

Program for 2011 Summer Simulation Multiconference (SummerSim'11)

**Sponsored by SCS in cooperation with IEEE Communication Society and
ACM, Co-located with SISO Euro SIW**

**June 27 - 29, 2011
World Forum, The Hague, Netherlands**

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INFORMATION

SummerSim'11 Registration

Mon., June 27 7:30 AM - 5:00 PM
Tues., June 28 7:30 AM - 5:00 PM
Wed., June 29 7:30 AM - 12:00 PM

SummerSim'11 Exhibit Area Room: World Forum Foyer

The exhibit area will be open according to the following schedule:

Mon., June 27 10:00 AM - 8:30 PM
Tue., June 28 10:00 AM - 5:00 PM
Wed., June 29 10:00 AM - 12:00 PM

Coffee Breaks Room: World Forum Foyer

Refreshments will be served in the Exhibit area at mid-morning and mid-afternoon session breaks according to the following schedule:

Mon., June 27 10:00 - 10:30 AM and 3:00 - 3:30 PM
Tues., June 28 10:00 - 10:30 AM and 3:00 - 3:30 PM
Wed., June 29 10:00 - 10:30 AM and 3:00 - 3:30 PM

Exhibitor Reception

6:30 - 8:30 PM Room: World Forum Foyer

SummerSim'11/SISO Pre-Paid Banquet

Tues., June 28 6:30 PM

The banquet is with advance purchase of the ticket. For reservation and info, please contact scs@scs.org.

MEETINGS

Outgoing SCS Board of Directors Meeting

Sun., June 26, 12:00 – 5:00 PM

Room: Africa

SummerSim'11 Preconference Meeting

Sun., June 26, 5:00 – 6:00 PM

Room: Africa

M&SNet-MISS Joint Director's Meeting

Mon. June 27, 3:30 – 5:00 PM

Room: South America

NATO M&S Group Meeting

Mon., June 27, 3:30 – 5:30 PM

Room: Antarctica

SCS Membership Board Meeting

Tues., June 28, 8:30 – 10:00 AM

Room: Europe 2

SCS Education Board Meeting

Tues. June 28, 10:30 – 12:00 Noon

Room: Antarctica

SimSummit Meeting

Tues., June 28, 3:30 – 5:00 PM

Room: Antarctica

SCS Publication Board Meeting

Wed., June 29, 10:30 – 12:00 Noon

Room: Europe 2

ONR Projects Meeting on M&S

Wed., June 29, 3:30 – 5:30 PM

Room: Europe 2

SCS Conference Board Meeting and SummerSim'12 Planning Committee Meeting

Wed., June 29, 5:00 – 6:00 PM

Room: South America

TUTORIAL

Room: EUROPE 1

Tuesday, 8:30-10:00 AM

DESIGN ISSUES IN TIME-DRIVEN SENSOR NETWORKS

Instructor: Dr. Sebastià Galmés, Universitat de les Illes Balears (Spain)

WORKSHOPS

M&S Body of Knowledge

Tuesday, June 28, 1:30 – 3:00 PM Room: Antarctica

Organizers: Bill Waite, Chairman and CTO, the AEgis Technologies Group
Rick Severinghaus, AEgis Technologies Group

M&S Education

Wed, June 29, 8:30 – 10:00 AM Room: Europe 2

Organizer: Helena Szczerbicka, SCS VP of Education and Professor of Universität Hannover, Germany

Speakers: Dietmar Moeller, University of Hamburg, Germany
Hamid Vakilzadian, University of Nebraska-Lincoln, USA

POSTER TRACK

Tuesday, June 28, 1:00 - 2:00 p.m. and 3:00 - 4:00 p.m.

Room: World Forum Foyer

Organizers: Chair: Abdolreza Abhari, Ryerson University, Canada
Co-Chair: Mohammad Moallemi, Carleton University, Canada
Co-Chair: Maryam Davoudpour, Ryerson University, Canada

KEYNOTE SPEAKERS

KEYNOTE SPEAKER 1



Joachim Fuchs

Head of the System Modeling and Functional Verification
The European Space Agency, Netherlands
Joachim.Fuchs@esa.int

Mon., June 27, 8:30 – 10:AM Room: Amazon

Title: Modeling and Simulation for Complex Design and Verification

Abstract

Modeling and simulation is often mentioned together. It is obvious that modeling is required to get to simulation, but there is also modeling which does not necessarily result in simulations, in particular dynamic simulations. Models are in that case an essential part of the design process and the formalization of the engineering information for different purposes. The presentation will highlight the uses of modeling and simulation in the system development lifecycle for complex space systems, addressing the uses in the design and development process as well as the application for the design and system verification. It will cover aspects such as modeling methodologies (including cross-sectorial issues), simulators and related testbenches, system of system modeling and some related standardization activities in the space domain.

Biography

Joachim Fuchs is presently Head of the System Modeling and Functional Verification Section of the European Space Agency. In this function he is providing support to many European Space projects in the domain of system engineering methods and tools, system verification and associated tasks. He is defining technology and methodology developments in the area of model-based system engineering (MBSE) and System of Systems/Enterprise architecting, linking it also to relevant standardization activities and harmonization of related activities between ESA and European Industry.

KEYNOTE SPEAKER 2



Rear Admiral Klaas Visser

Director of Weapon Systems

Netherlands Defense Materiel Organization, Netherlands

Mon., June 27, 10:30 – 11:30 AM Room: Amazon

Title: M&S standards for innovative and affordable NL Armed Forces

Biography

Rear Admiral of the Marine Engineering Service Klaas Visser was born on the island of Marken on 14 November 1956. In 1975, he was accepted as a midshipman to the Royal Naval College in Den Helder. From 1978 to 1992, he held all technical positions that exist on board submarines, including that of Head of the Engineering Service and the land staff of the Submarine Service. In the early 1990s, he was involved in the operational introduction of the Walrus-class submarines. In 1988, he obtained his Mechanical Engineering degree from the Technical University of Delft, with Marine Diesel Engines as his major subject. After 1992, he served as Head of the Engineering Service of the air defense frigate HNLMS Witt e de With, in which capacity he was involved in the deployment of Standing Naval Force Atlantic in 1993, as part of operation Sharp Guard in the Adriatic Sea during the Balkans conflict. In 1995, by then holding the rank of commander, he was posted to the Directorate of Materiel of the Royal Netherlands Navy, where he formed part of the design team of the Air Defense and Command Frigates (LCF). Following this period, he became Head of the Platform Management office. From 1997 to 1999, Commander Visser held the position of Head of the Engineering and Weapon Engineering Service aboard the first Landing Platform Dock, HNLMS Rotterdam, in which capacity he was involved in the operational deployment of that ship as part of operation Allied Harbor during the Kosovo war. In 1999 he was stationed in The Hague, as Head of the Plans/Operations Office of the Navy Staff. In 2000, he was promoted to the rank of captain of the Marine Engineering Service and assumed the position of Head of Projects and Parliamentary Affairs of the Defense Staff. In 2002, he was posted to the Naval Maintenance and Service Agency in Den Helder, where he was tasked with the establishment of the Central Planning and Maintenance Management Division, which would integrate all account management, project management, system management and client-supplier relations of the Naval

Maintenance Establishment. In April 2005, he was appointed general director of the Naval Maintenance Establishment in the rank of commodore of the Marine Engineering Service. On 1 January 2008, he was appointed Director of Weapon Systems of the Defense Materiel Organization and simultaneously promoted to the rank of rear admiral of the Marine Engineering Branch. In this capacity, Rear Admiral Visser is responsible for weapon system management of all weapon systems in use with the Ministry of Defense. In addition, Rear Admiral Visser holds the position of Deputy Director of the Defense Materiel Organization. Rear Admiral Visser and his wife Yvonne live in Gouda. They have four children.

