

Final Program

(Revised October 20, 2008)

The Huntsville Simulation Conference ***HSC 2008***

The Advanced Research Center (ARC)

October 21, 2008 (Classified Sessions) – 12:00pm to 5:00pm

The Huntsville Marriott

October 22, 2008 – 8:30am to 5:00pm

October 23, 2008 – 8:30am to 1:30pm

Invited Keynote Speaker: Dr. Larry Paul Davis

Deputy Director, DoD High Performance Computing Modernization Program
United States Department of Defense

Invited Luncheon Speaker: Dr. Drew Hamilton

Director, Auburn University Information Assurance Center
President, Society for Modeling & Simulation, International

Invited Luncheon Speaker: Dr. Mikel D. Petty

Director, Center for Modeling, Simulation, and Analysis
University of Alabama in Huntsville

Conference General Chairman: Joseph S. Gauthier

[Gauthier Simulation, Inc.](#)

Conference Program Chairman: Sharon Hardy

[Optimization Technology, Inc.](#)

Primary Sponsor

[The Society for Modeling and Simulation International](#)

P.O. Box 17900, San Diego, CA 92177

(858) 277-3888; www.scs.org

Hosted by:

[The Alabama Modeling and Simulation Council](#)

CONFERENCE REGISTRATION

Wednesday, October 22, 2008, 8:00am to 4:00pm

Thursday, October 23, 2008, 8:00am to 11:00am

Online pre-registration closes on October 12. Visit www.scs.org/hsc. Register on site, in the meeting room area at the Marriott hotel. Print out an on-site registration form from www.scs.org/hsc.

CONFERENCE SOCIAL

Wednesday, October 22, 2008, 5:00pm to 6:30pm

Exhibit/Registration Area

The conference social event is an excellent opportunity to network with the other conference participants and visit the exhibitors. Enjoy heavy hors d'oeuvres and a cash bar. Costumes optional.

ALABAMA MODELING AND SIMULATION COUNCIL ANNUAL MEETING

Thursday, October 23, 2008, 1:30pm, Salon A/B/C

For details, visit www.amsc.to.

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CONFERENCE COMMITTEE

The Society for Modeling and Simulation International wishes to thank and acknowledge the following individuals and their respective organizations for their contributions to the success of this conference:

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Alleen Bray, The AEGIS Technologies Group
Natalie Darnell, Continental Electronics
Harold Dessau, CAS. Inc.
Richard Esslinger, Axiom Corporation
Bruce Fairchild, Society for Modeling and Simulation International
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George Hamilton, NASA Marshall Space Flight Center
Sharon Hardy, Optimization Technology Inc. (OTI)
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Nick Vamivakas, Raytheon
Lisa Vann, Space and Missile Defense Command (SMDC)
Ralph Weber, Dynetics
Jeanette Wilson, Trideum Corporation

PROFESSIONAL ENGINEER CONTINUING EDUCATION UNITS

Attendance at this conference can be credited towards Professional Engineer Continuing Education Units (CEU).

CERTIFIED MODELING AND SIMULATION PROFESSIONAL RECERTIFICATION UNITS

This conference qualifies for Recertification Units (RU's) for the Certified Modeling and Simulation Professionals (CMSP) as administered by the Modeling and Simulation Professional Certification Commission (MSPCC – www.SimProfessional.org).

The Role of High Performance Computing in Modeling and Simulation

Invited Keynote Speaker: Dr. Larry Paul Davis

Deputy Director, DoD High Performance Computing Modernization Program

Wednesday, October 22, 2008, 9:00am, Salon A/B/C

The DoD High Performance Computing Modernization Program (HPCMP) provides high performance computing capabilities to the Department's science and technology, and test and evaluation communities. These DoD activities maintain and use a broad range of science and engineering applications to simulate weapons systems and their environments on HPCMP systems. Through the use of these applications, modeling and simulation is beginning to complement and, in some cases, replace empirical testing for certifying some weapons systems. This progress, significant over the past twenty years, has been made possible by improvements in both computational capabilities and applications performance. The future, however, provides significant challenges to the continuation of this substantial progress as applications are developed to efficiently compute on current and future system architectures.

