M&S Leadership Summit '08

In cooperation with the
Congressional Modeling and Simulation Caucus

Led by:

J. Randy Forbes
VA, 4th District, Founder and Chair

Solomon Ortiz
TX, 27th District, Co-Chair

M&S Leadership Summit

FEBRUARY 11 2008 ▶ WWW.TRAININGSYSTEMS.ORG

WESTIN HOTEL, VIRGINIA BEACH TOWN CENTER ▶ VIRGINIA BEACH, VA

A PROUD AFFILIATE OF

NDIA
NATIONAL DEFENSE INDUSTRIAL ASSOCIATION
STRENGTH THROUGH INDUSTRY & TECHNOLOGY

EVENT #81C0

Welcome Attendees and Participants of the Third Annual M&S Leadership Summit:

On behalf of the National Training and Simulation Association (NTSA), I would like to personally welcome you to the 3rd Modeling and Simulation Community Leadership Summit. This event will continue to develop the framework for greater advocacy of modeling and simulation. Our theme for today is "Education: Enabling Modeling and Simulation, A National Critical Technology."

In 2005 the US House of Representatives established the Modeling and Simulation Caucus composed of Members who either have an economic interest in M&S activities or who have concerns about the advancement of technology in the US. The Caucus was founded and is chaired by Congressman Randy Forbes (R) of Virginia and co-chaired by Congressman Solomon Ortiz (D) of Texas and is made up of about 30 other Members. The purpose of the Caucus is to promote the growth of M&S activities throughout the US through advocacy and through legislation. Actions taken by the Caucus to this point have been very encouraging in that HR 487 was passed by the House in June 2007 and declares M&S a "National Critical Technology." Most recently, legislation has been proposed for inclusion in the Higher Education Act that would offer attractive incentives to colleges and universities across the Country for establishment of programs dedicated to the study of M&S.

In 2006, we at NTSA with the support and encouragement of the M&S Caucus began a series of meetings entitled the "M&S Leadership Summit." These events have been designed to bring together key members of the M&S Community of practice from industry, government and academia to assess the growth and potential for the M&S community at large. At previous meetings the focus has been on a topical agenda designed to discuss and debate progress in work force development, business practices, and technology. This year our focus for discussion will be on M&S education across the board. We are pleased to bring together leaders from various domains within our society to address the level of utilization and sophistication of M&S within their domains. We believe that through this discussion we will be able to assess M&S educational requirements from some of the important economic and technical sectors within our society and develop actionable recommendations to the Congress for M&S educational support legislation.

In order to establish and grow a national framework for enabling modeling and simulation as a National Critical Technology, we will be hosting a follow-on event with various regional and national entities. The role of this framework would be to:
- Establish a national vision for modeling and simulation
- Support member associations and organizations engaged in the use of this technology and expand its use to other disciplines
- Establish key centers of excellence
- Conduct a national economic impact study
- Maintain a database of M & S applications
- Develop a registry of associations and other entities engaged in M & S activities
- Educate and inform legislative bodies on M & S values and issues
- Broaden opportunity for M & S in other disciplines

We will keep you informed of these events, and are very pleased that you are joining us today.
Sincerely,

RADM Fred Lewis, USN (Ret.)
President
National Training and Simulation Association

MONDAY *FEBRUARY 11, 2008*

0730 - 0900   Registration & Continental Breakfast

0900 – 0910   Opening Remarks
Welcome and Introductions
RADM Fred Lewis, USN(Ret), President, National Training and Simulation Association

0910 – 0930   Opening Congressional Commentary

0930 – 0945   Status Report of Leadership Summit 2007, Plan for Day
Dr. Linda Brent, Chair, M&S Leadership Summit

0945 – 1130   M&S and Education in the Scientific Realm

Moderator:	Mr. Bill Waite, President, Alabama Modeling and Simulation Council and President, The AEgis Technologies Group, Inc.
Medicine:	Dr. Mika Sinanan, Professor of Surgery, University of Washington
Engineering:	Dr. Bernard P. Ziegler, Professor, Department of Electrical & Computer Engineering, University of Arizona, and Director of ACIMS
Space Science:	Mr. Donald Monell, Project Manager for Modeling, Simulation and Data Architecture, NASA
Weather & Climate:	Dr. Robert M. Atlas, Director of the Atlantic Oceanographic and Meteorological Laboratory, NOAA
Environment:	Dr. John Nestler, U.S. Army Engineer Research and Development Center
Computational Engineering:	Dr. Henry McDonald, University of Tennessee – Chattanooga, SimCenter: National Center for Computational Engineering