KEYNOTE SPEAKER 3



Dr. Tayfur Altioek

Director, Laboratory for Port Security, CAIT
Rutgers, The State University of New Jersey, USA

Mon., June 27, 11:30 – 12:30 AM

Room: Amazon

Title: Risk Analysis and Simulation Modeling

Abstract

Probabilistic risk analysis has been rapidly growing over the past few decades and applied in sectors of nuclear energy, health care, transportation, homeland security, construction, financial systems and computing, among others. Risks exist in these fields due to accidents, natural disasters or terrorist activities, which are the so-called safety and security risks. The ultimate objective is to manage and mitigate risks due to unintentional or intentional incidents while allocating resources under uncertainty and ensuring compliance.

The term *risk* is used to mean different things in different fields of the society. It is just the probability of occurrence in healthcare, variance in finance, number of fatalities in transportation and loss with some chance in other fields. The basic method of analysis has been to identify scenarios to describe possible pathways to unwanted events. Each scenario has a probability of occurrence and associated consequences such as human fatalities, environmental impact, property damage and others. In a risk analysis, considering potential instigators, situations and incidents, a risk algorithm evaluates all possible risks that are typically dynamic across time and space. This is a numerically demanding process that needs to represent the operation of the system of interest with high degree of accuracy.

Simulation modeling has become the sought-after tool in model-based probabilistic risk analysis since large-scale, high-fidelity models are typically needed to represent systems of interest. A successful model-based risk analysis requires a combined approach of a mathematical risk model working in concert with the simulation model. The simulation model passes spatial and situational information to the risk model to evaluate the associated risks at every so often.

In this talk, we will focus on the maritime domain with risks involved in ports and waterways and the ones in the Strait of Istanbul in Turkey and Delaware River in the U.S, in particular.

A high-fidelity simulation model will be discussed to account for all potential events (e.g., vessel collisions, groundings, ramming, spills, and others in safety related scenarios) along with a range of consequences. Construction of a risk profile over time and space will be presented to discuss ways to mitigate risks.

For example, ports and waterways experience dynamic risks with surges and severe highs and lows in maritime traffic, and water and weather conditions. It is important to develop sound risk-mitigation policies to minimize potential disruptions to the global supply.

It is clear that problems of our times and the requisite decision making are increasingly complex requiring sophisticated approaches and placing high expectations on the tools and modeling capabilities. In view of this, we will finalize the talk with a discussion on the challenges in developing effective large-scale, high fidelity simulation models.

Biography

Dr. Tayfur Altioek has years of experience in practicing and teaching simulation modeling and analysis. He is a Professor of Industrial and Systems Engineering and Director of the Laboratory for Port Security which is part of CAIT and CCICADA centers at Rutgers University. Dr. Altioek's research and teaching activities have included over the years queuing theory, simulation modeling, risk analysis with applications to homeland security, marine ports logistics, safety and security, production lines, supply chain logistics, and computer systems performance analysis. He developed numerous decomposition algorithms to analyze complex queuing networks. His research has been supported by the National Science Foundation, NJ Department of Transportation, NJ Office of Homeland Security and Preparedness, the US Army, Department of Homeland Security and various industries. He is a Fulbright awardee and has numerous publications including two books in the areas of simulation modeling and performance analysis of manufacturing systems. Dr. Altioek has also served as an advisor to government organizations, and consultant to various industries in the fields of capacity planning and performance analysis via large-scale simulation modeling.

KEYNOTE SPEAKER 4



Helen D. Karatza

Department of Informatics
Aristotle University of Thessaloniki, Greece

Mon., June 27, 2:00 – 3:00 PM

Room: Amazon

Title: Performance of Grids and Clouds – Challenges and Research Directions

Abstract

Computational and data grids and clouds are large-scale distributed systems used for serving demanding jobs. Their performance became more important due to the tremendous increase of users and applications.

Because of the nature of these systems, there are important issues that must be addressed, such as: efficient scheduling, resource management, load balancing, energy efficiency, reliability, security and trust, cost, availability, quality.

Grid scheduling manages the selection of resources for a job, the allocation of jobs to resources and the monitoring of jobs execution. In large-scale heterogeneous distributed systems, such as grids, energy conservation is an important issue and can take place at multiple levels; some examples are server level, cluster level, site level and grid broker level.

Cloud computing evolves from grid computing; it provides users the ability to lease computational resources from its virtually infinite pool for use in HPC. If cloud computing is going to be used for HPC, appropriate methods must be considered for both parallel job scheduling and VM scalability. The scheduling algorithms must seek a way to maintain a good response time to leasing cost ratio. Furthermore, data security and availability are critical issues that have to be considered as well.

The performance evaluation of grids and clouds is often possible only by simulation rather than by analytical techniques, due to the complexity of the systems. Simulation can provide important insights into the efficiency and tradeoffs of scheduling in complex distributed systems, such as grids and clouds.

Biography

Helen Karatza is a Professor in the Department of Informatics at the Aristotle University of Thessaloniki, Greece.

Dr. Karatza's research interests include Computer Systems Modeling and Simulation, Performance Evaluation of Parallel and Distributed Systems, Cluster, Grid and Cloud Computing, Resource Discovery, Resource Allocation and Scheduling and Real-time Distributed Systems.

Dr. Karatza has authored or co-authored over 155 technical papers and book chapters including two papers that earned best paper awards at the 39th Annual Simulation Symposium (ANSS 2006) and the 10th International Symposium on Performance Evaluation of Computer and Telecommunication Systems (SPECTS 2007) respectively. She is a Member of the Board of Directors of SCS. She is also a Senior member of SCS, ACM and IEEE.

Dr. Karatza has been Editor-in-Chief of SIMULATION: Transactions of SCS – currently she is a member of the Advisory Editorial Board. She also has been Guest Editor of several Special Issues of the SIMULATION journal. For nine years she was Program Chair of the Annual Simulation Symposium and has also served as member of the Program Committee of numerous SCS Conferences. She is a member of the Steering Committee of SPECTS.

Dr. Karatza has received from SCS a Distinguished Service Award (2009) and an Award for leadership and contributions for the success of the 2008 Spring Simulation Multiconference.

She has given Keynote Talks and Invited Talks about performance of scheduling strategies in distributed systems, grids and clouds in international Conferences.

EXHIBITORS



Antycip Simulation, a subsidiary of ST Electronics (Training & Simulation Systems) Pte Ltd., is the European leader in the provision of independent modeling and simulation COTS tools, projection systems and related engineering services. With over 10 years of expertise as a preferred supplier of governments, top universities, research laboratories and private sector companies, Antycip Simulation has accumulated experience in diverse industries including Defense, Aerospace, Security, Transportation, Automotive, Telecommunications and Education.



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Thales Nederland specializes in designing and producing integrated naval command and control, sensor, and communications systems, as well as ground-based air defense systems and telecommunication equipment. The naval product portfolio holds products that are suited to all classes of vessels, ranging from small high-speed intercept craft to destroyers, LPDs and even aircraft carriers. The wide range of sensors available allows sensor suites to be tailored to the precise requirements of any type of ship or weapon system and any mission.

A relatively new market segment is maritime safety and security. Naval vessels and other high-value maritime objects need to be protected against asymmetrical threats such as terrorists and pirates. Thales Nederland uses its vast experience in naval systems to develop sensors especially for littoral environments.



TNO is an independent research organization whose expertise and research make an important contribution to the competitiveness of companies and organizations, to the economy and to the quality of society as a whole. TNO's unique position is attributable to its versatility and capacity to integrate this knowledge.

Innovation with purpose is what TNO stands for. We develop knowledge not for its own sake but for practical application. To create new products that make life more pleasant and valuable and help companies innovate. To find creative answers to the questions posed by society.



The Society for Modeling & Simulation International (SCS) was established in 1952 as a nonprofit, volunteer-driven corporation called Simulation Councils, Inc. Simulation Councils, Inc. became The Society for Computer Simulation which is where we derived the acronym SCS. Today, we still keep the familiar SCS acronym as a part of our identity, but have given it a new and more relevant meaning: Simulate, Create, Serve. This SCS is not only who we are, but also who we serve.

SCS is the only technical Society dedicated to advancing the use of modeling & simulation to solve real-world problems. SCS is the principal technical society devoted to the advancement of simulation and allied computer arts in all fields. The purpose of SCS is to facilitate communication among professionals in the field of simulation. To this end, SCS organizes meetings, sponsors and co-sponsors national and international conferences, and publishes the *SIMULATION: Transactions of The Society for Modeling and Simulation International* and the *Journal of Defense Modeling and Simulation* magazines.

