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News and Development in M&S

2013 SCS AWARDS

Announced at the SCS Board of Directors Meeting at SpringSim’13, April 7-10, San Diego, CA, USA and plaques delivered at SummerSim’13, July 7-10, Toronto, ON, Canada. Heartfelt congratulations to the colleagues whose 2013 SCS awards were announced and their plaques were delivered this year. Their pictures, categories of their award, and the citations at their respective award plaque follow.

The SCS Outstanding Professional Contribution Award

This award recognizes contributions by Professor Miquel Àngel Piera of an innovative concept, product, or formulation of creative insight, which has been embraced by some significant segment of the modeling and simulation community as evidenced by its widespread application in that community.

The SCS Distinguished Professional Achievement Award

This award recognizes a group of technical contributions to modeling and simulation activities that has been widely disseminated in the technical literature. As a consequence of these contributions, Professor Gabriel Andrés Wainer has achieved a stature that is generally recognized as being of high caliber.

The SCS McLeod Founder’s Award for Distinguished Service to the Profession

This award recognizes a group of technical contributions, especially in Verification, Validation, and Accreditation (V&V), which has been made by Professor Osman Balci over a significant period of time. They clearly reflect a commitment by him to nurturing a

(Awards continued on Page 2)
robust evolution of the profession. The significant nature of his contributions is supported by their wide dissemination in the technical literature and their discernible impact on the manner in which some aspect of the modeling and simulation activity is carried out.

**The SCS Outstanding Service Award**

This award recognizes outstanding service to the Society by Professor Yu Zhang. Typical contributions by her have been her major editorial contribution to SCS’s newsletter and her leadership in Agent-Directed Simulation Symposia at Spring Simulation multi-conferences.

**The SCS Distinguished Service Award**

This award recognizes distinguished service to the Society by Professor Hessam Sarjoughian at a level of dedication and achievement that is rarely demonstrated. He has made a series of significant contributions to SCS over a long period of time. His contributions include running a conference over several years and achieving growth in its prestige and success, significant editorial service to one of the regular publications of the Society, and noteworthy contributions as an executive officer in a variety of positions.

The plaques were signed by:

William F. Waite,
Chair, SCS Board of Directors
Chief Technical Officer, AEgis

Jerry M. Couretas, Ph.D. SCS President
Emeritus Professor Tuncer Ören
Chair, SCS Awards & Recognition Committee;
SCS Hall of Fame, 2011

-This news item is contributed by Tuncer Ören.

**WHAT HAPPENS IN CHINA’S HOUSING MARKET?**

The potential bubble in China’s domestic housing market, and its possible effects across the global economy, has made news headlines in recent weeks (e.g. [www.bbc.co.uk/news/business-23035230](http://www.bbc.co.uk/news/business-23035230)). This has created a very timely situation for the publication of work by Hong Zhang and colleagues from Tsinghua University in Beijing and Old Dominion University in Virginia, on simulation of the Chinese housing market. Their paper “Simulation Analysis of the Blocking Effect of Transaction Costs in China’s Housing Market” [http://jasss.soc.surrey.ac.uk/16/3/8.html](http://jasss.soc.surrey.ac.uk/16/3/8.html) dissects the effects of transaction costs and household income on household mobility in simulated volatile and stable housing markets. Zhang et al conclude by making some suggestions as to which policy measures are required to stabilize the current situation. Whether social simulators opt for purely mathematical approaches such as Zhang’s analogue inter-temporal consumption utility model or object-oriented computational approaches (eg those of Svinterikou & Kanaroglou [http://www-sre.wu-wien.ac.at/ersa/ersaconf/ersa06/papers/945.pdf](http://www-sre.wu-wien.ac.at/ersa/ersaconf/ersa06/papers/945.pdf)), housing is sure to be a fertile ground for simulators as the world seeks to avoid further housing market bubbles and crashes.

-This news item is contributed by Derek Gatherer.

**Past Conferences & Events**

**USMOS 2013**

Ankara, Turkey | June 11-12

As the importance and thus the demand for Modeling and Simulation (M&S) technologies started to increase in Turkey, Turkish Armed Forces (TAF) and the Undersecretariat for Defence Industries initiated various kinds of research collaborations with some prominent universities in Turkey thirteen years ago. One of the results of this initiative is METU-TAF MODSIMMER, which is an M&S Research and Development Center established at the Middle East Technical University (METU).

![Fig. 1 MODSIMMER building at METU campus, Ankara, Turkey](http://example.com/image1)

- This news item is contributed by Tuncer Ören.

