Huntsville Simulation Conference

(HSC 2006)

Huntsville, Alabama, USA
17-19 October 2006

THE ADVANCED RESEARCH CENTER (ARC)
CLASSIFIED PRESENTATIONS
Session Chair: Marshall McBride, U.S. Army Space & Missile Defense Future Warfare Center

TUE, 1:30 > Welcome

TUE, 1:45 > Use of Evolutionary Computing to Model Bi-Directional Reflection Distribution Functions 0003
Edwin Nunez, Edwin Roger Banks, Paul Agarwal, COLSA Corporation
James Evans, EDO-CAS Incorporated

TUE, 2:15 > Determination of the LRCS for a Frustum Target Base Coupled with Different Nose Tips using the Phong Model 0004
James Evans, EDO-CAS Incorporated

TUE, 2:45 > Advanced Absorber Technology for RF HWIL Simulation Facilities 0005
Dean Marshall, Raytheon

ENTERPRISE
GENETIC PROGRAMMING
Session Chair: Marshall McBride, U.S. Army Space & Missile Defense Future Warfare Center

WED, 10:30 > Floating-Point Genetic Algorithm for Translational Motion Estimation 0006
Hussein Alzoubi, W. David Pan, University of Alabama in Huntsville

WED, 11:00 > Using Genetic Algorithms (GA) to Optimize Competing System Requirements 0002
Bradley Schricker, AT&T Government Solutions, Inc.

ENTERPRISE
MODELING AND SIMULATION OF
POWER ELECTRONIC-BASED SYSTEMS
Session Chair: Roy Crosbie, California State University, Chico
Session Chair: Narain Hingorani, Consultant

WED, 1:30 to 5:00 > Panel Discussion
Roger Dougal, University of South Carolina
Terry Ericsen, Office of Naval Research
Robert M Howe, University of Michigan
Darshana Muthumuni, Manitoba HVDC Research Center
Steve Woodruff, Florida State University

ENTERPRISE
DISTRIBUTED SIMULATION
Session Chair: James Head, U.S. Army U.S. Army Research, Development, and Engineering Command

THU, 9:00 > Distributed Interactive Simulation in Space Dwelling Groups 0008;
Eric Gasior, Kevin Spence, Institutes for Behavior Resources
Robert Hienz, Steven Hursh, Joseph Brady, Institutes for Behavior Resources and The Johns Hopkins University

ENTERPRISE
COMPUTATIONAL DYNAMICS SYSTEMS
Session Chair: Edwin Roger Banks, COLSA Corporation

THU, 10:30 > Validation of Convective Initiation and Character Prediction Using Geostationary Operational Environmental Satellites (GOES) Derived Convective Initiation Scores with Radar Derived Winds 00042
Leslie Litten, John Mecikalski, University of Alabama in Huntsville
Kristopher Bedka, University of Wisconsin - Madison

THU, 11:00 > A Comparative Study of Wireless Propagation Simulation Methodologies: Ray Tracing, FDTD, DEVS 00043
Phani Teja Kuruganti, James Nutaro, Oak Ridge National Laboratory

THU, 11:30 > Computer Simulations of Three Fast Imaging Techniques Used In Phase Contrast Magnetic Resonance Imaging 00044
Longchuan Li, University of Alabama at Birmingham
Mark Doyle, Geetha Rayarao, Allegheny Singer Research institute
Yasushi Ito, Andreas Anayiotos, University of Alabama at Birmingham
Eduardo Kortright, Grove City College

CHALLENGER
NETWORK SIMULATION
Session Chair: Claudette Owens, U.S. Army Space and Missile Defense Command

WED, 10:30 > Routing Algorithms for Voice Communication in Air Traffic Services Networks 00052
Thomas Rausch, Johannes Schmidt, Vienna Univ. of Technology

WED, 11:00 > An Aircraft Network Wireless Link Performance Simulation 00055
Douglas Haanpaa, Charles Cohen, Cybernet
Tony Michel, BBN Technologies

