

A Simulation Study for Semi-automatic Assembly Line for Auto-focusing Lens Module of Phone-Camera
Dug Hee Moon, Bing Lin Zhang, Kyeong Wook Shin and Young Gyoo Kim.
Optimization of a Crossdocking Distribution Centre Simulation Model
Adrian Adewunmi, Uwe Aickelin
Voice Navigation in 3-D Virtual Simulation Environments for the Macintosh
John F. Richardson

GCMS 2008 Program

General Chair:
Dr. Ralph Huntsinger, California State Universality – Chico, USA

General Program Chair:
Mr. Terry Ericsen, Office of Naval Research, USA

Program Co-Chairs:
Dr. Roy Crosbie, California State University – Chico, USA
Dr. Mhamed Itmi, INSA-ROUEN, France
Dr. Hamid Vakilzadian, University of Nebraska-Lincoln, USA

Monday, June 16, 2008

Monday 8:00 – 9:00

Room: Theatre B
SESSION: SCS Opening Session
Session Chair: Bill Waite, Aegis Technologies

Monday 9:00 – 10:00

Room: Theatre B
SESSION 1: Keynote Speaker
Session Chair: M. Obaidad, University of Monmouth, USA

SPECTS 2008/SummerSim 2008 Keynote I –
Quality of Experience: The Route to Scalable Performance Evaluation of Networked Systems?
Keynote Speaker: ***Prof. Jonathan Pitts****, Queen Mary, University of London, UK*

BREAK – 1000-1030

Monday 10:30 -12:00

Room: Theatre B
SESSION 2: Keynote Speaker
Session Chair: H. Szczerbcika, University of Hannover, Germany

SPECT 2008/ SummerSim 2008 Keynote II –
From questions to answers via models: Answers to questions?
Keynote Speaker: ***Prof. Rob Pooley****, Heriot-Watt University, Edinburgh, UK*

LUNCH – 1200-1330

Monday 13:30 - 15:00

Room: Theatre A
SESSION 3: Joint Plenary Session

SummerSim 2008/SISO Workshop Joint Plenary
Keynote Speaker 1: ***Mr. John C. Deal****, BAE Systems, Vice President*

Keynote Speaker 2: ***Mr. Paul Thompson****, Executive Director, NITEWorks*

BREAK – 1500-1530

RECEPTION – 1900-2100
National Museum of Scotland

Tuesday, June 17, 2008

Tuesday 8:00 – 10:00

ROOM: Seminar 11
SESSION T31: Joint Session of Grand Challenges and Aerospace/ Space
Session Co-Chairs: Terry Ericsen and Priscilla Elfrey, NASA

Tuesday 8:30 – 10:00

ROOM: Theatre 8
SESSION: GC Opening Session and Keynote Speech

GCMC 2008 Keynote Address –
Quantized State System Simulation
Keynote Speaker: ***Dr. Francois Cellier***
Institute of Computational Science
ETH Zürich, Switzerland

BREAK – 1000-1030

Tuesday 10:30 – 12:00

ROOM: Theatre 8
SESSION T12: Methodologies in Modeling Tools
Session Chair: Ralph Huntsinger

Realization of the Devs Formalism in Matlab/ Simulink
Kyung Min Seo, Chang Ho Sung and Tag Gon Kim

On The Stability of Bi-Rate Linear Systems Using Trapezoidal Integration
Richard Bednar and Roy Crosbie

Latency-Insertion Method as a Way to Increase Stability and Speed of Co-Simulation
Andrew Heilman and Antonello Monti

Thermal-Mechanical Damage Prediction Toolkit for Composite Structures Subjected to Fire
Jim Lua, Jay Shi, Paul Desjardin and Scott Case

ROOM: Seminar 9
SESSION T22: VTB PRO USER WORKSHOP
Session Chairs: Roger Dougal, University of South Carolina, Antonello Monti, Blake Langland, Earnie Broughton, University of South Carolina

Room: Seminar 11
SESSIONS T32: Joint Session of Grand Challenges and Aerospace/ Space
Session Co-Chairs: Terry Ericsen and Priscilla Elfrey

LUNCH – 1200-1330

Tuesday 13:30 – 15:00

ROOM: Theatre 8
SESSION T13: Information Technology and Architectures
Session Chair: Dr. Francois Cellier