Dr. Davis has more than 35 years experience in science and technology (S&T) as a scientist, leader of research groups, faculty department research director, scientific program manager, S&T manager on executive staff, and information technology program manager, with specialization in high performance computing. He completed a 21-year active duty career in the Air Force. His computational science experience includes both research and management experience: he has published over twenty refereed journal articles in addition to numerous technical reports. He was one of the founders of the DoD High Performance Computing Modernization Program (HPCMP) and has worked in various capacities in that program for the last fifteen years, including his current assignment as Deputy Director, as an employee of the Institute for Defense Analyses. Dr. Davis also is responsible for several major activities within the program, including the program's resource management activities.

Critical Mass in Modeling & Simulation: The Alabama Example

Invited Luncheon Speaker: Dr. Drew Hamilton
Director, Auburn University Information Assurance Center
President, Society for Modeling & Simulation, International
Wednesday, October 22, 2008, 12:00pm, Salon D/E/F

The Modeling & Simulation (M&S) community has been fractured by multiple competing organizations and disciplines. M&S is an intensely multidisciplinary field. Long course prerequisite chains make it difficult to execute credible degree programs. Several professional societies list M&S as one of their sidelines. In unity there is strength. In looking at M&S leadership in diverse organizations you keep coming back to Alabama. This talk will provide an update on the changes taking place in modeling & simulation research and development as well as M&S operational uses. This talk will also outline how the Society for Modeling & Simulation, International is changing to better serve the growing M&S community.

John A. "Drew" Hamilton, Jr., Ph.D., is an associate professor of computer science and software engineering at Auburn University and director of Auburn's Information Assurance Center. He is the President of the Society for Modeling & Simulation, International (SCS), Vice-Chair of ACM's Special Interest Group on Simulation (SIGSIM), on the Board of Directors of the Alabama Modeling & Simulation Council (AMSC), and Director of Auburn University's branch of the McLeod Institute of Simulation Science (MISS). Dr. Hamilton is a member of the Simulation Interoperability Standards Organization (SISO) and has previously served on the SISO Conference Committee.

During his active duty career in the United States Army, Dr. Hamilton served as the first Director of the Joint Forces Program Office at SPAWAR, working command & control interoperability and on the Electrical Engineering & Computer Science Faculty of the United States Military Academy as well as Chief of the Ada Joint Program Office. Dr. Hamilton has a B.A. in Journalism/Public Relations from Texas Tech University, an M.S. in Systems Management from the University of Southern California, an M.S. in Computer Science from Vanderbilt University and a Ph.D. in Computer Science at Texas A&M University. Dr. Hamilton is a graduate of the Naval War College with distinction.

Dr. Hamilton's research interests include simulation of computer networks, practical applications of the DOD Architecture Framework (DODAF), prevention/protection against distributed denial of service attacks and software vulnerability analysis. CRC Press publishes his book, *Distributed Simulation*, written with Dr. David A. Nash and Dr. U. W. Pooch and SCS Press publishes his book *Modeling Command and Control Interoperability*.

Modeling the Huntsville Technical Workforce

Invited Luncheon Speaker: Dr. Mikel Petty
Director, Center for Modeling, Simulation, and Analysis
University of Alabama in Huntsville
Thursday, October 23, 2008, 12:00pm, Salon D/E/F

Due to Base Realignment and Closure (BRAC) actions, approximately 4,500 government positions and 15,000 contractor positions, concentrated in technical, logistical, and acquisition fields, will be moving to Huntsville Alabama over the next five years. Because of retirements, transfers, and job changes, not all of the people filling those positions will transfer to Huntsville. This raises a number of important questions. Will the transferred positions and vacancies have any effect on the Huntsville technical workforce? Will there be any noticeable increase in job changes as people pursue promotional opportunities in the moving organizations? Will vacancies in some organizations or career specialties be more or less easily filled? Which recruiting, hiring, and educational responses will work best to provide needed personnel?

To investigate these questions, the University of Alabama in Huntsville has developed a computer model of the Huntsville technical workforce. The model simulates the status and progression of the workforce over a 6 year period. Representation is at the level of individual persons (persons are tracked anonymously), positions, and vacancies. The model's underlying structure is discrete-event (events, such as retirements, occur at discrete instants in time) and time-stepped (time advances in fixed increments). Events modeled include hirings, retirements, attritions, graduations, and promotions. These events occur in accordance with applicable personnel rules, e.g., determination in the model of retirement eligibility for a government employee is based on the rules of the applicable government retirement program. The probabilities of stochastic events in the model, such as whether a person eligible to retire actually does so, have been calculated from historical data for those personnel actions.