WED, 11:30 > Functional Capabilities of the Space Communications Effects Federation 00065
Veronica Collins, SMDC Future Warfare Center

CHALLENGER
VIRTUAL ENVIRONMENTS AND VISUALIZATION
Session Chair: Sharon Hardy, Computer Sciences Corporation

WED, 1:30 > Virtual Visualization of GIS data for Infrastructure 00073
Scott Allman, AEgis Technologies
Scott David, CSC

WED, 2:00 > A System for Evaluating Training Transfer Between Virtual and Live Urban Environments 00074
Richard Schaffer, Lockheed Martin
Joseph Cohn, Naval Research Laboratory
Adam Hoover, Clemson University
Hesham Fouad, VRSonic, Inc.
Glenn Martin, Institute for Simulation and Training
Laura Milham, Meredith Carroll, Design Interactive, Inc.

CHALLENGER
VALIDATION, VERIFICATION AND ACCREDITATION
Session Chair: Demetrius Bell, EDO-CAS, Inc.

WED, 3:30 > Incremental Quantification of VV&A "Levels"for Integrated Management of Modeling & Simulation Tools 00084
Bobby Hartway, Danny Thomas, Lisa Caine, The AEgis Technologies Group
Joe Hale, NASA Marshall Space Flight Center

WED, 4:00 > An Example of Preserving Simulation Credibility When Re-hosting to New Computing Resources 0008;
Patrick White, Jana Bladow, AMRDEC
Paul Cleveland, Adam Sampley, Torch Technologies

WED, 4:30 > Application of AHP Methodology to Incremental VV&A of Modeling and Simulation Tools 00092
Bobby Hartway, Bob Gravitz, Lisa Caine, Danny Thomas, The AEgis Technologies Group
Joe Hale, NASA Marshall Space Flight Center

CHALLENGER
MANUFACTURING
Session Chair: Eric Zabre, Instituto de Investigaciones Eléctricas

THU, 8:30 > Vendor Managed Inventory Simulation Model for Just-in-Time Manufacturing 00093
Sherry Starling, Gregory Harris, Bernard Schroer, University of Alabama in Huntsville

THU, 9:00 > The Toyota Production System: Computer Simulation and Analysis for Productivity and Ergonomics 0009:
Steve Hunter, Mississippi State University

CHALLENGER
PROPULSION
Session Chair: Robert Frederick, University of Alabama in Huntsville

THU, 10:00 > Scientific Spacecraft Family: Generalized Design Approach for Future Scientific Spacecraft 0000 8
Natalie Walker, Michael Benfield, The University of Alabama in Huntsville

THU, 10:30 > Analysis of Turbopump Applications in Spacecraft Propulsion Systems 0000 9
Marty Calvert, Michael P.J. Benfield, The University of Alabama in Huntsville

THU, 11:00 > Using Modeling to Evaluate Proposed Technology Improvements to Spacecraft Chemical Propulsion Systems 0000 :
Michael Benfield, The University of Alabama in Huntsville

THU, 11:30 > Numerical and Application Enhancements to an Interior Ballistic Modeling and Design Analysis Computer Program 0000 ;
Brian McDonald, The University of Alabama in Huntsville

WED, 10:30 > Assessment of Opportunities for Enhancement in NASA SE&I with M&S 0000, 2
Wes Colley, Center for Modeling, Simulation and Analysis
Paul Componation, University of Alabama in Huntsville

WED, 11:00 > A Construction Library for Simulation 0000, 3
Douglas Haanpaa, Charles Cohen, Steve Rowe, Cybernet

WED, 11:30 > The Aerial Port Operations Planner (APOP) 0000, 9
Lee Stine, James Dworak, Richard Godbold, DESE Research, Inc

WED, 1:30 > The Defense Modeling and Simulation Office (DMSO) 0000P 1C
Kenn Atkinson, Defense Modeling and Simulation Office (DMSO)