1130 – 1300   Lunch

1300 – 1330   Keynote Address
Dr. Charles Romine, Senior Policy Analyst, White House Office of Science & Technology Policy

1330 – 1500   M&S Applications in Infrastructure, Security and Education

Moderator:	Mr. Russ Hauck, Executive Director, National Center for Simulation
Energy:	Mr. Clark Gellings, VP of Technology, Electric Power Research Institute
Transportation:	Mr. John Wiley, Managing Director of FAA Integrated Engineering Services
Homeland Security:	Mr. George Ryan, Director, Test & Evaluation, Science and Technology Directorate, Department of Homeland Security
Finance:	Mr. Larry Boyer, Principal Economist, Freddie Mac
Education:	Dr. Bowen Loftin, Vice President and Chief Executive Officer of Texas A&M, Galveston

1500 – 1530   Break

1530 – 1700   The M&S Role in the Educational Process

Moderator:	BG (Ret) Mike McGinnis, Executive Director, Virginia Modeling Analysis and Simulation Center
Elementary and Secondary Education:	Mr. Brian Wells, Senior Engineering Fellow, Raytheon Corporation
Higher Education:	Dr. Roseann Runte, President, Old Dominion University
Graduate Education:	Mr. Jeffrey Goss, Assistant Dean, Ira A. Fulton School of Engineering, Arizona State University
Professional Development:	Dr. David H. Olwell, Chair, Department of Systems Engineering, Naval Postgraduate School
Policy Analysis:	Mr. Jon Parker, Assistant Director for Modeling and Computing, Center on Social and Economic Dynamics, The Brookings Institution
Certification/ Accreditation:	Mr. Bill Tucker, Chairman, CMSP Board of Directors and Chief Scientist for Modeling and Simulation, Boeing Integrated Defense Systems

1700 – 1730   Congressional Caucus Commentary and Closing Remarks

1730 – 1900   Closing Reception

Future City Competition

The Future City Competition challenges 7th and 8th grade students to plan, design, build and present a city of the future. Using SIMCity software, the students plan the infrastructure and layout of their city. Then the students further enhance their vision by building a scale model of a portion of their city. Recycled materials are used to create buildings and transportation systems. The model must have one moving part. Each year the students have one critical focus of their design. This year the focus was nanotechnology. The students were challenged to assess how nanotechnology could be used help monitor and maintain the infrastructure of their city. For this event, the Future City Competition will have on display one of the city models from the recent local competition (Hampton Roads Region). Information on the Future City Competition will also be available.

National Flight Academy Computer-Based Flight Simulators

The Naval Aviation Museum Foundation in partnership with the Boeing Company and ZedaSoft Inc. will be demonstrating a unique approach for motivating middle and high school aged students to pursue studies in science, technology, engineering and mathematics (STEM). National Flight Academy will be a week long course of instruction for students in three academic levels: grades 7 and 8; grades 9 and 10; and grades 11 and 12. Building upon a one-day education program that is already in operation at the National Naval Aviation Museum, students will experience the hands on application in aviation of theories taught in the classroom. National Flight Academy will use a stair step approach whereby scientific theory is taught in the classroom; the hands-on aviation application of that theory will be introduced in a laboratory setting; and the final step will be validating that theory using an FA-18 flight profile. Captain JJ Coonan, USN (Ret) will be on hand to discuss the National Flight Academy Vision. Mr. Dave Urbeck from the Boeing Company and Mr. G.W. Estep from ZedaSoft will be on hand to discuss the FA-18 simulators and to provide a laptop demonstration.

Air Force Armament Museum Foundation

Engineers for America is an innovative educational program developed in partnership with the Okaloosa School District and the Workforce Development Board of Okaloosa and Walton Counties of Florida. The Program is designed to stimulate elementary grade level student interest in "STEM" (Science, Technology, Engineering and Mathematics) studies. 5th grade students come to the Air Force Armament Museum just outside Eglin AFB. First, a tour of the museum's exhibits is conducted with focus on the dynamics of flight. The students then conduct a series of scientific experiments inside the museum. The experiments' curriculum directly supports Florida's Sunshine State Standards. This in turn prepares the students for the Florida Comprehensive Aptitude Test (FCAT).