Mikel D. Petty is Director of the University of Alabama in Huntsville's Center for Modeling, Simulation, and Analysis and a Research Professor in both the Computer Science and Industrial and Systems Engineering and Engineering Management departments. Prior to joining UAH, he worked at Old Dominion University's Virginia Modeling, Analysis, and Simulation Center and the University of Central Florida's Institute for Simulation and Training. He received a Ph.D. in Computer Science from the University of Central Florida in 1997. Dr. Petty has worked in modeling and simulation research and development since 1990 in areas that include simulation interoperability and composability, human behavior modeling, multi-resolution simulation, and applications of theory to simulation. He has published over 140 research papers and has been awarded over \$12 million in research funding. He served on a National Research Council committee on modeling and simulation, is a Certified Modeling and Simulation Professional, and is an editor of the journals SIMULATION and Journal of Defense Modeling and Simulation. He was the dissertation advisor to the first two students to receive Ph.D.s in Modeling and Simulation at Old Dominion University.

MDA ADVANCED RESEARCH CENTER (ARC)
(Limited to pre-registered U.S. Citizens with active security clearance)
6724 Odyssey Drive
CLASSIFIED BRIEFINGS
Chair: Paul Agarwal, COLSA Corporation

TUE, 11:00 > Registration

TUE, 12:00 > Security Review

TUE, 12:10 > Assessing the Future: Assuring Position, Navigation and Timing Against Sophisticated Threats to the Global Positioning System

*Brenda Gillcrist, Kenneth Simonsen, SPAWAR Systems Center
Colleen Keller, Metron, Inc.*

TUE, 12:50 > Israeli Testbed Interoperability Studies (2004-Present)

*Perry Feuerstein, Missile Defense Agency
Michael Beutjer, BAE Systems
Paul Agarwal, COLSA Corporation*

TUE, 1:30 > Missile Defense Agency Models & Simulations Truth Models

*Carol Barclay, Missile Defense Agency
Cliff Burson, Simulation Technologies, Inc.
James Brown, Charles Coker, Thomas Smith, US Air Force Research Laboratory
Jules Goldspiel, US Navy Research Laboratory*

TUE, 2:10 > Break

TUE, 2:20 > An Approach to Prioritization of Homeland Security Enhancement Measures

Byron Purves, The Boeing Company

TUE, 3:00 > Missile Defense Agency Fast Running Debris Model

*Ricardo Parks, Missile Defense Agency
Bill Sommers, Computer Sciences Corporation*

TUE, 3:40 > Satellite Shootdown

*Penny Cash, Missile Defense Agency
Chris Gordon, SAIC
Kendell Phillips, Alan Beck, Willbrook Solutions, Inc
Scott Pace, Analysis, Planning, Test Research, Inc
Barry Davis, Applied Analytical Solutions, Inc
Heath Tucker, Willbrook Solutions, Inc
Michelle Morrow, Associated Group for Research and Innovation, Inc*

PATHFINDER
HUMAN BEHAVIORAL MODELING

Chair: E.L. Perry, Northrop Grumman

WED, 2:00 > Behavioral Analysis Models and COA Comparison

E.L. Perry, Northrop Grumman

WED, 2:30 > Modeling Global Events: A Focus on Insurgencies

John Sokolowski, Catherine Banks, Old Dominion University

WED, 3:30 > Virtual World Models for Group Behavior Analysis

Mark Conger, E.L. Perry, Northrop Grumman

WED, 4:00 > Verification of Delmia's Digital Human Model: Anthropometry, Joint Angles, and Safety

Anthony Morris, Stacy Bradley, University of Alabama in Huntsville, Center for Modeling, Simulation, and Analysis

Dan Nielsen, Torch Technologies

WED, 4:30 > Some Aspects of Self-Organizing Decision Support for War Game Applications

Hans Geiger, Ernst Pechtl, superWise AG

PATHFINDER
BIOMEDICAL SIMULATION

Chair: Paul Agarwal, COLSA Corporation

THU, 9:30 > Pandemic Influenza Simulation

K.C. Decker, Juergen Klenk, Booz Allen Hamilton

THU, 10:00 > From the UVA to the Lipid Chain Reaction: Archetype of a Virtual Skin Model