**Fig. 2 Prof. Tuncer Ören (center) visiting MODSIMMER with Dr. Veysi İsler (right), Director and Mr. Vedat Karaarslan, Vice-Director of MODSIMMER**

One of the activities of METU-TAF MODSIMMER is the National Defense Applications Modeling and Simulation Conference.
This year, the fifth USMOS Conference was organized by METU-TAF MODSIMMER with the cooperation of “Ministry of Defence,” “Undersecretariat for the Defence Industry” and “Defence and Aerospace Industry Manufactureres Association” on June 11-12 in METU Cultural and Conventional Center, Ankara. The main theme of USMOS 2013 was “Innovative Applications in Modeling and Simulation Technologies in the field of Defense, Security, Public and Unmilitary”.

USMOS 2013 has drawn great interest from the M&S community in Turkey. More than 400 people from universities, defense industry and public corporations participated in USMOS 2013. 58 academic papers were presented in the conference in 4 parallel sessions. Unlike previous USMOS conferences, several defense companies became session sponsors and had a chance to introduce their researches and projects by making presentations.

The keynote speakers of and their contributions to this year’s conference were: Dr. Tuncer Ören (University of Ottawa, Canada) “Increasing importance of modeling and simulation in civilian and military applications,” Dr. Alice Smith (Auburn University, USA) “Simulation modeling and optimization for process improvement of hot mix asphalt,” Dr. Levent Yılmaz (Auburn University, USA) “Thoughts and musings on replicability and computational reproducibility,” and Dr. Ömer Soykasap (Afyon Kocatepe University, Turkey) “Thermo-mechanical modeling and simulation of satellite structures.”

Also, at the end of the conference, a panel with the topic of “MODSIM Technologies: “Foresights and User Expectation” was organized with the participation of authorized and relevant people from M&S community.

There was no fee for participation. Following a Turkish model, all expenses were covered by many sponsors from Turkish M&S industry.
2013 SUMMER SIMULATION MULTI-CONFERENCE (SUMMERSIM’13)

Toronto, ON, Canada | July 7 - 10, 2013

The Summer Simulation Conference 2013 (SummerSim’13) is SCS’s premier international conference. The conference focused on modeling and simulation, tools, theory, methodologies and applications and provided a forum for the latest R&D results in academia and industry. SummerSim’13 was comprised of three conferences: SCSC, GCMS, and SPECTS. All attendees were able to participate in general sessions.

Attendees were invited to attend the dinner cruise on Toronto’s beautiful waterfront! We set sail aboard one of Mariposa Cruise’s boats for an evening of sightseeing, food, and fun. The package price included: a 3 hour cruise, delicious light buffet style dinner with cash bar, along with a professional DJ and sound system. The dock was located just a few blocks from the Fairmont Royal York.

The dinner cruise was an overall success. Attendees were able to enjoy Toronto’s beautiful waterfront skyline and meet new friends and colleagues.

Upcoming Conferences & Events

2014 POWERPLANT SIMULATION CONFERENCE

Astor Crowne Plaza, New Orleans, LA, USA
January 20 - 23, 2014

The 2014 Power Plant Simulation Conference (PowerPlantSim’14) is an annual conference sponsored by The Society for Modeling and Simulation International. This conference focuses on the
special needs of the nuclear and fossil power plant simulation community and includes presentations by technology and industry leaders, technical sessions, panel and roundtable discussions, and vendor exhibits. The primary goal of the conference is to promote open exchange of simulator related information between all attendees.

Who should attend?
All individuals associated with the maintenance, management, regulation, or application of nuclear and fossil power plant simulators are encouraged to participate by submitting original presentations.

Topics of interest include but are not limited to:
Next Generation Simulators
Post Fukushima Extended Blackout Modeling
Severe Accident Simulation
Simulator Knowledge Retention
Advanced Fuel Pool Modeling
Fleet Coordination – Does it Work?
Recent Simulator Projects
Thermal-Hydraulics
Post Event Testing
Virtual Simulation
Control of Virtual Simulation Technologies
Smart Grid and Cyber Security Impacts
ANSI/ISA 77.20 Fossil Functional Requirement Strategies
Workforce Development, Re-staffing, and Knowledge Transfer/Retention

Please submit your suggested presentation title directly to the track chairs below:

Fossil Track
Chair: William H. Talbot, Ameren
PPFossil@scs.org

Nuclear Track
Chair: Scott Cupp, Entergy, Arkansas
(479) 858-6858
PPNuclear@scs.org

Read more: www.scs.org/powerplant

2014 SPRING SIMULATION MULTI-CONFERENCE
Grand Hyatt Tampa Bay, Tampa, FL, USA
April 13 - 16, 2014
http://grandtampabay.hyatt.com

The Spring Simulation Multi-Conference 2014 (SpringSim’14) brings leading experts in various domains of Modeling and Simulation together. The following symposia are organized under SpringSim’14:

Annual Simulation Symposium (ANSS)
Symposium on Theory of Modeling and Simulation

(TMS/DEVS)
Agent-Directed Simulation (ADS)
Communications and Networking Symposium (CNS)
High Performance Computing Symposium (HPC)
Symposium on Simulation for Architecture and Urban Design (SimAUD)
Posters session and Student Colloquium

Important Dates:
Abstract Submission: September 13, 2013
Paper Submission: October 25, 2013
Notification: December 6, 2013
Ready-Camera Paper Due: January 6, 2014

Read more: www.scs.org/springsim

2014 SUMMER SIMULATION MULTI-CONFERENCE
Monterrey, CA, USA | TBD
The Summer Simulation Multi-Conference 2014 (SummerSim’14) is SCS’s premier international conference. The conference focuses on modeling and simulation, tools, theory, methodologies and applications and provides a forum for the latest R&D results in academia and industry. Take this opportunity to experience the tutorials, tracks and workshops that will be available.