Dr. Robert Atlas
Director, Atlantic Oceanographic and Meteorological Laboratory, NOAA

Dr. Robert Atlas is the former Chief Meteorologist at NASA's Goddard Space Flight Center (GSFC), and is currently the Director of the National Oceanic and Atmospheric Administration's (NOAA) Atlantic Oceanographic and Meteorological Laboratory in Miami, Fla. Some of the areas he focuses his current research on include the prediction, movement and strengthening of hurricanes. Atlas has worked with both satellite data and computer models as a means to study these hurricane behaviors.

Dr. Atlas received his Ph.D. in Meteorology and Oceanography in 1976 from New York University. Prior to receiving the doctorate, he was a weather forecaster in the U.S. Air Force where he maintained greater than 95 percent forecast accuracy. From 1976 to 1978, Dr. Atlas was a National Research Council Research Associate at NASA's Goddard Institute for Space Studies, New York, an Assistant Professor of Atmospheric and Oceanic Science for SUNY and Chief Consulting Meteorologist for the ABC television network.

In 1978, Dr. Atlas joined NASA as a research scientist. He served as head of the NASA Data Assimilation Office from 1998-2003, and as Chief meteorologist at NASA GSFC from 2003-2005. Dr. Atlas has performed research to assess and improve the impact of satellite temperature sounding and surface wind data since 1973, and was the first person to demonstrate the significant impact of these data on numerical weather prediction.

He served as a member of the Satellite Surface Stress Working Group, the NASA Scatterometer (NSCAT) Science Team, the ERS Science Team, the SeaWinds Satellite Team and the Working Group for Space-based Laser Winds, the Scientific Steering Group for GEWEX, Chairman of the U.S. World Ocean Circulation Experiment (WOCE) Advisory Group for model-based air-sea fluxes, and the Council of the American Meteorological Society.

From 1974-1976, he developed a global upper-ocean model and studied oceanic response to atmospheric wind forcing as well as large-scale atmospheric response to sea surface temperature (SST) anomalies (unusual events). In more recent years, his research concentrated on the role of how the air and sea interacts in the development of cyclones, the role of soil moisture and unusual SST events in the initiation, maintenance and decay of prolonged heat waves and drought, and most recently on the modeling and prediction of hurricane formation, movement and intensification.

Atlas was one of the principal investigators of a new hurricane computer model called the "Finite Volume General Circulation Model" (fvGCM).

Mr. Lawrence Boyer
Economist and Risk Manager, Freddie Mac

Lawrence Boyer is a Principal Economist at Freddie Mac, where he leads the development of a variety of compound simulation models of national and regional economic variables on systems of single family and multifamily mortgages. Using a variety of econometric and statistical techniques in combination with financial and economic theory, the simulations are used to project mortgage defaults, prepayments and losses to individuals and the corporation. This information is also used for developing financial instrument structures and managing portfolio risk. Prior to joining Freddie Mac, Mr. Boyer was a Principal Consultant with Price Waterhouse, LLP where he developed simulation models used by Ginnie Mae and the Federal Housing Administration (FHA), as well as reviewing models developed by other government agencies. His model development work with FHA contributed to the U.S. Department of Housing and Urban Development's first ever, and on-going, unqualified audit opinion.

THE ASTA GROUP

Dr. Linda J. Brent
Senior Managing Associate, The ASTA Group, LLC

Dr. Linda Brent, Senior Managing Associate with The ASTA Group, LLC, has developed, established, and operated government-oriented businesses for the past 25 years. Dr. Brent manages a staff of senior professionals engaged in all aspects of business conduct with existing and emerging DoD-focused businesses. Prior to joining ASTA, she served as Vice President, Business Development of TYBRIN Corporation. In this role, Dr. Brent provided management oversight for marketing and business development of process-based systems and software engineering services to military, government, and commercial markets. Key responsibilities included the support of strategic planning and new business pursuits for national and international opportunities, facilitating coordination across corporate divisions and supporting marketing, business development, proposal, and program management efforts across all TYBRIN business areas, including international business.

Prior to joining TYBRIN's management team, Dr. Brent served as Corporate Director of Homeland Security with L-3 Communications corporate office, based in New York City. Dr. Brent's key responsibilities included the support of technical security solution development for national and international opportunities, facilitating coordination across all divisions of L3 and supporting marketing, business development, proposal, and program management efforts. She also served as a public spokesperson and investor relations contact for L3 Communications and worked with the acquisition team to identify and acquire new business enterprises to strengthen L3's portfolio of security solutions and coordinated business opportunities across all L3 divisions.