Common Sessions for all the Conferences

Monday, June 27, 2011

8:30-10:00 AM Room: Amazon

Session: Opening Session and Keynote speech

Speaker: Joachim Fuchs

Head of the System Modeling and Functional Verification
The European Space Agency, Netherlands

10:00-10:30 Break

10:30-11:30 Room: Amazon

Session: Keynote Speech

Speaker: Rear Admiral Visser

Director of Weapon Systems
Netherlands Defense Materiel Organization, Netherlands

11:30 – 12:30 Room: Amazon

Session: Keynote Speech

Speaker: Tayfur Altioek

Director, Laboratory for Port Security, CAIT
Rutgers, The State University of New Jersey, USA

12:30 – 2:00 PM Lunch

2:00 – 3:00 PM Room: Amazon

Session: Keynote Speech

Speaker: Helen D. Karatza

Department of Informatics
Aristotle University of Thessaloniki, Greece

6:30 – 8:30 Reception buffet in World Forum Foyer

7:30 – 8:30 SAAB presentation in Asia Room

Monday Afternoon and Evening

Thales Nederland will exhibit an operational Leopard 2 battle tank simulator at the rear of the World Forum Monday afternoon and evening.

SPECTS 2011 Program

Technically co-sponsored by IEEE Communications Society and IEEE SMC Society

Honorary Chair

Mohammad S. Obaidat, Monmouth University, NJ, USA

General Chair

Jose Luis Sevillano

Univ. of Seville, Spain

Program Chairs

Raffaele Bolla, Univ. of Genoa, Italy

Pere Vilà, Univ. of Girona, Spain

Isaac Woungang, Ryerson Univ., Canada

Monday, June 27, 2011

OPENING SESSION AND KEYNOTE SPEECH

8:30-10:00 AM

Room: AMAZON

MODELING AND SIMULATION FOR COMPLEX DESIGN AND VERIFICATION

Keynote Speaker: Joachim Fuchs, Head of the System Modeling and Functional Verification, The European Space Agency

10:00 – 10:30 Break

JOINT SISO/SCS KEYNOTE SPEAKER

10:30-11:30

Room: AMAZON

M&S STANDARDS FOR INNOVATIVE AND AFFORDABLE NL ARMED FORCES

Keynote Speaker: Rear Admiral Klaas Visser

Director of Weapon Systems, Netherlands Defense Materiel Organization, Netherlands

11:30 – 12:30 PM

Room: AMAZON

RISK ANALYSIS AND SIMULATION MODELING

Keynote Speaker: Tayfur Altioek, Director, Laboratory for Port Security, CAIT

Professor, Department of Industrial and Systems Engineering

Rutgers, The State University of New Jersey

12:00-2:00 PM Lunch

2:00 – 3:00 PM Room: AMAZON

PERFORMANCE OF GRIDS AND CLOUDS – CHALLENGES AND RESEARCH DIRECTIONS

Keynote Speaker: Helen D. Karatza, Professor. Department of Informatics
Aristotle University of Thessaloniki, Greece

3:00 – 3:30 PM Break

SESSION 1: WIRELESS AND GRID SYSTEMS

3:30-5:00 PM Room: EUROPE 1

Session Chair: **Helen Karatza**, Univ. of Aristotle, Greece

A CACHE MANAGEMENT STRATEGY TO REPLACE WEAR LEVELING TECHNIQUES FOR EMBEDDED FLASH MEMORY

Jalil Boukhobza, Pierre Olivier and Stéphane Rubini

DIRECTING REQUESTS IN A LARGE-SCALE GRID SYSTEM BASED ON RESOURCE CATEGORIZATION

Konstantinos Karaoglanoglou and Helen Karatza

FIRE MONITORING IN COAL MINES USING WIRELESS SENSOR NETWORKS: A PROTOCOL AND ITS PERFORMANCE EVALUATION

Sudip Misra and Mohammad S. Obaidat

PERFORMANCE IMPACT OF JOB ARRIVALS ON CLUSTERS AND GRIDS THROUGH REALISTIC MODEL-BASED SIMULATION

Ngoc Minh Tran and Lex Wolters

SESSION 2: COMPUTER ARCHITECTURE I

3:30-5:00 PM Room: EUROPE 2

Session Chair: **Jose Saldana**, University of Zaragoza, Spain

AN APPROACH USING NODE OPERATING POINT FOR PERFORMANCE ANALYSIS WITH NETWORK CALCULUS

Kishore Angrishi

A PERFORMANCE COMPARISON STUDY BETWEEN SYNCHRONOUS AND ASYNCHRONOUS FPGA FOR SPYKE BASED SYSTEMS

Rafael Paz-Vicente, Elena Cerezuela-Escudero, Manuel Dominguez-Morales, Angel Jimenez-Fernandez, Alejandro Linares-Barranco and Gabriel Jiménez-Moreno

A PROGRAM PHASE DETECTION METHOD BASED ON ARCHITECTURAL SIGNATURE FOR MULTICORE PROCESSORS (paper #50)

Hamid Reza Khaleghzadeh and Hossein Deldari

IMPROVING QUALITY IN A DISTRIBUTED IP TELEPHONY SYSTEM BY THE USE OF MULTIPLEXING TECHNIQUES (paper #11)

Jenifer Murillo, Jose Saldana, Julián Fernández-Navajas, José Ruiz-Mas, Jose I. Aznar and Eduardo Viruete Navarro

Tuesday, June 28, 2011

TUTORIAL SPECTS

8:30-10:00 AM

ROOM: EUROPE 1

DESIGN ISSUES IN TIME-DRIVEN SENSOR NETWORKS

Instructor: Dr. Sebastià Galmés, Universitat de les Illes Balears (Spain)

10:00 – 10:30 AM Break

Track 1

SESSION 3: INTERNET TECHNOLOGIES

10:30-12:00 Noon ROOM: EUROPE 1

Session Chair: **Paul Davern**, University College Cork (UCC), Ireland

STATE OF THE ART OF EXISTING STANDARDS FOR THE EVALUATION OF NETWORK PERFORMANCE AND ENERGY CONSUMPTION (paper #42)

Raffaele Bolla, Roberto Bruschi and Chiara Lombardo

EXTRAPOLATION TOOL FOR LOAD TESTING RESULTS (paper #46)

Subhasri Duttagupta and Rajesh Mansharamani

SELF/RECONFIGURATION APPROACH FOR WEB/CACHES (paper #48)

Rachid El Abdouni Khayari, Adisa Musovic, Robert Siegfried and Ingo Zschoch

12:00 – 1:30 PM LUNCH

SESSION 4: NETWORKING TECHNIQUES

1:30-3:00 PM ROOM: EUROPE 1

Session Chair: **Jose Luis Sevillano**, University of Seville, Spain

PERFORMANCE ANALYSIS OF UBIQUITOUS WEB SYSTEMS FOR SMARTPHONES

Scott Fowler, Anders Peterson and Katrin Hameseder

NETWORK REQUIREMENTS EVALUATION OF A MULTI/USER VIRTUAL ENVIRONMENT

Juan Luis Font, Daniel Cascado, Jose Luis Sevillano, Gema Lopez, Salvador Romero and Gabriel Jimenez