Comparison of Polynomial and Neural Network Models for Information Extraction from a Data Base of Measurements
Andrea Lorenz and Martin Kozek
Common Information Model for Sensors
Vinoth Mohan, Noel Schulz and Anurag Srivastava
Further Research and Application of Cosim (Collaborative Simulation) Grid
Li Bo Hu, Chai Xudong, Hou Baocun, Mu Suchuan and Shen Qingfeng
The Rc6 Encryption Algorithm: A Combined Hardware/Software Implementation in Systemc
Robert Schmit and Hamid Vakilzadian

ROOM: Seminar 9
SESSION T23: Tutorial on VTB
Speakers: Dr. Roger Dougal ,Antonello Monti, Blake Langland and Earnie Broughton

Room: Seminar 11
Sessions T33: Joint Session of Grand Challenges and Aerospace/ Space
Session Co-Chairs: Terry Ericsen and Priscilla Elfrey

LUNCH – 1500-1530

Tuesday 15:30 – 17:00

ROOM: Theatre 8
SESSIONS T14: Methodologies in Ship and Underwater Vehicle Models I
Session Chair: Kelly Cooper, Office of Naval Research, USA

Empirical Distribution Enhanced Quality Function Deployment Process for Ship Systems Design and Planning
Stefanos Koullias, Janel Nixon and Dimitri Mavris
Gradient-Free Stochastic Sensitivity Analysis of the Shipboard Power System
P. Prempraneerach, J. Foo, M. S. Triantafyllou, C. Chryssostomidis and G. E. Karniadakis
Practical Hydrodynamic Optimization of Ship Hull Forms
Chi Yang, Hyunyul Kim, Rainald Lohner and Francis Noblesse

Modelling and Simulation of a Biomimetic Underwater Vehicle

Chris Watts, Euan McGookin

ROOM: Seminar 9

SESSION T24: Modeling and Simulation of Electrical Devices

Session Chair: *Roy Crosbie, California State University – Chico, USA*

Modeling and Validation of an Overcurrent Relay Using Labview and Rtds

Sunil Palla, Anurag Srivastava and Noel Schulz

Switching Loss Optimization in Hysteresis-Current-Controller Driven Direct-Matrix Converter Using Matlab/Simulink

Rashmi Prasad, Krushna Mohapatra and Ned Mohan

Particle Swarm Optimization of Synrm for Traction Applications

A.A. Arkadan and M.N. ElBsat

Design Optimization of Hybrid Electric Vehicle Power Train Using Particle Swarm Optimization

Nizar Alawar and A.A. Arkadan

Wednesday, June 18, 2008

Wednesday 8:30 – 10:00

ROOM: Theatre A

Session: W11: Methodologies in Ship and Underwater Vehicle Models II

Session Chair: Kelly Cooper, Office of Naval Research, USA

Applications of Inverse Simulation Methods to a Nonlinear Model of an Underwater Vehicle

David Murray-Smith, Linghai Lu and Euan McGookin

Multi-Party, Multi-Rate Simulation of an Unmanned Underwater Vehicle

John Zenor, Richard Bednar and Sourabh Bhalerao

Multi-Dimensional Adaptive Collocation and Electric Ship Models

Joshua Taylor and Franz Hover

All Electric Ships, Internal Compartments and Cabinets Thermal and Psychrometric Simulation

Jose Vargas, Juan Ordonez and Rob Hovsapian

Analysis of Shipboard Reconfigurable Fire Main Systems

Donald Dalessandro, Ortiz Albert, Kevin Brown, Qing Dong, Li Bai and Saroj Biswas

ROOM: Theatre B
SESSION: W21: Simulation Methods for Nonlinear, Discontinuous, and Dynamic Systems I
Session Chair: Joe Borraccini, Office of Naval Research, USA

Simulating Low Temperature Electromigration and Thermomigration in Power Electronics Packaging
Cemal Basaran

Simulations to Study the Stability Issues in a Shipboard Power Systems
Yamilka Baez-Rivera, Noel Schulz and Anurag Srivastava