WED, 2:00 > Modeling of a Integrated Laser Induced Gas Detonation Plasma Thruster for in Space Propulsion 0000, :
Roosevelt Wright, The University of Alabama in Huntsville

WED, 2:30 > Modeling of a ISRU LOX/CH4 Engine and Alternative Propulsion Systems for Mars Exploration 0000, ;
Roosevelt Wright, The University of Alabama in Huntsville

WED, 3:00 > Space ISR in OneSAF 0000B22
Kevin Crumlish, SMDC
Sam McNully, ALATEC, Inc

WED, 3:30 > Designing for Analysis: Using IDEEAS to Study Target Location Effects 0000B27
Daniel Flagg, Melinda Johnson, James Robison, SAIC

WED, 4:00 > Large Scale Sensor Network Simulations 0000B2;
Hong Lin, Sara Graves, Rushing John, Evans Criswell, Steve Tanner, The University of Alabama in Huntsville

WED, 4:30 > Conspace Space Simulation Application - CSSA 0000B32
Petrica-Sandel Baciu, Tarek Zayed, Amin Hammad, Concordia University

AVIATION, MISSILE & SPACE SIMULATION
Session Chair: Keith Jadus, U.S. Army Research, Development and Engineering Center

THU, 8:30 > Some Tactics, Techniques and Procedures for Simulating and Analyzing Net-centric Warfare Concepts - Representing Airspace Management 000B3;
John Hughes, Monte Porter, CSC
Tim McKelvy, AMRDEC

THU, 9:00 > CSF and XML – A Case Study in Applying XML Technology in Modeling and Simulation 000B42
Brett Gossage and David Harbison

THU, 9:30 > What is a Simulation Architecture? 000B43
Louisa Guise, Tom McCarthy, Tim Campbell, Patrick Moseley, Raytheon Missile Systems

THU, 10:00 > Break

THU, 10:30 > Usage of Contractor Delivered End-to-End High Fidelity All-Digital Simulations in the Source Selection Acquisition Process 000B44
Jeremy Farris, George Wiggs, RDECOM

THU, 11:00 > The Development of an End-to-End High Fidelity All-Digital Simulation for UAV Weaponization 000B45
Jeremy Farris, George Wiggs, Stephen Mallette, Mike Cole, Sam Curtis, Brooke Grantham, RDECOM

THU, 11:30 > Radar Scene Generation with the AMRDEC Common Scene Generator 000B46
Bridget Sanders, Annie Saylor, Simulation Technologies, Inc.
Blake Haynes, David Harbison, U.S. Army RDECOM AMRDEC

DISCOVERY
SIMULATION METHODOLOGY, THEORY AND PHILOSOPHY
Session Chair: Paul Page, U.S. Army Space and Missile Defense Command

WED, 10:30 > A Characterization Taxonomy for Integrated Management of Modeling and Simulation Tools 000B47
Bobby Hartway, Danny Thomas, The AEgis Technologies Group
Joe Hale, NASA Marshall Space Flight Center

WED, 11:00 > Leadership and Management in Modeling and Simulation 000B59
Cynthia Aghamianz, Raytheon Integrated Defense Systems

WED, 11:30 > Exploitation of Object-Oriented Features to Streamline Simulation in an Open-Source Tool 000B5:
Ray Sells, DESE Research, Inc.
George Sanders, Jeffrey Hester, AMRDEC

DISCOVERY
SIMULATION METHODOLOGY, THEORY AND PHILOSOPHY
Session Chair: Paul Page, U.S. Army Space and Missile Defense Command

WED, 1:30 > Military Utility of High Resolution Terrain Information (HRTI) 000865
Robert Williams, Paul Fall, SMDC

WED, 2:00 > Applying Selective-Fidelity Simulation to Terrain Representations in OneTESS 000866
Bradley Schricker, AT&T Government Solutions, Inc.