A NEW INTERFERENCE AWARE ON DEMAND ROUTING PROTOCOL FOR VEHICULAR NETWORKS

Peppino Fazio, Floriano De Rango and Cesare Sottile

3:00 – 3:30 PM Break

SESSION 5: COMPUTER ARCHITECTURE II

3:30-5:00 PM Room: EUROPE 1

Session Chair: **Jalil Boukhobza**, University of Occidental Brittany, France

USING VIRTUALIZATION FOR ONLINE KERNEL PROFILING, CODE COVERAGE AND INSTRUMENTATION

Eviatar Khen, Nezer Jacob Zaidenberg and Amir Averbuch

A FLUID MODEL FOR HIGH-END NETWORK EQUIPMENT WITH QOS POLICED AGGREGATED TRAFFIC

Raffaele Bolla and Roberto Bruschi

ENERGY-OPTIMAL SCHEDULING IN LOW DUTY CYCLE SENSOR NETWORKS

Nursen Aydin, Mehmet Karaca and Ozgur

DYNAMIC PERFORMANCE STUBS TO SIMULATE THE MAIN MEMORY BEHAVIOR OF APPLICATIONS

Peter Trapp, Markus Meyer and Christian Facchi

Track 2

SESSION 6: WIRELESS SYSTEMS AND NETWORKS

10:30-12:00 Room: EUROPE 2

Session Chair: **Bounouh Najjar Monia**, ISI-El Manar-Tunis, Tunisia

A SIMPLE NONSATURATED IEEE 802.11e EDCA MODEL

Qinglin Zhao, D. H. K. Tsang and Taka Sakurai

RELAY NODE INSERTION IN SPARSE TIME-DRIVEN WIRELESS SENSOR NETWORKS

Sebastià Galmés

ON THE EFFICIENCY OF MULTICASTING FOR IPTV DELIVERY OVER IEEE802.16j NETWORKS

Alireza Abdollahpouri and Bernd E. Wolfinger

IMPROVING THE EQUAL/SPACING DESIGN IN IEEE 802.11e HCCA WIRELESS NETWORKS

Li Feng and Jianqing Li

12:00 – 1:30 PM LUNCH

SESSION 7: DISTRIBUTED ARCHITECTURES

1:30-3:00 PM **Room: EUROPE 2**

Session Chair: **Rafael Paz**, University of Seville, Spain

PERFORMANCE STUDY OF SPYKE VISUAL PROCESSING ON A SUPERCOMPUTER

Rafael Montero-Gonzalez, Fernando Perez-Pena, Arturo Morgado-Estevez, Alejandro Linares-Barranco, Miguel Angel Rodriguez-Jodar, Gabriel Jimenez-Moreno and Rafael Paz-Vicente

COMPARATIVE STUDY OF COST DISTRIBUTION CHANGING SCHEMES FOR MULTICAST SERVICES

Antonio Bueno, Pere Vilà and Ramon Fabregat

OUT-OF-ORDER EXECUTION IN MASTER/SLAVE SPECULATIVE PARALLELIZATION ARCHITECTURE FOR COMPUTER CLUSTERS

Joan Puiggalí, Teo Jové and Jose Luis Marzo

SESSION 8: TOOLS, METHODOLOGIES AND APPLICATIONS I

3:30-5:00 PM **Room: EUROPE 2**

Session Chair: **Raffaele Bolla**, Univ. of Genoa, Italy

RESEARCH ON MULTI-POLICY SUPPORTING ACCESS CONTROL MODEL

Jing Wang, Lian-xing Jia and Zhi Lin

DECREASING CALL BLOCKING PROBABILITY OF BROADBAND TV SERVICES IN NETWORKS WITH TREE TOPOLOGY

Junyu Lai, Bernd E. Wolfinger and Stephan Heckmüller

TOWARDS AN AUTOMATED CLIENT-SIDE FRAMEWORK FOR EVALUATING HTTP/TCP PERFORMANCE

Paul Davern, Noor Nashid, Ahmed Zahran and Cormac J Sreenan

Wednesday, June 29, 2011

SESSION 9: TOOLS, METHODOLOGIES AND APPLICATIONS II

8:30-10:00 AM **Room: EUROPE 1**

Session Chair: **Pere Vilà**, Univ. of Girona, Spain

LOGPX: A NEW COMMUNICATION MODEL FOR MESSAGE-PASSING PROGRAMS

Yufei Lin, Xiaowei Guo and Xinhai Xu

A NEW PARALLEL RECOMPUTING CODE DESIGN METHODOLOGY FOR FAULT-TOLERANT PARALLEL ALGORITHM

Yunfei du, Lin Peng and Kejia Zhao

BANDWIDTH EFFICIENCY IMPROVEMENT OF ONLINE GAMES BY THE USE OF TUNNELING, COMPRESSING AND MULTIPLEXING TECHNIQUES

Jose Saldana, Jenifer Murillo, Julián Fernández-Navajas, José Ruiz-Mas, José I. Aznar and Eduardo Viruete Navarro

10:00 – 10:30 AM Break

SESSION 10: WORK IN PROGRESS I

10:30-12:00 Noon Room: EUROPE 1

Session Chair: **Floriano De Rango**, University of Calabria, Italy

TOWARDS MATURE TEMPORAL ACCURACY ASSESSMENT OF PROCESSORS MODELS AND SIMULATORS FOR REAL-TIME SYSTEMS DEVELOPMENT

Rehab Massoud, Mohamed Abdelhalim and Mahmoud Allam

A CONSERVATIVE TIME-MANAGEMENT MODEL WITH OPTIMIZED DEGREE OF PARALLELISM FOR DISTRIBUTED SIMULATION

Zexin Jiang, Wei Dong and Yindong Ji

A SYSTEM C-AMS SIMULATION ENVIRONMENT FOR THE EVALUATION OF ENERGY HARVESTING WIRELESS SENSOR NETWORKS

Leander Bernd Hörmann, Philipp Maria Glatz, Christian Steger and Reinhold Weiss

12:00 – 1:30 PM LUNCH

SESSION 11: WORK IN PROGRESS II

1:30-3:00 PM Room: EUROPE 1

Session Chair: **Floriano De Rango**, University of Calabria, Italy

INFLUENCE OF THE ROUTER BUFFER ON ONLINE GAMES TRAFFIC MULTIPLEXING

Jose Saldana, Julián Fernández-Navajas, José Ruiz-Mas, José I. Aznar, Eduardo Viruete and Luis Casadesus

A RECONFIGURATION TECHNIQUE FOR AREA-EFFICIENT NETWORK-ON-CHIP TOPOLOGIES

Alexander Logvinenko and Dietmar Tutsch

DESIGN OF A FLEXIBLE AND SCALAR HYPERVISOR MODULE FOR SIMULATING CLOUD COMPUTING ENVIRONMENTS

Alberto Núñez, Gabriel González, Jose Vázquez-Poletti, Agustín Caminero, Jesús Carretero and Ignacio Llorente

SCSC 2011 Program

Co-sponsored by ACM

General Chair

Peter Kropf, University of Neuchâtel, Switzerland

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Mamadou Kaba Traoré, Université Blaise Pascal, France

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Steering Committee

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Mhamed Itmi, INSA Rouen, France

Monday, June 27, 2011

OPENING SESSION AND KEYNOTE SPEECH

8:30-10:00 AM Room: AMAZON

MODELING AND SIMULATION FOR COMPLEX DESIGN AND VERIFICATION

Keynote Speaker: Joachim Fuchs, Head of the System Modeling and Functional Verification, The European Space Agency

10:00 – 10:30 AM Break

JOINT SISO/SCS KEYNOTE SPEAKER

10:30-11:30 AM Room: AMAZON

M&S STANDARDS FOR INNOVATIVE AND AFFORDABLE NL ARMED FORCES

Keynote Speaker: Rear Admiral Klaas Visser

Director of Weapon Systems, Netherlands Defense Materiel Organization, Netherlands

11:30 – 12:30 PM Room: AMAZON

RISK ANALYSIS AND SIMULATION MODELING

Keynote Speaker: Tayfur Altioğlu, Director, Laboratory for Port Security, CAIT
Professor, Department of Industrial and Systems Engineering
Rutgers, The State University of New Jersey

12:30-2:00 PM Lunch

2:00 – 3:00 PM Room: AMAZON

PERFORMANCE OF GRIDS AND CLOUDS – CHALLENGES AND RESEARCH DIRECTIONS

Keynote Speaker: Helen D. Karatza, Professor. Department of Informatics
Aristotle University of Thessaloniki, Greece