Dr. Brent previously served as the Director of Advanced Programs for the Link Simulation and Training Division of L3 and as the Director of Operations for Link's Orlando location. In these roles she was responsible for business development in new market and business areas, including homeland security, joint forces training and programs, maritime systems, and other advanced program areas. She was also responsible for all business opportunities and programs under the responsibility of the Orlando operations, including Army, Navy, Marine Corps and Air Force programs in modeling, simulation, training, and support.

Prior to her tenure with L3 Communications, Dr. Brent spent ten years at Lockheed Martin Corporation, managing large groups of personnel over multiple programs/sites and directed all operations within her business areas. She developed and executed all business capture plans and managed all budgets in the areas of modeling, simulation, and training for both domestic and foreign commercial and Department of Defense customers.

Dr. Brent brings 25 years of experience in both the defense industry and other government agencies, has made numerous presentations at state, national and international conferences, and has conducted research and published papers in the areas of training, simulation, and psychology. Additionally, she is actively involved in numerous national and international professional organizations supporting the defense and security solutions industry. She has held faculty and research positions at several leading universities and colleges, teaching courses in research design, human learning, training design, and human factors. She also has been a research associate for the US Air Force in neural networking and adult learning/task management.

She earned a BA and MS degree in Education/Psychology from Wittenberg University and Nazareth College of Rochester, respectively, and her EdD from the University of Rochester.

Mr. Clark W. Gellings
Vice President of Innovation, Electric Power Research Institute

Clark W. Gellings is Vice President of Innovation at the Electric Power Research Institute (EPRI) and is responsible for technology strategy, technology innovation, and intellectual property.

Mr. Gellings joined EPRI in 1982 progressing through a series of technical management and executive positions including five previous vice president positions. He was also chief executive officer of several EPRI's subsidiaries. Prior to joining EPRI, he spent 14 years with Public Service Electric & Gas Company.

He received distinguished awards from a number of organizations, including The Illuminating Engineering Society, the Association of Energy Services Professionals, and the South African Institute of Electrical Engineers. He is a 2003 recipient of CIGRE's (International Council on Large Electric Systems) Attwood Award for notable contributions. He is currently a Member of the Board of the University of Minnesota's Center for the Development of Technology Leadership and the National Academy of Sciences Committee studying the robustness and resilience of the power delivery system.

Mr. Gellings has a Bachelor of Science in electrical engineering from Newark College of Engineering in New Jersey, a Master of Science degree in mechanical engineering from New Jersey Institute of Technology, and a Master of Management Science from the Wesley J. Howe School of Technology Management at Stevens Institute of Technology.

Mr. Gellings is a registered Professional Engineer, a Fellow in the Institute of Electrical and Electronics Engineers, a Fellow in the Illuminating Engineering Society, and a Distinguished Member and President of the U.S. National Committee of CIGRE.
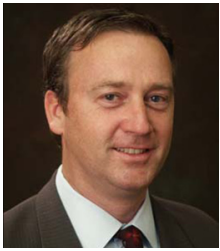
Mr. Jeffrey Goss
Assistant Dean, Ira A. Fulton School of Engineering, Arizona State University

His research areas include global workforce development learning models and the development and application of new technologies and distributed-media models for adult learning. Under his leadership, thousands of global engineering professionals have advanced their careers and knowledge in executive seminars, certifications, short courses and media distributed graduate degree programs. He received his BS in Public Relations and Management from Central Michigan University (Mt. Pleasant, MI) and Master of Arts Degree in Higher Education Administration from The George Washington University (Washington D.C.).   Jeff is an active member of the Continuing Professional Development Division and has delivered workshops for CPDD as part of the Conference for Industry and Education Collaboration.

Jeff Goss is Executive Director for the Office of Global Outreach and Extended Education and is Assistant Dean in the Ira A Fulton School of Engineering at Arizona State University. Mr. Goss has over 15 years experience in professional and executive education collectively at University of Maryland, George Washington University, University of Michigan, and Arizona State University. At ASU's Engineering School, he leads Global Engagement, ASUEngineeringOnline, and Professional Development.