Towards a Social Responsible Agents in Hybrid Organization
Mhamed Itmi

Damping Impedance Method for Multi-Rate Parallel Simulation of Natural-Based Systems
Rodrigo Leonard, Philip Crapse, Yucheng Zhang, Roger Dougal and Blake Langland

Nonlinear Hull Form Transformation for Use with Design Optimization
Steven Zalek, Robert Beck and Michael Parsons

Wednesday 8:30 – 10:00

ROOM: Seminar 9
Session W31: Complex System Modeling
Session Chair: Narain Hingorani, Consultant, USA

Model Development of Large-Scale DoD System-of-Systems
Santiago Balestrini Robinson, Yongchang Li, Janel Nixon and Dimitri Mavris

System Modeling for Power Electronic.
Luis Garcés Xianghui Huang

Simulating Degradation in High Density Power Electronics Packaging
Cemal Basaran

Comparative Assessment of Differential Relay Model Performance with Hardware Equipment
Vamsi Vijapurapu, Noel Schulz, Anurag Srivastava and Jimena Bastos

BREAK – 1000-1030

Wednesday 10:30 - 12:00

ROOM: Theatre A
SESSION W12: Multidiscipline and Multi-rate Simulation
Session Chair: David Murray-Smith, University of Glasgow, UK

Molecular Dynamic Simulations of an Atomic Vacancy in FCC Metal
Cemal Basaran

Application of a Multiplayer Computer Gaming Paradigm to Engineering Design Tools
Roger Dougal and Jijun Tang

Modelling of Submarine Power Systems using Matlab/Simulink
Darren Browning and Andrew Bennett

Modeling and Simulation of MAS-Based Reconfiguration for an Integrated Power System
Qiuli Yu and Noel Schulz

ROOM: Theatre B

SESSION W22: Methodologies in System Modeling and Design
Session Chair: Noel Schultz, Mississippi State University, USA

Design and Basic Evaluation of High Performance Simulation Engine for HLA Distributed Simulation
Atsuo Ozaki, Kazutaka Matsushita, Masashi Shiraishi, Shusuke Watanabe, Masakazu Furuichi and Hiroyuki Sato

Impact of Type-2 Fuzzy Sets on an Existing Hybrid Agent Set-Based Design Experiment
Alexander Gray and David Singer

Challenges in Uncertainty-Based, Self-Configuring Simulation for Design Support
Ferdinanda Ponci

Reconfiguration of Heterogeneous Systems Using Distributed Controls
Karl Schoder, Sanjeev Srivastava, Andreas Poelzleitner and David Cartes

ROOM: Seminar 9

SESSION: W32: ESL Tutorial
Session Chair: Lionel Brooks, California State University – Chico

Speaker: ***John Pearce****, ISIM International Simulation Limited*

LUNCH – 1200-1330

Wednesday 13:30 – 15:00

ROOM: Theatre A

Session W13 Modeling and Environmental Issues
Session Chair: Mhamet Itmi, INSA-ROUEN, France

Simulating a Predator/Prey Relationship
Charles Knadler

Design of a Spatial and Stochastic Simulator for Birdflu Spreading in Corsica
David Hill

Environmental Challenges of Intermodal Transportation
Dietmar P. F. Möller and Volker Gollnick

ROOM: Theatre B

SESSION W23: Models as Specification
Session Chair: Terry Ericsen

Loss Estimation in High Frequency AC Link Power Electronic Transformer by Saber Simulation
Kaushik Basu, Amod Umarikar, Krishna Keshab Mohapatra and Ned Mohan

Modelling of Cascaded and Interleaved Switched Mode Power Converters Using Bond Graphs
Amod Umarikar and Ned Mohan

Simulation Model of a Three-Port Bi-Directional Series Resonant DC-DC Converter to Determine Component Specifications
Hariharan Krishnaswami and Ned Mohan

Logical Analysis of DEVS Models Using Z
Mohamed Wassim Trojet, Amine Hamri and Claudia Frydman

ROOM: Seminar 9
SESSION W33: ESL Tutorial
Session Chair: Lionel Brooks, California State University – Chico

Speaker: ***John Pearce****, ISIM International Simulation Limited*

BREAK – 1500-1530

Wednesday 15:30 - 17:00

ROOM: Theatre A
SESSION W14: Simulation Tools and Applications
Session Chair: Hamid Vakilzadian, University of Nebraska-Lincoln, USA