3:00 – 3:30 PM Break

3:30 – 5:00 PM Room: Africa

Session: Work in Progress

Session Chair: **Peter Kropf**, University of Neuchâtel, Switzerland

TOWARDS A DSM-BASED FRAMEWORK FOR THE DEVELOPMENT OF COMPLEX SIMULATIONS SYSTEMS

Xiaobo Li, Yonglin Lei, Hans Vangheluwe, Weiping Wang and Qun Li

A PARTICIPATORY SIMULATION MODEL FOR STUDYING ATTITUDES TO INFECTION RISK

Savi Maharaj, Tamsin McCaldin and Adam Kleczkowski

AGENT BASED MODELLING AND SIMULATION: TOWARD A NEW MODEL OF CUSTOMER RETENTION IN THE MOBILE MARKET

Mohammed Hassouna and Mahir Arzoky

AGENT-BASED MODELING AND SIMULATION OF COLLECTIVE EFFICACY

Minghao Wang and Xiaolin Hu

OPERATIONS IN THE PASSENGER APRON AT THE TERMINAL T1, OF THE INTERNATIONAL AIRPORT OF MEXICO CITY (IAMC)

Francisco Mendoza Flores and Idalia Flores de la Mota

Tuesday, June 28, 2011

Session: Theory and Methodology 1

8:30 – 10:00 AM Room: Africa

Session Chair: **Hans Vangheluwe**, University of Antwerp, Belgium

MDD4MS: A MODEL DRIVEN DEVELOPMENT FRAMEWORK FOR MODELING AND SIMULATION

Deniz Cetinkaya, Alexander Verbraeck and Mamadou D. Seck

INTEGRATING COLOURED PETRI NET MODELS IN THE SIMIO SIMULATION ENVIRONMENT

Miguel Antonio Mujica and Miquel Angel Piera

A FRAMEWORK FOR INTEGRATED SIMULATION OF PRODUCTION AND

MATERIAL HANDLING SYSTEMS OF TFT-LCD FAB

Eunhye Song, Sijeong Gu, TaeJun Choi and B.K. Choi

Session: Applications 1

8:30 – 10:00 AM

Room: South America

Session Chair: **Jerry M. Couretas**, LMC, Maryland

A WAYFINDING SIMULATION BASED ON ARCHITECTURAL FEATURES PERCEIVED IN THE VIRTUAL BUILT ENVIRONMENT

Qunli Chen, Bauke de Vries and Margrethe Kobes

MPC AND LQR TYPE CONTROLLER DESIGN AND COMPARISON FOR AN UNMANNED HELICOPTER

Semuel Franko, İlker M. Koç and Can Özsoy

SIMULATION FOR DETERMINING ENGAGEMENT STRATEGIES FOR C-RAM SYSTEMS

Matthias Knapp, Markus Graswald and Hendrik Rothe

Session: Theory and Methodology 2

10:30 – 12:00 Noon

Room: Africa

Session Chair: **Fernando Barros**, University of Coimbra, Portugal

ON THE REPRESENTATION OF SPATIAL ENTITIES USING TIME-VARIANT TOPOLOGIES

Fernando Barros

INTERACTION BASED SIMULATION OF DYNAMICAL SYSTEM WITH A DYNAMICAL STRUCTURE (DS)²

Jean-Louis Giavitto, Olivier Michel and Antoine Spicher

Session: Applications 2

10:30 – 12:00 Noon

Room: South America

Session Chair: **Peter Kropf**, University of Neuchâtel

SIMULATION IMPROVES STRETCH-WRAP PACKAGING LOGISTICS IN WAREHOUSE

Phanindher Patlola and Edward Williams

SIMULATION OF MULTIMODAL LOGISTICS NETWORKS

Christian Hillbrand and Susanne Schmid

MODELING AND SIMULATION AS SUPPORT FOR DECISIONS MAKERS IN PETROCHEMICAL LOGISTICS

Agostino Bruzzone

Session: Agent Directed Simulation 1

1:30 – 3:00 PM Room: Africa

Session Chair: **Levent Yilmaz**, Auburn University, Alabama

COMPARING SYSTEM DYNAMICS AND AGENT-BASED SIMULATION FOR TUMOUR GROWTH AND ITS INTERACTIONS WITH EFFECTOR CELLS

Grazziela Patrocinio Figueredo and Uwe Aickelin

STRATEGIC BEHAVIOUR IN DYNAMIC CITIES

Marco Luetzenberger, Nils Masuch, Benjamin Hirsch, Sebastian Ahrndt, Axel Hessler and Sahin Albayrak

AGENT-BASED MODELING AND SIMULATION OF COLLECTIVE EFFICACY

Minghao Wang and Xiaolin Hu

Session: Applications 3

1:30 – 3:00 PM Room: South America

Session Chair: **Agostino Bruzzone**, University of Genoa, Italy

SIMULATION OF TRANSPORTATION NETWORKS

Rainer Frick

VIRTUAL SIMULATION FOR TRAINING IN PORTS ENVIRONMENTS

Agostino Bruzzone, Francesco Longo, Letizia Nicoletti and Rafael Diaz

Session: Agent Directed Simulation 2

3:30 – 5:00 PM Room: Africa

Session Chair: **Levent Yilmaz**, Auburn University, Alabama

TOWARDS SIMULATION-BASED ROBUST COMPUTATIONAL SCIENTIFIC DISCOVERY SYSTEMS

Levent Yilmaz, Tuncer Ören and Anthony Hunt

VCELL: A 3D REAL-TIME VISUAL SIMULATION IN SUPPORT OF COMBAT

Ahmed Sayed Ahmed, Mohammad Moallemi, Gabriel Wainer and Samy Mahmoud

Wednesday, June 29, 2011

Session: Theory and Methodology 3

8:30 – 10:00 AM **Room: Africa**

Session Chair: **Agostino Bruzzone**, University of Genoa, Italy

EVOLUTIONARY DESIGN OF EXPERIMENTS USING THE MAPREDUCE FRAMEWORK

James Decraene, Yong Cheng Yong, Fanchao Zeng, Malcolm Yoke Hean Low, Wentong Cai and Chwee Seng Choo

CONSERVATIVE SYNCHRONIZATION METHODS FOR PARALLEL DEVS AND CELL-DEVS

Shafagh Jafer and Gabriel Wainer

MANAGING TRAFFIC IN PEER-TO-PEER NETWORKS~: THE TOKEN-WEB PROTOCOL

Gilbert Babin, Peter Kropf and Silvia Dormann

Session: Theory and Methodology 4

10:30 – 12:00 Noon **Room: Africa**

Session Chair: **Jose Manuel Colmenar**, University of Madrid, Spain

AN ENHANCED SIMULATION TOOL FOR SHIMMER MOTE

Federico Fernandez and Juan Carlos Fabero

QUANTIFYING THE IMPACT OF DYNAMIC MEMORY MANAGERS INTO MEMORY-INTENSIVE APPLICATIONS

Josefa Díaz, J. Manuel Colmenar, José L. Risco-Martín, José L. Ayala and Oscar Garnica

DIRECT COMPUTER MAPPING OF EXECUTABLE MULTISCALE HYBRID PROCESS ARCHITECTURES

Béla Csukás, Mónika Varga and Sándor Balogh

Session: Theory and Methodology 5

13:30 – 3:00 PM **Room: Africa**

Session Chair: **Francesco Longo**, University of Calabria, Italy

HIGH PERFORMANCE RENDERING OF LARGE SCALE LINEAR FEATURES THROUGH VIRTUAL CONNECTION AND BEST LINE LENGTH SELECTION

GUO Gang, WANG Quan-min, LIU Bao-hong, YAO Xin-yu, WANG Yu-hui and ZHAO Xin-jun

A SIMULATION ENVIRONMENT FOR VEHICLE-TO-GRID INTEGRATION STUDIES

Carl Binding and Olle Sundstroem

MODELING AND SIMULATION APPLIED IN MODERNIZATION OF ENERGY PRODUCTIONS

Jesus Vazquez-Bustos and Benjamin Eddie Zayas-Perez

2011 Grand Challenges in Modeling & Simulation

Co-sponsored by ACM

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Mhamed Itmi, INSA Rouen, France

Priscilla Elfrey, Kennedy Space Center - NASA, USA

Hamid Vakilzadian, University of Nebraska-Lincoln, USA

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2:00 – 3:00 PM

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Keynote Speaker: Helen D. Karatza, Professor. Department of Informatics
Aristotle University of Thessaloniki, Greece