Mr. Russ Hauck
Executive Director, National Center for Simulation

Russ Hauck is Executive Director of the National Center for Simulation (NCS), a non-profit organization that represents the modeling, simulation, and training industry and serves as a link between government, industry, and academia in promotion of simulation and related technologies. Important objectives of NCS are to promote an understanding and appreciation of simulation technology, facilitate the spin-off of defense-related investments in modeling, simulation, and training technology and products into other useful applications and support greater use of commercially available modeling and simulation products and technologies by the military, where appropriate. Russ assumed the position as NCS Executive Director in June 2001. He has been in the training and simulation technology industry in Orlando for more than 28 years. He has a BS degree (International Relations) from the U.S. Naval Academy in Annapolis, Maryland and a Master's (MSA) degree in Public Administration from George Washington University. He has taught undergraduate level courses in International Relations as an adjunct instructor at Daytona Beach Community College and Webster University; and both graduate and undergraduate courses in Public Administration as an adjunct instructor at the University of Central Florida. Russ served 8 years on active duty with the Navy as a Surface Warfare Officer and another 18½ years in the active Navy Reserve. He retired from the Navy Reserve in the rank of Captain. Russ also serves as a member of the Board of Directors of the Central Florida Chapter of the National Defense Industrial Association (NDIA).

Russ Hauck also serves his community as an elected official. He was elected Mayor of the City of Altamonte Springs, Florida in 1999, following 10 years as a City Commissioner. He was re-elected to a third three-year term as Mayor in November 2005. He represents Altamonte Springs as a member of the Board of Directors of the Orlando Area Metropolitan Planning Organization (METROPLAN Orlando), the regional transportation planning agency for Central Florida. From June 2000 through June 2003, Russ served as Chairman of the Board of the Central Florida Regional Transportation Authority, which operates under the name "Lynx;" the mass transit agency serving Orange, Seminole, and Osceola Counties. He is also past President and a board member of Lighthouse Central Florida, a charitable organization providing rehabilitation, training, and other support services to the blind and visually impaired. Russ is a founding board member of ITN (Independent Transportation Network) Orlando, a new charitable organization that provides scheduled rides for seniors and the visually impaired. He is a Past President of the Altamonte-South Seminole Jaycees, Past President of the Tri-County (Orange, Seminole and Osceola) League of Cities, Past Chairman of the Seminole County Tourism Development Council, member and Past President of the Altamonte Springs Rotary Club, and an active member of St Stephen Lutheran Church. Russ has been married to Barbara Hauck for 37 years and they have three children and two grandchildren.

RADM Frederick L. Lewis, USN(Ret)
President, National Training and Simulation Association

Fred Lewis, a native of Los Angeles, graduated from the U.S. Naval Academy with the class of 1962 and was designated a naval aviator at NAS Kingsville, Texas in November 1963.

After an initial tour of duty as a flight instructor, he trained in the F-4 Phantom aircraft andparticipated in numerous operational deployments to the Atlantic and Pacific Oceans and the Mediterranean Sea. During this time, he deployed twice to the Gulf of Tonkin and carried outcombat missions over North Vietnam. Following these combat deployments, he attended the U.S. Naval Test Pilot School and subsequently led the stand-up of the Atlantic Fleet's F-14 Training Squadron.

Several command assignments followed including his first carrier air wing command when heled the wing in successful operations in the Gulf of Sidra during which his pilots downed two Libyan fighter aircraft. Various staff assignments in Washington, DC followed including participation in the Program for Senior Defense Managers at Harvard University. Hesubsequently was given his second air wing command when he inaugurated the Navy's "Super CAG" program. It was in this assignment that he was selected for promotion to flag rank.

Flag assignments including Director, Strike and Amphibious Warfare (Pentagon), Commander, Tactical Wings, Atlantic, and Commander, Naval Safety Center followed in quick succession. He was sent back to sea in 1991 as Commander, Carrier Group FOUR and Commander, Carrier Striking Forces, Atlantic. In March 1993 he led the stand-up and became the first Commander of the Naval Doctrine Command located in Norfolk, Virginia.

During his naval career, he accumulated over 6,500 accident-free flying hours in tactical aircraft and over 1,200 carrier arrested landings.

In December 1995 he joined the National Training and Simulation Association as the President.

He is married to the former Allison Griggs of Hobart, Tasmania, Australia. They have two children: Lance, a Major in the United States Marine Corps and F/A-18 pilot, and Ashley, a financial analyst.