Benjamin Nicolle, Fabien Ferrero, Yannick Herve, Systems 'ViP

Louis Ferrero, Leonhard Zastrow, Coty-Lancaster

THU, 11:00 > Functional Virtual Prototyping Applied to Medical Devices Development : From Myocardic Cell Modeling to Adaptive Cardiac Resynchronization Therapy

Arnaud Legendre, Yannick Herve, Systems 'ViP

THU, 11:30 > Data Mining Techniques Based on the Self-Organizing Map and Principal Component Analysis in the Classification of Cardiac Arrhythmia

Andrilene Maciel, Paulo Coutinho, Luis Coradine, Roberta Vieira, James Araujo

Federal University of Alagoas

ENTERPRISE
RADAR SIMULATION

Chair: Scott R. Schultz, Mercer University

WED, 11:00 > Scheduling Radar Warning Receivers Using Simulation and Meta-Heuristics

Scott R. Schultz, Paul E. MacNeil, Eric Mullenax, Dontel Newton, Michael A. Swift, Mercer University

WED, 11:30 > Atmospheric Refraction Using Fermat's Principle and the Calculus of Variations

Ivie Stein Jr., University of Toledo

**ENTERPRISE
HIGH PERFORMANCE COMPUTING**

Chair: Marshall McBride, Space and Missile Defense Command

WED, 2:00 > A Case Study for the Parallelization of a Complex MATLAB Program with Respect to Maintainability

Massoud Najafi, Gunnar Selke, Benjamin Krüger, Bernd Güde, Bodo Krause-Kyora, Markus Bolte, Guido Meier, Dietmar P.F. Möller, University of Hamburg

WED, 2:30 > Distributed Design Environment for Large-Scale Finite Element Models

Andrew Scott, Amir Mobasher, Alabama A&M University

WED, 3:30 > Modeling Multicore Distributed Systems and Evaluation of Performance, Power, and Predictability using VisualSim

*Manira Rani, Abu Asaduzzaman, Florida Atlantic University
Darryl Koivisto, Mirabilis Design, Inc.*

WED, 4:00 > Parallel Kinetic Particle-in-Cell Code Simulation of Astrophysical Plasmas Affecting Magnetic Reconnection

B. Earl Wells, Nagendra Singh, Trinath Somarouthu, University of Alabama in Huntsville

WED, 4:30 > Performance Modeling for Evaluation and Planning of ETF Systems

Erica Sousa, Carlos Araújo, Paulo Maciel, Gabriel Alves, Fábio Chicout, Federal University of Pernambuco

**ENTERPRISE
AVIATION, MISSILE AND SPACE SIMULATION**

Chair: Claudette Owens, U.S. Army Space and Missile Defense Command

THU, 9:00 > Reverse Engineering Euler Angle Rotation Matrices

Helmut Snyder, Raytheon Company

THU, 9:30 > An Integrated Missile Weather Encounter Modeling Capability using Globally-Integrated, Regionally-Defined, Climatologically

*Shawn Ericson, Joel Mayes, Amy Squillacote, CFD Research Corporation
James Pinto, NCAR-RAL
Todd Tillman, Belinda King, ITT*

THU, 10:00 > Graphical Selection of Simulation-Input Parameters

Helmut Snyder, Raytheon Company

THU, 11:00 > Cryogenic Propellant Storage Modeling

Matthew W. Turner, Michael P.J. Benfield, The University of Alabama in Huntsville Center for Modeling, Simulation, and Analysis

THU, 11:30 > Collision Avoidance with Kinematic Constraints and Uncertain Sensor Data for Unmanned Aerial Vehicles

Cosmin Danut Bocaniala, Venkat V S S Sastry, Cranfield University

CHALLENGER

PANEL: MULTI-RATE, DISTRIBUTED REAL-TIME AND NON REAL-TIME SIMULATION FOR MARINE APPLICATIONS

*Chairs: Roy Crosbie, California State University Chico
Narain Hingorani, Consultant*

WED, 11:00 > Introduction: Ship design addresses the interrelated issues of electrical, structural, thermal, hydraulic, mechanical design to produce a complete design. The simulation tools must be interfaced to propagate changes to all areas, allowing designers in different disciplines to collaborate in a continuous design process that includes real-time and non-real-time simulation.