AUSTRALIA PREPARES FOR SIMTECT AND MODSIM CONFERENCES
The Australian Modelling and Simulation community is preparing for two major conferences to be held later this year.

The SimTect Asia Pacific Simulation Technology and Training Conference and Exhibition (www.simtect.com.au) will be held in combination with the SimHealth conference (www.simhealth.com.au) on 16–20 September at the Brisbane Convention and Exhibition Centre in Brisbane, Queensland. The list of international speakers includes Dr Lewis Johnson, CEO and co-founder of Alelo Inc (www.alelo.com); Dr Sonal Arora, principal investigator of the simulation-based Stress and Surgical Performance project at Imperial College, London; Dr Jenny Rudolph, from Harvard’s Center for Medical Simulation (www.harvardmedsim.org); and other respected experts. The programme also includes workshops, local speakers, exhibits, and a Serious Games showcase.

Later in the year, on 1–6 December, the biennial MODSIM modelling and simulation congress will be held in Adelaide, South Australia, in combination with the Australian Operations Research Society national conference and the Defence Operations Research Symposium. This major conference will include papers on modelling and simulation in such disparate fields as Economics, the Environment, Industry, Health, and Defence. See www.mssanz.org.au/modsim2013 for more details.

-This news item is contributed by Anthony Dekker.
News from SCS Networks

THE PSYCHOLOGY OF SIMULATION MODELING?
Roy Wilson

The authors of a recent paper ask the question “Why simulate?”. Their answer: To develop a mental model. They argue that the “main benefit for the researchers who work with computer simulations is to develop a mental model of the abstract process they are simulating”. According to Nowak, Rychwalska and Borkowski:

Mental models are the mind’s replicas of phenomena, upon which humans manipulate to learn the mechanism and workings of the surrounding environment. . . . [Although] they are necessarily incomplete ... they enable the individual to make predictions, to understand phenomena, to decide about action, and to experience events by proxy. Moreover, mental models are finite and the mechanisms for constructing them are computable (Johnson-Laird, 1983).

My initial impression was that, despite references to computability, the concept of mental model might be too metaphorical for the work it is to do. Nevertheless, that concept seems sharp enough to undergo empirical evaluation based on fitting a formalized mental model to two large data sets representing different types of reasoning (Oberauer 2006).

According to the authors,

Mental models acquired through computer simulations consist of the abstract rules (internalized fragments of the code of the program or internalized algorithms) and the visualization of the emergent properties of the system. The capacity to predict the effects of various interventions depends on the ability of the simulation to produce different visualizations of the emergent properties as the rules change. ... In essence, computer simulations, along with their visualization[s], may be a means of developing mental models ...[when] ... observation and interaction with physical [or social?] systems ... is impossible - as it often is with abstract, non-linear process in complex systems.

The authors convincingly illustrate the importance of visualization in connection with non-linear social systems by showing how changes in scale reveal emergence in a social impact process that is represented as a matrix of cells with colors that reflect their current state. Although this paper is more suggestive and less definitive than some might prefer, including me, I highly recommend it as an eye-opener to new frontiers in (especially social system) simulation. It can be found at http://jasss.soc.surrey.ac.uk/16/3/12.html.

References

SCS WELCOMES OUR NEW BOARD MEMBERS

We are pleased to announce new members of the SCS’s Board of Directors. The SCS’s Board of Directors provide a leadership role that is integral to the planning, coordination and implementation of SCS’s programs and activities.

We would like to take this time to bid a fond farewell to three Board members who have completed their terms. We are thankful for Dave Cook (past President), Levent Yilmaz (Director at Large and Vice President of Publications), and Bill Waite (Chairman of the Board) for their years of service and contribution.

Please say hello to our new Board members and join us in welcoming them.

New Board of Directors
John Sokolowski         President
Mike McGinnis             President Elect and Chairman of the Board
Lin Zhang                 Secretary
Bill Tucker                 Treasurer
Marjorie Zielke           Vice President of Education
Andreas Tolk             Vice President of Membership
Gabriel Wainer              Vice President of Conferences
Yiannis Papelis         Vice President of Publications
Jerry Couretas  Past President

New Directors at Large
Hassan Rajaei
Bjorn Johansson

Sincerely,
The Society for Modeling and Simulation, International (SCS)