3:00 – 3:30 Break

Session: VLCS-11-1

3:30-5:30 PM Room: NORTH AMERICA

Session Chair: **Kelly Cooper**

MODELING A NEW NAVAL CONNECTOR LOGISTICAL CONTRIBUTION WITH A SYSTEM-OF-SYSTEMS DISCRETE EVENT SIMULATION

Elise Beisecker, Peter Pritchard, Santiago Balestrini and Dimitri Mavris

MODELING A NEW CONNECTORS CONTRIBUTION TO HUMANITARIAN RELIEF RESPONSE USING DISCRETE EVENT SIMULATION

Elise Beisecker, Santiago Balestrini and Dimitri Mavris

VEHICLE CONTROL IN A CFD ENVIRONMENT

Ryan Coe and Wayne Neu

LIFT-AND-PROJECT RELAXATIONS OF AC MICROGRID DISTRIBUTION SYSTEM PLANNING

Joshua Taylor and Franz Hover

COOLING SYSTEM EARLY-STAGE DESIGN TOOL FOR NAVAL APPLICATIONS

Ethan Fiedel, Julie Chalfant and Chrysostomos Chrysostomidis

Session: MTSA-11-1

3:30-5:30 PM Room: CENTRAL AMERICA

Session Chair: **Ralph Huntsinger**

HIGH-PERFORMANCE CLOUD SIMULATION PLATFORM

Xudong Chai, Zhihui Zhang, Tan Li, Yabin Zhang and Baocun Hou

RESEARCH ON INDEPENDENT AND DYNAMIC FAULT-TOLERANT AND MIGRATION TECHNOLOGY FOR CLOUD SIMULATION RESOURCES

Baocun Hou, Xudong Chai, Bohu Li, Tan Li, Yabin Zhang and Zhihui Zhang

REAL TIME IMPLEMENTATION OF PSO FOR ANN FAULT DETECTION

Yaw Nyanteh, Sanjeev Srivastava, Chris Edrington and David Cartes

AGENT-BASED MODELING: THE TOOL OF CHOICE FOR FORECASTING THE DEPLOYMENT OF DISTRIBUTED GENERATION IN ENERGY SYSTEMS?

Jason G. Veneman, L.J. Kortmann, F.M. Brazier and L.J. de Vries

AN AGENT-BASED SERVICE COMPOSITION FRAMEWORK

Lin Zhang, Yongqiang Guang, Fei Tao, Yongliang Luo, Anrui Hu and Ralph C Huntsinger

Tuesday, June 28, 2011

Session: VLCS-11-2

8:30-10:00 AM Room: NORTH AMERICA

Session Chair: **Robert Hebner**

BOTTLENECK-ANALYSIS ON INTERMODAL MARITIME TRANSPORTATION CHAINS

Dietmar P.F. Möller, Jens Froese, Hamid Vakilzadian

GLOBAL OPTIMIZATION OF INTERDEPENDENT TURNAROUND PROCESSES AT AIRPORTS

Yousef Farschtschi, Dietmar Moeller, Marc Widemann, Jochen Wittmann and Hamid Vakilzadian

CONCEPTUAL FRAMEWORK FOR SIMULATING THE DIVERGING DIAMOND INTERCHANGE

Michael Anderson, Bernard Schroer and Dietmar Moeller

Session: MTSA-11-2

8:30-10:00 AM Room: CENTRAL AMERICA

Session Chair: **Mhamed Itmi**

APPLICATION OF QUANTIZED DISCRETE EVENT SIMULATION METHODS TO NATURALLY COUPLED SYSTEMS

Charikleia Mamai, Anton Smith, Igor Kondratiev and Roger Dougal

VALIDATION OF SIMULATED INTEGRATED CIRCUIT RELIABILITY IN CONJUNCTION WITH FIELD DATA

Avshalom Hava, Jin Qin and Joseph B. Bernstein

AUTONOMOUS OPERATION OF MULTIPLE ACTIVE FRONT-ENDS FOR POWER QUALITY IMPROVEMENT

SiYu Leng, II-Yop Chung, Chris Edrington and David Cartes

Session: VLCS-11-3

10:30-12:00 Noon Room: NORTH AMERICA

Session Chair: **Mischa Steurer**

MOLECULAR DYNAMICS SIMULATION OF GRAIN BOUNDARY STRUCTURE EVOLUTION AND SELF-DIFFUSIVITY

Cemal Basaran, Michael Sellers, Andrew Schultz and David Kofke

EFFICIENT REAL-TIME SIMULATION OF LINEAR DIFFERENTIAL EQUATIONS ARISING FROM SIMULATION OF ELECTRONIC POWER SYSTEMS

John Zenor, Richard Bednar, Roy Crosbie and Narain Hingorani

NEW BASIC LINEAR ALGEBRA METHODS FOR SIMULATION ON GPUS

Jian Shi, Yiwei Zhang, Blake Langland, Jijun Tang and Roger Dougal

Session: MTSA-11-3

10:30-12:00 Noon

Room: CENTRAL AMERICA

Session Chair: **Juliusz Solkowski**

A BASIC PROACTIVE SYSTEM MODEL FOR THE SELF-ADAPTIVE SYSTEMS OF SYSTEMS APPROACH

Mhamed Itmi and Alain Cardon

RESEARCH ON HIGH-EFFICIENCY SIMULATION TECHNOLOGY FOR COMPLEX SYSTEM

Bohu Li, Tan Li, Baocun Hou, Xudong Chai, Yabin Zhang, Zhihui Zhang, Yiping Yao and Lin Zhang

MODEL DRIVEN REVERSE ENGINEERING FOR A GRASSLAND MODEL WITH DESIGN OF EXPERIMENTS IN THE CONTEXT OF CLIMATE CHANGE

Romain Lardy, Anne-Isabelle Graux, Michaël Gaurut, Gianni Bellochi and David R.C. Hill