WED, 2:30 > Army Equities in Space – Space Control (AEIS-SC) 000876
Chad Daly, SMDC
Mike Tomlinson, SAIC

WED, 3:00>-Break

WED, 3:30 > Examination of Apollo Guidance Software Acquisition and Development - An Historical Perspective 000877
Larry Grosberg, SMDC

WED, 4:00 > Adapting Statistical Design Methods for Conducting Missile 6DOF Simulation Experiments 000878
Terril Hurst, Louisa Guise, Thomas McCarthy, Raytheon Missile Systems

DISCOVERY
RADAR SIMULATION
Session Chair: Robert Carruth, Trideum Corporation

THU, 8:30 > Conceptual On the Move Radar Analysis Using IDEEAS 000879
David Whitten, Surasak Haugher Robert Vasse,, Mike Black Eyes, SAIC
John Rose, AMRDEC

THU, 9:00 > Marine Radar Study in Support of the Warfighter Protection Lab 000887:
Surasak Hauger, Melinda Johnson, John Montefusco, David Sander, SAIC
Dan Belk, Joe Moran, AMRDEC Warfighter Protection Lab
Jake Roth, University of Alabama in Huntsville

DISCOVERY
HOMELAND DEFENSE
Session Chair: Bradley C. Schricker, AT&T Government Solutions, Inc.

THU, 10:00 > IC2020: Embedded Simulation for Next Generation Incident Command Software 000887;
Dennis McGrath, Doug Hill, Amy Hunt, Dartmouth College

THU, 10:30 > Bomb Detonation in Crowd of Spectators 000889
Frank Tatom, Engineering Analysis Inc.
Bart Justice, Axios Solutions Inc.

THU, 11:00 > Distributed Simulation In Multiagency Coordination Systems Training 000897
Bob Devlin, Intergraph

ATLANTIS
BIOMEDICAL SIMULATION
Session Chair: Roy P Koomullil, University of Alabama at Birmingham

WED, 10:30 > Hemodynamic of the In-Vivo Common Femoral Artery Bifurcation using Loosely-Coupled Fluid Structure Interaction Framework 0009;
Young-Ho Kim, Jong-Eun Kim, Yasushi Ito, Alan Shih, Andreas Anayiotos, University of Alabama at Birmingham

WED, 11:00 > Effect Of Salicylate On Electromechanical Properties Of A Model Biomembrane 0008: 2
Yuhua Song, University of Alabama at Birmingham
Nathan Baker, Washington University in St. Louis

WED, 11:30 > An Interactive Framework for Medical Image Processing, Segmentation, Visualization and Geometry Extraction 0008: 3
Amitesh Kumar, Alan Shih, University of Alabama at Birmingham

ATLANTIS
TRANSPORTATION
Session Chair: Virginia Sisiopiku, University of Alabama at Birmingham

WED, 1:30 > Assessment of Transit Operations In Birmingham Alabama 0008: 4
Virginia Sisiopiku, Abdul Muqueet Abro, University of Alabama at Birmingham

WED, 2:00 > Interaction of Traffic System Dynamics and Infrastructure Quality 0008: 5
Jane Lee, University of Illinois, Urbana-Champaign

WED, 2:30 > Internet Based Freight Transportation Model 0008: 6
Bernard Schroer, Heather Shar, Gregory Harris, University of Alabama in Huntsville
Dietmar Moeller, University of Hamburg

ATLANTIS
BATTLEFIELD SIMULATION
Session Chair: James Evans, EDO-CAS Incorporated

WED, 3:30 > Why Climb the Simulation Pyramid? Push Up Technical Reality, Point Down to Credibility 0008: 9
Ronald Saylor, AMRDEC

WED, 4:00 > The Application of Discrete-Event Simulation for Demining Strategy Evaluation 0008: :
Hui-Chiao Jen, Rory Cannaday, Brian Huff, University of Texas at Arlington

WED, 4:30 > Directed Energy Interception of RAM Threats in an Operational Context 0008: ;
John Montefusco, SAIC