The Micromagnetic Modeling and Simulation Kit (M^3S) for the Simulation of the Dynamic Response of Ferromagnets Due to Electric Currents.
Massoud Najafi, Benjamin Krüger, Stellan Bohlen, Gunnar Selke, Markus Bolte and Dietmar P.F Möller

Certify: A Parameter Extraction Tool for Power Semiconductor Device Models
Weifeng Li, Yongfeng Feng, Peter Wilson, Alan Mantooth, Enrico Santi and Jerry Hudgins

Simulation Advances Using the ESL Simulation Language and the Virtual Test Bed
John Pearce

SimExplorer: A Tool to Manage the Traceability and Execution of Simulation Experiments
Thierry Faure, Guillaume Deffuant, Nicolas Dumoulin, Florent Chuffart and Romain Reullion

ROOM: Theatre 8
SESSION W24: Model-Based Specification, Simulation Based Acquisition, and Uncertainty
Session Chair: Terry Ericsen

Using Mathematical and Scientific Markup as an Approach to Model Specification
Joseph Collins

Use of Models in the Specification and Procurement of Power Electronic Equipment in Power Systems
Ani Gole, Shaahin Filizadeh, Dennis Woodford and Randy Wachal

Considering Uncertainty in Assessment of Impact of Pulse Load Charging Event on Shipboard Power System

James Langston, Josh Taylor, Franz Hover, James Simpson, Michael Steurer and Thomas Baldwin

Uncertainty Analysis of Large-Scale Power Systems Using Collocation

Joshua Taylor, Franz Hover and Abdelhamid Ouroua

Improving Requirements Definition for Systems in the Seabasing Concept through Interactive Visualization

Elise Beisecker, Christianna Taylor, Janel Nixon and Dimitri Mavris

ROOM: Seminar 9

SESSION W34: Nonlinear, Discontinuous, and Dynamic Systems II

Session Chair: Dietmar Moeller, University of Hamburg, Germany

Generalized Non-Linear Terminal Modeling: Electro-Magnetic Interference

Andrew Baisden, Dushan Boroyevich and Fred Wang

Air Gap Flux Estimation of Dual Stator Winding Induction Machine Using Winding Function Approach

Zhiqiao Wu and Olorunfemi Ojo

Propagation of Uncertainty through Signal Flow Simulation Using Polynomial Chaos Theory

Anton Smith, Antonello Monti and Ferdinanda Ponci

Black-Box Modeling of a Flyback Converter

Luis Arnedo, Dushan Boroyevich, Rolando Burgos and Fred Wang

Thursday, June 19, 2008

Thursday 8:00 – 10:00

ROOM: Theatre A

SESSIONS Th11: M&S of Large Scale systems

Session Chair: Roger Dougal, University of South Carolina, USA,

Distributed Simulation of a Large Scale Power Distribution Network

Michael Kleinberg, Karen Miu and Chika Nwankpa

FPGA-Based Large-Scale Parallel Power System Simulation

Yan Shi and Antonello Monti

Modeling Topological Survivability of Power Systems

Svetlana V. Poroseva, M. Yousuff Hussaini and Stephen L. Woodruff

A New Methodology for Automated Assessment of Fault Detection and Isolation Potential in Large Power Systems

Dilek Düstegör, Svetlana V. Poroseva, M. Yousuff Hussaini and Stephen L. Woodruff

Model Creation for All Electric Ship (AES) Power Systems

Peter R. Wilson, H. Alan Mantooth, Enrico Santi and Jerry Hudgins

Room: Theatre B

SESSIONS Th21: ACSL (acslXtreme) Tutorial

Session Chair: ***Ralph Huntsinger***
California State University – Chico, USA

Room: Seminar 9

SESSIONS Th31: Inverse Simulation Methods and Applications Workshop

Session Chair: David Murray-Smith, University of Glasgow, UK

Room: Seminar 11

Sessions Th41: Joint Session of Grand Challenges and Aerospace/ Space

Session Co-Chairs: Terry Ericsen and Priscilla Elfrey

BREAK – 1000-1030

Thursday 10:30 – 12:00

Room: Theatre A

SESSIONS Th12: Methodologies in Stability, Hardware, and Software Modeling

Session Chair: Ralph Huntsinger

Reliability Modeling of Circuits with Multi-State Aging Gates

Sanja Lazarova-Molnar and Valeriu Beiu

Research on Independent and Dynamic Fault-Tolerant and Migration Technology for Simulation Grid Resources