WED, 11:30 > Models as Specifications

Terry Ericson, Office of Naval Research

WED, 1:30 > Service-Oriented Architecture for Engineering Simulations

Blake Langland, Roger Dougal, University of South Carolina

WED, 2:00 > Analytical and Computational Tools for Designing Survivable IPS Architectures

Svetlana Poroseva, Center for Advanced Power Systems, Florida State University

WED, 2:30 > Advances in High-Speed Real-Time and Multi-Rate Simulation Techniques for Marine Applications

Roy Crosbie, John Zenor, California State University, Chico

WED, 3:30 > Real-Time Simulation of Power Converters

Robert M. Howe, Applied Dynamics International and University of Michigan

WED, 4:00 > Rapid Prototyping of Power Electronic Switching Algorithms

Igor Braverman, The MathWorks

WED, 4:30 > An Analysis of the Accuracy and Performance of the Distributed Multi-Step Damping Impedance Method of System Decoupling

Rodrigo Leonard, Roger Dougal, University of South Carolina

WED, 5:00 > Closing Discussion

CHALLENGER
SOFTWARE/HARDWARE TOOLS
Chair: Showkat Chowdhury, Alabama A&M University

THU, 9:30 > Designing a Composable Geometric Toolkit for Versatility in Applications to Simulation Development

*Gregory Reed, The University of Alabama in Huntsville Center for Modeling, Simulation, and Analysis
Thomas Campbell, People Tec*

THU, 10:00 > A Course of Action Analysis with Radio Effects Toolbox (CARET) for Signal Planning

Robert M. McGraw, Gary Shao, Dean Mumme, RAM Laboratories, Inc.

THU, 11:00 > Applying DoDAF in Distributed Simulations

John Hughes, Ramey Maddox, BFA Systems Inc.

THU, 11:30 > Research on Flow Simulation of Fuel Systems Based on Components

*Li Liu, Shuyang Ma, Beihang University
Yuying Zhou, Hao Chen, System Engineering Research Institute*

DISCOVERY
FUTURE COMBAT SYSTEMS
Chair: Sharon Hardy, Optimization Technology, Inc.

WED, 11:00 > Migrating Legacy Command and Control Systems to Next Generation Combat Systems Architecture: A Case Study

Mark Kuhr, Drew Hamilton, Auburn University

WED, 11:30 > Jam-Resistant Tactical Communications Using Concurrent Codes

Mark G. Kuhr, Derek T. Sanders, Richard O. Chapman, Drew Hamilton, Auburn University

DISCOVERY
PANEL: CURRENT DEVELOPMENT AND USES OF ONE SEMI AUTOMATED FORCES (OneSAF)
Chair: Doug Parsons, Program Executive Office Simulation, Training and Instrumentation

WED, 1:30 – 5:00

*Don Logston, SAIC
Lawrence Rieger, U.S. Army Capabilities Integration Center
Joe Kress, COLSA Corporation
John Stevens, Cole Engineering
Charles Derrick, Troy Dere, U.S. Army Research Development and Engineering Command
Alesya Paschal, U.S. Army Space and Missile Defense Command
Richard Gombos, Cole Engineering*

**DISCOVERY
NETWORK SIMULATION**

Chair: James Harris, Georgia Southern University

THU, 9:00 > Some Comments on Predictive Modeling of Email Worms

James Harris, Georgia Southern University

THU, 9:30 > Verification and Validation of a Wireless LAN Model

George Trawick, US Army

Drew Hamilton, Auburn University

THU, 10:00 > A Hybrid Discrete Fast Fourier Transform Elliptical Cryptographic Algorithm for Portable Wireless Devices and Distributed Networks

Robert S. Owor, Khalil F. Dajani, Zephyrinus Okonkwo, Albany State University

Drew Hamilton, Auburn University

THU, 11:00 > Implementing Quantum Key Distribution Schemes in Wireless GSM/CDMA Based Networks: Opportunities and Challenges