ATLANTIS
SIGNAL/IMAGE PROCESSING
Session Chair: Edwin Nunez, COLSA Corporation

THU, 8:30 > Simulation of Particle Swarm Optimization for Fast Motion Estimation 0003; 2
Jing Cai, University of Alabama in Huntsville
W. David Pan, University of Alabama in Huntsville

THU, 9:00 > Fast Global Motion Estimation using Partial Data 0003; 3
Hussein Alzoubi, University of Alabama in Huntsville
W. David Pan, iversity of Alabama in Huntsville

ATLANTIS
SOFTWARE/HARDWARE-IN-THE-LOOP SIMULATION
Session Chair: Ralph Weber, Computer Sciences Corporation

THU, 10:30 > Update of the Input/Output Software and Hardware Platform of the Geothermal Power Plant Simulator 0003; 8
Eric Zabre, Rogelio E. Martínez Edgardo J. Roldán-Villasana,, Instituto de Investigaciones Eléctricas
Heriberto Ávalos-Valenzuela, Comisión Federal de Electricidad

THU, 11:00 > Porting an Aerospace Hardware-in-Loop Simulation to RTLinuxPro 000426
Richard Bond, FSMLabs, Inc.

THU, 11:30 > Direct Detection Scanning LADAR HWIL Testing System 00042;
Hajin Kim, U.S. Army AMRDEC

COLUMBIA
MILITARY MODELING AND SIMULATION
Session Chair: Gloria Flowers, U.S. Army Space and Missile Defense Command

WED, 11:00 > Human Factors Issues in Military Simulations 000432
Steve Rowe, Joshua Band, Charles Cohen, Erik Hofer, Cybernet

WED, 11:30 > Low Demand Inventory Stocking Strategies for Army Aviation 000438
Wes Colley, Center for Modeling, Simulation and Analysis

SIMULATION IN EDUCATION
Session Chair: Claudette Owens, U.S. Army Space and Missile Defense Command

WED, 1:30 > Going Beyond Simple Answers at West Point: Promoting Higher Order Thinking with Monte Carlo Simulation 000439
Ernest Wong, United States Military Academy

WED, 2:00 > Simulations as an Educational Environment for Balancing Disparate Needs 000444
Ron Hay, Katherine Scott, Charles Cohen, Cybernet

WED, 2:30 > A Comparative Analysis of Modeling and Simulation Degree Programs 00044;
Mikel Petty, University of Alabama in Huntsville

WED, 3:00>-Break

WED, 3:30 > Affordable Flight Simulation in an Educational Environment 000452
D. Brian Landrum, Jeff Cerny, Lance Warden, University of Alabama in Huntsville
Austin Meyer, Laminar Research
Ralph Bryson, USSRC Aviation Challenge

WED, 4:00 > Feasibility of a Guided Interceptor 000453
Philip Hahn, Digital Fusion Solutions, Inc.
Robert Frederick, Nathan Slegers, University of Alabama in Huntsville

COLUMBIA
TRAINING AND VIRTUAL ENVIRONMENTS
Session Chair: James J. Nutaro, Oak Ridge National Laboratory

THU, 8:30 > Multi-spectral Texturing with Smooth Blending 000454
Chris Brooks, Sanjeeb Nanda, SDS International, Inc.
Carl Lickteig, Army Research Institute

THU, 9:00 > Integrating Training Theory and Technology to Train Terrain Visualization 000459
Marcia Rossi, M. Javed Khan, Tuskegee University
Carl Lickteig, Army Research Institute

COLUMBIA
INNOVATIVE SIMULATION SOLUTIONS
Session Chair: E L Perry, Northrop Grumman

THU, 10:30 > Incorporating Joint Immersive Learning Simulations Into Joint National Training 000467
E L Perry, Northrop Grumman

THU, 11:00 > Simulation for FBI Training 000468
Lyn McCall, WILL Interactive

THU, 11:30 > My Playbox is the World 000469
E. L. Perry, Northrop Grumman

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