Hou Baocun, Li Bo Hu and Chai Xudong

The Relationship between Software Architectures and Visual Programming Languages

Adam Manzanares, Xiao Qin and Drew Hamilton

A Voltage Driven Field Reconstruction Method for Modeling of Electromechanical Energy Converters

Babak Fahimi and Amir Khoobroo

Room: Theatre B

SESSIONS Th22: Real-Time Simulation

Session Chair: David Cartes, Florida State University, USA

Using FPGAs for Ultra-High-Speed Real-Time Simulation

Dale Word, John Zenor and Robert Powelson

Automatic Control Parameter Optimization via Controller-In-The-Loop Real-Time Simulation

Wei Ren, Mischa Steurer, Ilyop Chung, John Hauer and Ferenc Bogdan

Designing and Testing Protective Overcurrent Relay Using Real Time Digital Simulation

Ankush Saran, Padmavathy Kankanala, Anurag Srivastava and Noel Schulz

Real-Time Simulation and Optimization of Multi-Scale Shipboard Power Systems
Yanhui Xie, Gayathri Seenumani and Jing Sun

Room: Seminar 9
SESSIONS Th32: Inverse Simulation Methods and Applications Workshop
Session Chair: David Murray-Smith

LUNCH – 1200-1330

Thursday 13:30 – 15:00

Room: Theatre A
SESSIONS Th13: Applications of Modeling and Simulation
Session Chair: Terry Ericsen

Isogeometric Modeling for Finite Element Analysis: B-Spline Finite Element Development with Rotational Degrees of Freedom
Hyun Chung and Dale Karr

Horizontal Interaction of Two Gas Bubble Columns
R. Mosdorf and Ralph Huntsinger

Using E-Learning to Achieve a Sustainable Development of High Quality University Education as Part of the University Reform Program in Ethiopia
Dietmar Möller, Gerhard Reik and Bernd Multhaup

Modelling and Analysis of a Wire Drawing Machine
Klemens Gregor Schulmeister and Martin Kozek

Quantized State System Simulation

Keynote Speech by Dr. Francois Cellier
Institute of Computational Science
ETH Zürich, Switzerland

Abstract:

The talk introduces a new family of numerical ODE solvers called *Quantized State System (QSS)* methods. Given a set of ODEs in its state space representation, the QSS methods replace the classic time slicing by a quantization of the states, leading to an asynchronous discrete event simulation model instead of a discrete time difference equation model.

It will be shown that the QSS methods applied to stable linear time-invariant systems give always *practically stable* numerical results, irrespective of the quantization adopted. Taking into account that the QSS methods are explicit algorithms, this property has strong theoretical implications and offers a promising perspective for applications such as *real-time simulation of stiff systems*, where implicit solutions are usually unacceptable.

We shall also discuss the main properties of the methods in the context of simulating *discontinuous systems* (the asynchronous nature of these algorithms gives them important advantages for discontinuity handling) as well as *marginally stable (Hamiltonian) systems*, and we shall present some application examples as well as a software simulation tool that implements the QSS methods.

Biography:
François E. Cellier received his BS degree in electrical engineering in 1972, his MS degree in automatic control in 1973, and his PhD degree in technical sciences in 1979, all from the Swiss Federal Institute of Technology (ETH) Zurich. Dr. Cellier worked at the University of Arizona as professor of Electrical and Computer Engineering from 1984 until 2005. He recently returned to his home country of Switzerland. Dr. Cellier's main scientific interests concern modeling and simulation methodologies, and the design of advanced software systems for simulation, computer aided modeling, and computer-aided design. Dr. Cellier has authored or co-authored more than 200 technical publications, and he has edited several books. He published a textbook on Continuous System Modeling in 1991 and a second textbook on Continuous System Simulation in 2006, both with Springer-Verlag, New York.

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