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Keynote Speakers**KEYNOTE SPEAKERS LIST**

Oleg Gusikhin, Ford Research & Adv. Engineering, U.S.A.

Title: *Novel Areas for Modeling and Simulation in the Automotive Industry: Prediction of Energy Consumption in Electric Vehicles*

Simon Taylor, Brunel University, U.K.

Title: *Advances in e-Science and e-Research: e-Infrastructures for Modelling and Simulation*

Agostino Bruzzone, University of Genoa, Italy

Title: *Critical Issues in Advancing Modeling & Simulation*

Alexander Verbraeck, Delft University of Technology, The Netherlands - CANCELLED

Keynote Lecture 1

Novel Areas for Modeling and Simulation in the Automotive Industry: Prediction of Energy Consumption in Electric Vehicles



Oleg Gusikhin
 Ford Research & Adv. Engineering
 U.S.A.

Brief Bio

Dr. Oleg Gusikhin is a Technical Leader at Ford Vehicle and Enterprise Sciences Research Laboratory. He received his Ph.D. from the St. Petersburg Institute of Informatics and Automation of Russian Academy of Sciences and an MBA from the Ross Business School at the University of Michigan. For over 15 years he has been working at Ford Motor Company in different functional areas including Information Technology, Advanced Electronics Manufacturing, and Research & Advanced Engineering. During his tenure at Ford, Dr. Gusikhin has been involved in the design and implementation of advanced information technology and intelligent controls for manufacturing and vehicle systems. Dr. Gusikhin is a recipient of two Henry Ford Technology Awards and the 2009 Institute of Industrial Engineers Transactions Best Application Paper Prize in Scheduling and Logistics. He is a Certified Fellow in Production and Inventory Management, chair of Southeastern IEEE Systems, Man and Cybernetics chapter and a Lecturer in the Industrial and Operations Engineering department at the University of Michigan.

Abstract

The introduction of battery electric vehicles (BEV) faces many challenges. For example, limited driving range, long charging time and sparse availability of charging stations lead to range anxiety for many prospective owners. There is a need for vehicle features that help BEV owners plan routes that avoid being stranded due to an empty battery. The key to these tools is the estimation of future energy consumption along different routes and under different driving conditions. How can this be done before sufficient statistical data is accumulated? Even when such vehicles are available it may not be possible to collect sufficient data to get meaningful statistics. This presentation describes a novel approach based on the integration of traffic simulation and propulsion modeling to predict BEV energy consumption.

Keynote Lecture 2

Advances in e-Science and e-Research: e-Infrastructures for Modelling and Simulation



Simon Taylor
 Brunel University
 U.K.

Brief Bio

Dr. Simon J E Taylor is a Reader in Computing in the Department of Information Systems and Computing at Brunel University and leader of the ICT Innovation Group. He is Chair of the COTS Simulation Package Interoperability Standards Group under SISO and the co-Editor-in-Chief of the Journal of Simulation and. He leads the Tools and Training Theme of the Multidisciplinary Assessment of Technology Centre for Healthcare (MATCH) at Brunel. He was Chair of ACM's SIGSIM (2005-2008). He regularly consults with industry and has published widely in simulation modelling. His recent work has focused on the knowledge transfer of advanced ICT techniques into simulation modelling and the impact of advanced research infrastructures in Europe and Africa.

Abstract

Scientists today are exploiting exciting new developments in Information and Communication Technology such as high speed networks, high performance computing and distributed collaborative environments. These cyberinfrastructures or e-Infrastructures are facilitating e-Science and e-Research and the formation of global virtual research communities capable of addressing challenging large scale problems with a critical mass of expertise. What does this mean for academic and industrial Modelling and Simulation? This presentation discusses how e-Infrastructure advances can be used to the benefit of modelling and simulation researchers and practitioners. The presentation asks if the development e-Infrastructures for Modelling and Simulation is really necessary or critical to making an urgently needed step-change in the field.

Keynote Lecture 3**Critical Issues in Advancing Modeling & Simulation**

Agostino Bruzzone
University of Genoa
Italy

Brief Bio

Agostino G. Bruzzone began his engineering studies at the Italian Naval Academy with the Faculty of Pisa. After successfully completing this phase, he transferred to the University of Genoa where he earned his doctorship in Mechanical Engineering.

Since 1991, he taught "Theories and Techniques of Automatic Control" and in 1992 he became a member of the industrial simulation work group at the ITIM University of Genoa.

Currently he is Full Professor at DIPTM.

He has utilized extensively simulation techniques in harbor terminals, maritime trading and sailboat racing sectors.

He worked on research projects involving innovative modeling, AI techniques and DOE (design of Experiments); particular attention was focused on the application of Neural Networks and Fuzzy Logic to industrial plant problems using Simulation and Chaos Theory.

He has been actively involved in the scientific community from several years and served as Director of the McLeod Institute of Simulation Science (MISS), Associate Vice-President and Member of the Board of the SCS (Society for Modelling & Simulation international), President of the Lophant Simulation, VicePresident of MIMOS (Movimento Italiano di Simulazione) and Italian Point of Contact for the ISAG (International Simulation Advisory Group) and Sim-Serv. Currently he is Director of the M&S NET.

He acquired extensive experience as a member of International Technical and Organization Committees (i.e. AI Application of IASTED, AI Conference, ESS, ESM) and as a general coordinator of scientific projects (i.e. General Chair of "Simulation In Industry Conference", "Summer Computer Simulation Conference", "International Mediterranean Modelling Multiconference" and "Web Based Simulation Conference", Program Chair of the "Workshop in Harbor and Logistics Modeling", Guest Editor for "Special Issue of Harbor and Maritime Simulation" in Simulation, Program Chair of "Engineering Application" in WCSS and Track Chair for Manufacturing in SCSC).

Abstract

Modeling & Simulation (M&S) Methodologies have passed for sure the first half century from their foundation, at least in term of Computer Simulation, therefore this sector is still considered as a strategic and innovative technology able to support competitiveness and advances in a wide spectrum of applications.

In this speech it is proposed an overview on M&S evolution with emphasis on the most recent innovations on this area as well as cross-link with new technologies and conditions that are enabling further developments for simulationists; therefore the Critical Issues in M&S are outlined in term of evolution on these factors respect the past and new aspects to be considered for being successful in new projects; the M&S drivers and obstacles to innovation are presented as well as a set of case studies related to methodologies, technologies, applications and projects that are representing breaking trough examples for moving forward M&S to face the challenges of the third Millenium.

Keynote Lecture 4

*** CANCELLED ***



Alexander Verbraeck
Delft University of Technology
The Netherlands

Brief Bio

Alexander Verbraeck is the chair of the Systems Engineering group as a full professor in Systems & Simulation at Delft University of Technology in The Netherlands. He has an MSc in mathematics (cum laude, 1987) and a PhD in computer science (1991) from Delft University of Technology in the Netherlands. His research focuses on complex distributed systems such as supply chains, on real-time control and emulation of equipment using simulation, on the development of generic, object oriented simulation libraries, and on the relation between simulation, gaming, and virtual reality. Alexander has been the chair of the European Board of the Society for Computer Simulation International for five years and he is a member of ACM, IEEE-CS, INFORMS, AIS, and EuroSim. His research results have been published in journals and presented at many international conferences. From January 2002, Alexander also has an appointment as part-time research professor in the R.H. Smith School of Business of the University of Maryland in the Logistics, Business, and Public Policy Department.

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