Session: VLCS-11-4

1:30 - 3:00 PM

Room: NORTH AMERICA

Session Chair: **Roy Crosbie**

DEVELOPMENT OF A PLATFORM FOR HARDWARE IN THE LOOP TESTING OF NETWORK CONTROLLER

Andrea Benigni and Antonello Monti

NEW APPROACH TO PARALLEL SIMULATION OF LARGE POWER SYSTEMS

Milahi Marin, Andrea Benigni and Antonello Monti

THE SIMULATION TOOL FOR MISSION-OPTIMIZED SYSTEM DESIGN

Tianlei Zhang, Jeremiah Shepherd, Jijun Tang and Roger Dougal

Session: MTSA-11-4

1:30-3:00 PM

Room: CENTRAL AMERICA

Session Chair: **Ralph Huntsinger**

DEVELOPING SIMULATION BASED DECISION SUPPORT TOOL FOR CUT-TO-SIZE PLANTS

Susanne Schmid, Christian Hillbrand and Robert Schoech

REVERTIBLE AND SYMPLECTIC METHODS FOR THE ABLOWITZ-LADIK DISCRETE NONLINEAR SCHRÖDINGER EQUATION

Yifa Tang, Ruili Zhang, Jianfei Huang and Luis Vázquez

STIFFNESS OF THE BEAM-FOUNDATION SYSTEM UNDER A MOVING LOAD-A BILINEAR MODEL

Juliusz Solkowski

Session: VLCS-11-5

3:30 - 5:30 PM **Room: NORTH AMERICA**

Session Chair: **Kevin Daffey**

ACCELERATING THE SIMULATION OF SHIPBOARD POWER SYSTEMS

Fabian Marcel Uriarte, Robert Hebner and Angelo Gattozzi

ADVANTAGES AND CHALLENGES OF NON-INTRUSIVE POLYNOMIAL CHAOS THEORY

Kanali Togawa, Andrea Benigni and Antonello Monti

TOWARDS AN UNCERTAINTY-BASED MODEL LEVEL SELECTION FOR THE SIMULATION OF COMPLEX POWER SYSTEMS: A TEST CASE

Andrea Benigni, Ferdinanda Ponci and Antonello Monti

ESTIMATION OF DISCRETIZATION ERROR IN ELECTROMAGNETIC TRANSIENT SIMULATION MODELS OF POWER SYSTEMS

James Langston, Isaac Leonard and Michael Steurer

Session: MTSA-11-5

3:30-5:30 PM **Room: CENTRAL AMERICA**

Session Chair: **Lin Zhang**

DESIGN AND SIMULATION OF CURRENT LIMITING CONTROLLER FOR BIDIRECTIONAL CONVERTER IN A MVDC SHIPBOARD POWER SYSTEM

Bhuvaneswari Ramachandran, Sanjeev K Srivastava, Mike Andrus and David A. Cartes

THE AUGMENTED REALITY RESEARCH PROGRESS IN COLLABORATION ENVIRONMENT OF CAR-CA

Ling Zhao and Xu Kun Shen

DYNAMIC SIMULATIONS OF A LARGE HIGH-FREQUENCY POWER SYSTEM

Robert E. Hebner, Joseph H. Beno and Abdelhamid Ouroua

COMPUTATIONAL MODELING AND SIMULATION OF DISPOSITION AND FATE OF MEDICATION

Dietmar P.F. Möller, Hamid Vakilzadian and Jochen Wittmann

Wednesday, June 29, 2011

Session: VLCS-11-6

8:30 - 10:00 AM

Room: CENTRAL AMERICA

Session Chair: **Steinar Dale**

ACCELERATING THE SIMULATION OF SHIPBOARD POWER SYSTEMS

Fabian Marcel Uriarte, Robert Hebner and Angelo Gattozzi

COHERENT DESIGN METHODOLOGY USING MODELLING, SIMULATION AND OPTIMIZATION

Patrick Palmer, Arturo Molina-Cristobal and Geoffrey Parks

OPTIMALLY APPLYING LATENCY INSERTION METHOD IN LARGE SYSTEM MODELS

Yiwei Zhang, Rod Leonard, Jijun Tang and Roger Dougal

Joint GCMS/SISO Session

8:30 - 10:00 AM

Room: Oceania

Session: MSTA-11-6

10:30 - 12:00 Noon

Room: NORTH AMERICA

Session Chair: **Ralph Huntsinger**

A DESIGN FOR THE INTERFACE BETWEEN A BATTERY STORAGE AND CHARGING UNIT, AND A MEDIUM VOLTAGE DC (MVDC) BUS, AS PART OF AN INTEGRATED PROPULSION SYSTEM (IPS) IN THE ALL ELECTRIC SHIP (AES)

Thomas Trapp, Pradya Prempreaneerach, Chryssostomos Chryssostomidis, James Kirtley and George Karniadakis

CONCEPTUAL MODEL FOR DESIGN OF HUMAN-EXOSKELETON BIOMECHATRONIC SYSTEM

Kanstantsin Miatliuk and Franciszek Siemieniako

ESRDC SHIP NOTIONAL BASELINE MEDIUM VOLTAGE DIRECT CURRENT (MVDC) ARCHITECTURE THERMAL SIMULATION AND VISUALIZATION

Jose Vargas, Jeferson Souza, Rob Hovsopian, Juan Ordonez, Tim Chiocchio, Julie Chalfant and Chrys Chryssostomidis

Joint GCMS/SISO Session

10:30 - 12:00 AM

Room: Oceania

Session: VLCS-11-7

1:30 - 3:00 PM

Room: NORTH AMERICA

Session Chair: **Chryssostomos Chryssostomidis**

SIMULATION OF A DC TO DC POWER CONVERSION MODULE FOR THE ALL-ELECTRIC SHIP

Weston Gray, James Kirtley, Julie Chalfant and Chrysostomos Chrysostomidis

**GUIDING THE SELECTION OF PHYSICAL EXPERIMENTS SUPPORTING
VALIDATION OF ELECTRIC POWER SYSTEM MODELS**

Diomar Infante, James Langston, Lukas Graber and Michael Steurer

**DEVELOPMENT OF A MODEL-BASED SPECIFICATION OF A MEDIUM VOLTAGE
DC AMPLIFIER FOR DC SHIPBOARD SYSTEM STUDIES**

Michael Steurer, Oleg Vodyakho, James Langston, Subhashish Bhattacharya and
Hesam Mirzaee

Session: VLCS-11-8

1:30 - 3:00 PM Room: CENTRAL AMERICA

Session Chair: **TERRY ERICSEN**

**MODELING AND SIMULATION OF AN ELECTRIC WARSHIP INTEGRATED
ENGINEERING PLANT FOR BATTLE DAMAGE RESPONSE**

Aaron Cramer, Edwin Zivi and Scott Sudhoff

**MATLAB TOOLS FOR POWER SPECTRAL ANALYSIS, SIMULATION STEP-SIZE
OPTIMIZATION, AND BI-RATE ROOT LOCUS GENERATION**

Richard Bednar and Roy Crosbie

**MODELING, SIMULATION AND EXPERIMENTAL VALIDATION OF A DC POWER
SYSTEM TESTBED**

Edwin Zivi, Harish Suryanarayana, Jonathan Crider, Scott Sudhoff, Steve
Pekarek and Yonggon Lee

Session: VLCS-11-9

3:30-5:30 PM Room: NORTH AMERICA

Session Chair: **Steinar Dale**

**A MATRIX CONVERTER FED SINUSOIDAL INPUT OUTPUT HIGH FREQUENCY
TRANSFORMER FOR POWER SYSTEM APPLICATIONS**

Shabari Nath and Ned Mohan

OPTIMAL STRATEGY TO DISPATCH STORAGE IN REAL-TIME MARKETS

Saurabh Tewari and Ned Mohan

**INPUT FILTER DESIGN OF A CURRENT SOURCE INVERTER OR A FRONT END
RECTIFIER: ANALYSIS AND SIMULATION**

Kaushik Basu, Shabari Nath and Ned Mohan

SIMULATION OF A DC-DC BOOST CONVERTER WITH NETWORK MODELS

Saichol Chudjuarjeen, Sachi Jayasuriya, Juan C. Jimenez, Chika O. Nwankpa,
Karen Miu and Anawach Sangswang

Session: VLCS-11-10

3:30-5:30 PM

Room: CENTRAL AMERICA

Session Chair: **Terry Ericson**

MULTI-DISCIPLINE, MULTI-TOOL SIMULATION DEVELOPMENTS

John G Pearce and Ryllan J Kraft

**USING CO-SIMULATION METHOD TO ANALYZE THE COMMUNICATION DELAY
IMPACT IN WIDE AREA POWER SYSTEM CONTROL**

Weilin Li, Huimin Li and Antonello Monti

EFFICIENT HIGH-SPEED ETHERNET FOR REAL TIME SIMULATION

Jowell Justa, John Zenor and Kurtis Kredo II

SummerSim'11 Poster Track

General Chair

Abdolreza Abhari, Ryerson University, Canada

Program Co-Chairs

Mohammad Moallemi, Carleton University, Canada

Maryam Davoudpour, Ryerson University, Canada

***Tuesday, June 28, 1:00 -2:00 p.m. and
3:00 -4:00 p.m.***

Room: World Forum Foyer

DECOMPOSITION ALGORITHM IN FUNCTIONAL BLOCKS FOR MODELING COMPLEX DISCRETE STRUCTURE

Maryam Davoudpour, Alireza Sadeghian and Igor.V. Rudakov

STAR APPROXIMATION WITH MULTIPLE SEQUENCE ALIGNMENT

John Tsiligaridis and Ermenejlcho Rodriguez

PERFORMANCE EVALUATION OF ITU-T G.992.5 ADSL2+ STANDARD MODEMS

Harney Abraham, Diogo Acatauassu, Marcio Monteiro and Aldebaro Klautau

PERFORMANCE EVALUATION OF DISTRIBUTED ROUTING PROTOCOLS OVER DTN STACK FOR MANETS

Annalisa Socievole, Floriano De Rango and Carmine Coscarella

LIFE-CYCLE-ORIENTED PERFORMANCE MANAGEMENT OF ENTERPRISE APPLICATIONS

Jan Schaefer, Markus Schmid, Andreas Textor, Marcus Thoss, Reinhold Kroeger
and Andreas Roth