Khalil F. Dajani, Robert S. Owor, Zephyrinus Okonkwo, Albany State University

Drew Hamilton, Auburn University

THU, 11:30 > Evaluation and Enhancement of the Initial Ranging Mechanism for MAC 802.16 in WiMAX Networks

Ramaswamy Bhakthavathsalam, Indian Institute of Science, Bangalore

Aniruddha Niranjana, Columbia University

**ATLANTIS
TRAINING**

Chair: Ronald W. Tarr, University of Central Florida

WED, 11:00 > A Training System for Pilot Radio Communications

Jamey White, Juan Gilbert, Richard Chapman, Drew Hamilton, Auburn University

WED, 11:30 > Integration of Driver Simulation: Federal Law Enforcement Training Center

James Whitmire, Ronald Tarr, University of Central Florida, Institute for Simulation and Training

Alpesh Makwana, University of Central Florida

Valerie Atkins, David Cantrell, Larry Welch

Federal Law Enforcement Training Center, Department of Homeland Security

ATLANTIS
COMPUTATIONAL STRUCTURAL MECHANICS

Chair: Q.H. Zuo, University of Alabama in Huntsville

WED, 1:30 > Numerical Analysis of GFRP Composites Under Off-Plane Loading

Showkat Chowdhury, Mohamed Seif, Willie Lawson, Alabama A&M University

WED, 2:00 > Simulation of Insulated Masonry Walls Subjected to Impulse Loads Using LS-DYNA

Robert Browning, Southern Research Institute

James Davidson, Auburn University

Robert Dinan, Air Force Research Laboratory

WED, 2:30 > An Implicit Numerical Algorithm for a Rate-Dependent Model for Ductile Materials

Q.H. Zuo, University of Alabama in Huntsville

J.R. Rice, U.S. Army Research, Development, and Engineering Command

ATLANTIS
INTELLIGENT SYSTEMS

Chair: Venkat Sastry, Cranfield University

WED, 3:30 > A Fuzzy Approach of the Kohonen Maps Applied to the Power Flow Problem

Andrilene Maciel, Luis Coradine, Roberta Vieira, Federal University of Alagoas

Hilberto Souza, Energy Company of Alagoas

WED, 4:00 > Maintenance of the Base of Cases of an E-Commerce System Through Genetic Algorithm

Genildo Santos, Andrilene Maciel, Roberta Vieira, Evandro Costa, Federal University of Alagoas

WED, 4:30 > Evolutionary Computing for Error Minimization between Reduced Order Operator Model and Laboratory-Measured Data for a Weapon System

Edwin Roger Banks, Edwin Núñez, Paul Agarwal, COLSA Corporation

ATLANTIS
TEST AND EVALUATION

Chair: Richard Esslinger, Axiom Corporation

THU, 9:00 > Recent Advances in Ground Vehicle Target Simulators and Surrogates

Jeffrey Sanders, Trideum Corporation

Robbin Finley, Jim Schwierling, U.S. Army Targets Management Office

**ATLANTIS
TRANSPORTATION**

Chair: Bernard Schroer, University of Alabama in Huntsville

THU, 9:30 > Conceptual Framework for Simulation Seaport Terminals

*Bernard Schroer, Gregory Harris, Maruf Rahman, University of Alabama in Huntsville
Dietmar Moeller, University of Hamburg*

THU, 10:00 > Terrorist Attack at Köhlbrand Bridge and its Impact on the Transportation Chain of the Metropolitan Region Hamburg

*Dietmar P.F. Moeller, Till Jaekel, University of Hamburg
Bernard Schroer, Gregory Harris, University of Alabama in Huntsville*

THU, 11:00 > Bottleneck-Analysis of Multimodal Transportation

*Dietmar P.F. Moeller, Ahmet Topp, Jochen Wittmann, Hamburg University
Bernard Schroer, University of Alabama in Huntsville*

THU, 11:30 > Simulating the Impact of Increased Truck Traffic Through Tunnel Crossing Mobile River

*Gregory Harris, Michael Spayd, Bernard Schroer, Michael Anderson, University of Alabama in Huntsville
Dietmar Moeller, Hamburg University*

COLUMBIA

VIRTUAL ENVIRONMENTS AND VISUALIZATION

Chair: Petr Bouchner, Czech Technical University in Prague

WED, 11:00 > Ship-Disaster Scenario and its Impact on the Transportation Chain

*Dietmar P.F. Moeller, Mike Bunke, Hamburg University
Jens Froese, Technical University Hamburg-Hamburg
Bernard Schroer, Gregory Harris, University of Alabama in Huntsville*