MODELING AND SIMULATION OF A TAP CHANGING TRANSFORMER BY ANALOG EMULATION

Juan Jimenez and Chika Nwankpa

DESIGN AND OFFLINE SIMULATION OF AUTONOMOUS UNDERWATER VEHICLE (AUV)

Azadeh Kebriaee and Hamidreza Nasiri

DEV&DESS BASED VERIFICATION TOOL FOR CYBER-PHYSICAL SYSTEMS

Jin Myoung Kim

**THE JIEDDO M&S CATALOG: A COLLABORATIVE RESOURCE FOR
INTEROPERABILITY AND REUSE**

Joel Angle and Sam Harris

STAR APPROXIMATION WITH MULTIPLE SEQUENCE ALIGNMENT

John Tsiligaridis

CLOSE-TO-PHOTOREALISTIC LIGHTING FOR SIMULATIONS AND CAD

Jan Pečiva, Jaroslav Příbyl and Jan Navrátil

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James Coolahan, Johns Hopkins University
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These sponsors will also have displays in the break and reception area.
Saab will provide a presentation in the Asia Room at 7:30 PM Monday.

Thales Nederland will exhibit an operational Leopard 2 battle tank simulator in
at the rear of the World Forum Monday afternoon and evening

Monday, June 27, 2011

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Aristotle University of Thessaloniki, Greece

3:00 – 3:30 Break

3:30 - 5:00 PM Asia Room

CRISIS MANAGEMENT SIMULATION AND SIMULATED ENVIRONMENTS

Chair: Rob Wittman

11E-SIW-008: Re-using real world data for the fictitious Missionland continent

Arno Gerretsen, Marcus Dahlberg, Arjan Lemmers, Martin Aasen

11E-SIW-009: The Reality Check: Evacuation Planning done by Mixed Reality and Simulation

Edwin van Veldhoven, Fanny van Heemskerck Pillis, Thijs van den Brink, Jennie van Laar, Daniëlle Keus

11E-SIW-018: Development of a Distributed Simulation Environment for Crisis Management Training

Dr.ir. Erik Vullings, drs. Simone de Kleermaeker, drs. Cor-Jan Vermeulen

Tuesday, June 28, 2011

8:30 - 10:00 AM Room: Antarctica

GM-VV PRESENTATION AND TUTORIAL

Presenters: **Dr. Ir. Manfred Roza**, Jeroen Voogd

8:30 - 10:00 AM Room: Asia

Session: TRAINING SIMULATION

Session Chair: **Mark McCall**

11E-SIW-001: A USAF DMO Compliant, Air Battle Management, Mission Training Centre for the Royal Australian Air Force

Dr Lucien Zalcman, Jon Blacklock

11E-SIW-002: Progress So Far in the Development of LVC Coalition Training Interoperability Standards for the Royal Australian Air Force

Dr Lucien Zalcman, Jon Blacklock

11E-SIW-004: Distributed Simulation for ATV mission training

M Bernard Sarter, M Andreas Werkman

10:30 - 12:00 Noon Room: Asia

Session: TRAINING SIMULATION

Session Chair: **Mark McCall**

11E-SIW-003: The GM-VV Tailored for a Naval Ship-Handling Training Simulation

Jeroen Voogd, Manfred Roza, Ad van Lier

11E-SIW-010: Generic Reconstruction and Analysis for Simulations or Live Exercises

Remco Witberg, Edwin van Veldhoven, Daniëlle Keus

11E-SIW-007: Generating Simulation Code From Federation Models: A Field Artillery Case Study

Dr. Halit Oguztüzün, Gürkan Özhan

1:30 - 3:00PM Room: Asia

Session: LIVE/VIRTUAL/CONSTRUCTIVE SIMULATION

Session Chair: **Jean-Louis Igarza**

11E-SIW-012: Augmented Reality based Live Simulation Model for Small-Size LVC Training

Dae-Kyu Kim, Tae-Eog Lee, Jin-Ki Jung, Pyung Kim

11E-SIW-015: LVC Training in Urban Operation Skills

Tijmen Muller, MSc, Lkol Jos Freulings, dr. Karel Bosch, van den, Philip Kerbusch, MSc.

11E-SIW-016: Scalable and embeddable data logging for Live, Virtual and Constructive: HLA, LINK-16, DIS and more

Björn Möller, Fredrik Antelius, Tom van den Berg, Roger Jansen

3:30 - 5:00 PM Room: Asia

Session: COMMAND AND CONTROL SIMULATION

Session Chair: **Wim Huiskamp**

11E-SIW-005: Convergence of Order Interoperability Frameworks Using C-BML to Support Command and Control of OneSAF Entities/Units

Mr. Amit Kapadia, Dr. Robert Wittman, Jr.

11E-SIW-006: Current and Future Synchronization Opportunities of MSDL and C-BML within OneSAF

Mr. Amit Kapadia, Dr. Robert Wittman, Jr.

11E-SIW-011: Battle Management Language capable Computer Generated Forces

Nico de Reus, Henk Henderson, Ole Martin Mevassvik, Anders Alstad, Guro Skogsrud, Robbert Bronkers

11E-SIW-014: Testing a NATO OPORD Schema with C-BML

Dr. J. Mark Pullen, Mohammad Ababneh, Samuel Singapogu, Richard Brown

Wednesday, June 29, 2011

8:30 AM - 5:00 PM Room: Antarctica

GM-VV PDG WORKING GROUP MEETING

Session Chairs: **Ad van Lier, Jean-Louis Igarza**

8:30 - 10:00 AM Room: Oceania

**JOINT PANEL SESSION WITH SCS: "GRAND CHALLENGES"
M&S EDUCATION for RISKY ENTERPRISES**

Chair: Priscilla Elfrey

**EMPLOYER-DRIVEN MODELING AND SIMULATION EDUCATION FOR A
DANGEROUS WORLD**

Priscilla Elfrey

PANEL: NASA SMACKDOWN AND RELATED OPTIONS AND TOOLS

Chair: Martin Steele

Panelists: David Miranda, Michael Conroy, Gregory Zacharewicz, Agostino Bruzzone

NASA EVE (A COLLABORATIVE ENVIRONMENT TOOL) DEMONSTRATION:

Rebecca Mazzone

10:30 - 12:00 Noon Room: Asia

Session: DUTCH M&S DEVELOPMENTS AND INITIATIVES

Chair: **Wim Huiskamp**

SIMSYNERGY, Dutch regional M&S initiative

Erik Cornelisse, Managing Director, SIMSYNERGY

Dutch National Defence M&S Architecture and Policy

MAJ Desmond Liberg, MoD Procurement Office - Simulation Expertise Center

Dutch National Defence M&S initiative 'Orange WAVE'

Speaker 3: TBD

10:30 - 12:00 AM Room: Oceania

**JOINT PANEL SESSION WITH SCS: "GRAND CHALLENGES"
INTERNATIONAL COOPERATION AND INTEROPERABILITY FOR SPACE –
HUMAN AND VIRTUAL**

Chair: Priscilla Elfrey

Panelists: Joachim Fuchs, Michael Conroy, Richard Severinghaus, Agostino Bruzzone, Gregory Zacharewicz

1:30 - 3:00 PM Room: Asia

**GATE RESEARCH PROGRAM, A DUTCH NATIONAL INITIATIVE ON
GAMING RESEARCH**

Session Chair: **Frido Kuijper**

Game Research for Training and Entertainment (GATE)

Frido Kuijper, Senior Scientist, TNO

3:30 - 5:00 PM Room: Asia

WORK IN PROGRESS PRESENTATIONS

Chair: TBD

**11E-SIW-019: Adaptive Environmental Model Based on Multi-Agent
Systems for Ubiquitous Support of Disabled People**

Donald Rodríguez-Ubeda, PhD. Dora-Luz Flores, PhD. Luis E. Palafox, PhD.
Manuel Castanon-Puga

**11E-SIW-020: Model of Interaction Among Agents in Ubiquitous
Computing Environments**

Ricardo Rosales