WED, 11:30 > Dynamic In-Cockpit Lighting System for Driving Simulators (DYICOLIS)

Petr Bouchner, Zdenek Votruba, Stanislav Novotný, Czech Technical University in Prague

COLUMBIA

TUTORIAL: USING DYNAMIC PROCESS SIMULATION MODELS FOR PERFORMANCE MEASUREMENT AND MANAGEMENT

Larry Philbin, Santee Cooper

WED, 1:30 -- 5:00 This tutorial focuses on the void between strategy planning, where management determines the what and how of what they want to do, and static performance measurement/management (balanced scorecards, etc.), where they find out what happened. The bridge for assessing and testing plans and initiatives for achieving performance goals and being able to predict performance is business process simulation modeling. Attendees participate in simulation performance management scenarios. As-is and to-be improvement opportunities and ideas are evaluated with a model during the presentation. The methodology is applicable to most strategic and tactical performance planning and measurement arenas.

COLUMBIA
LOGISTICS, SUPPLY CHAIN

Chair: William R. Killingsworth, University of Alabama in Huntsville

THU, 9:30 > Container Sampling Plans on Port Operations Container Security Inspection: Simulation to Evaluate Various

*Gregory Harris, Bernard Schroer, Marauf Rahman, University of Alabama in Huntsville
Dietmar Moeller, University of Hamburg*

THU, 10:00 > The Dynamics of the Government Supply Process For High-Value Spare Parts

William Killingsworth, Regina Chavez, Nelson Martin, University of Alabama in Huntsville

THU, 11:00 > The Dynamics of Multi-Tier, Multi-Channel Supply Chains for High-Value Government Aviation Parts

William Killingsworth, Regina Chavez, Nelson Martin, University of Alabama in Huntsville

THU, 11:30 > A Push-Pull Inventory Optimization Strategy for Multi-Tier, Multi-Channel Supply Chains: A Pilot Study Addressing Aviation Spare Part

William Killingsworth, Regina Chavez, Wesley Colley, Nelson Martin, University of Alabama in Huntsville

SALON A/B/C
FUTURE CITY

Chair: Paul Agarwal, COLSA Corporation

WED, 1:30 -- 3:30 > Simulation and Modeling in Alabama Regional Future City Competition

*Robin Dauma, Discovery Middle School
Bill Walz, NASA Marshall Space Flight Center
Derek Jones, Thomas Jones, Josh Walz, Discovery Middle School Students*

The Alabama Regional Future City Competition is the first step to compete at the national Future City Competition. Schools from across Alabama compete first at the state-wide level in the regional contest held in Huntsville each January. The winning team goes on to the national competition held in Washington, DC during National Engineers Week in February to compete for national honors.

The Future City Competition, sponsored by National Engineers Week, is a non-profit organization that fosters the interests of middle school students in the areas of math, science and engineering through hands-on, real-world applications. This five-month project requires students to design and build models of future urban centers encouraging students to learn about engineering in a challenging, yet interesting way.

City designs address common infrastructure issues such as pollution reduction, crime management, safety, traffic control, decreasing unemployment, power consumption, taxes, commercial and residential zoning, water systems, airports as well as other societal issues. Each team must prepare and submit the following: a SimCity computer simulation design; formal abstract describing their city; 500-word essay on a selected engineering topic; scaled dimensional model of their city; and a formal presentation before a panel of judges.

SALON A/B/C
ALABAMA MODELING AND SIMULATION COUNCIL
ANNUAL MEETING
Thursday, October 23, 1:30 to 5:00
Reception to Follow

- Welcome: [AMSC](#), Past President
[Society for Modeling and Simulation International](#),
Representative
- Invited Speakers: [COL Michael Sanders](#), Deputy Director
[Modeling & Simulation Coordination Office](#)

[Dr. Neil Lamb](#), Director of Outreach
[HudsonAlpha Institute for Biotechnology](#)
- Introductions: AMSC Board of Directors and Officers
Chairman AMSC Board of Directors
- Overview: AMSC Organization and Activities
President AMSC
- Reception: Following Meeting