Dr. R. Bowen Loftin
TAMUG Vice President & CEO, Texas A&M University

Dr. R. Bowen Loftin holds a B.S. in physics from Texas A&M University (1970) and an M.A. and a Ph.D. in physics from Rice University (1973, 1975). Since May, 2005 Bowen has been Vice President and Chief Executive Officer of Texas A&M University's branch campus in Galveston, Texas where he is also Professor of Maritime Systems Engineering. He also is Professor of Industrial and Systems Engineering at Texas A&M's main campus in College Station. From 2000 to 2005 he was at Old Dominion University in Norfolk, Virginia as Professor of Electrical and Computer Engineering and Professor of Computer Science. In addition, Bowen was Old Dominion University's Director of Simulation Programs with responsibility for the university's graduate programs in modeling and simulation and Executive Director of the Virginia Modeling, Analysis and Simulation Center. Before coming to Old Dominion University, he was Professor in and Chair of the Department of Computer Science and the Director of the NASA Virtual Environments Research Institute at the University of Houston. For over twenty years, Dr. Loftin, his students, and co-workers have been exploring visualization and modeling/simulation in a variety of domains. He is a frequent consultant to both industry and government in the areas of modeling and simulation, advanced training technologies, and scientific/engineering data visualization. Dr. Loftin serves on advisory committees and panels sponsored by numerous government and professional organizations. His awards include the University of Houston-Downtown Awards for Excellence in Teaching and Service (twice), the American Association of Artificial Intelligence Award for an innovative application of artificial intelligence, NASA's Space Act Award, the NASA Public Service Medal, and the 1995 NASA Invention of the Year Award. He is the author or co-author of more than one hundred technical publications.

THE UNIVERSITY OF TENNESSEE
SimCenter *at Chattanooga*
Computational Simulation and Design Center • Graduate School of Computational Engineering

Dr. Henry McDonald
Professor and Chair of Computational Engineering, University of Tennessee in Chattanooga

Dr. Henry McDonald is the Distinguished Professor and Chair of Computational Engineering at the University of Tennessee in Chattanooga. Born in Scotland and educated there in aeronautical engineering, Dr. McDonald worked in the U.K. aerospace industry on a number of both civil and military aircraft before immigrating to the U.S. In the US he was a staff member in large corporate research laboratory, United Technologies Research Center, where he concentrated on turbomachinery and what eventually became known as Computational Fluid Dynamics. Dr. McDonald followed this by forming a small R&D company in Connecticut, Scientific Research Associates. It was while at Scientific Research Associates that Dr. McDonald was asked to assist the NASA Team investigating the Challenger disaster. Subsequently he became a member of the Lockheed team investigating a Titan motor failure. Following this period of time Dr. McDonald held a number of academic posts at Penn State and Mississippi State before accepting an Interagency Personnel Appointment at NASA where from 1996 till 2002 he was the Center Director at NASA Ames Research Laboratory. During his stay at NASA Dr. McDonald led an Aeromechanical Team investigation of a V-22 Osprey accident, reporting to the Assistant Secretary of Defense. At the request of the NASA Administrator Dr. McDonald then led a special investigation into Space Shuttle mishaps and this preceded the Columbia disaster. This particular investigation identified many of the systemic issues later cited by the Columbia Accident Board. Dr. McDonald is a member of the National Academy of Engineering, a Fellow of the Royal Academy of Engineering, a Fellow and Honorary Member of the American Society of Mechanical Engineers, a Honorary Fellow of the American Institute of Aeronautics and Astronautics and a Fellow of Royal Aeronautical Society.

BG Mike McGinnis, USA(Ret)
Executive Director, Virginia Modeling, Analysis and Simulation Center

Mike McGinnis joined Old Dominion University on 10 June 2006 as the Executive Director of the Virginia Modeling, Analysis and Simulation Center. Prior to assuming this position Brigadier General (Ret) McGinnis served for seven years as Professor and Department Head of the Systems Engineering Department, United States Military Academy, West Point, New York.

Mike's previous Army modeling, simulation and analysis assignments include Director of the U.S. Army Unit Manning Task Force, Director of the U.S. Army TRADOC Analysis Center at the Naval Postgraduate School in Monterey, California, and Director of the U.S. Military Academy Operations Research Center.

He has served on key government engineering, modeling, simulation and analysis committees to bring about change at the Army and Department of Defense levels. These include the National Academy of Sciences Committee on Defense Modeling, Simulation and Analysis, the Undersecretary of Defense for Acquisition, Logistics and Technology Systems Engineering Forum, the U.S. Army OneSAF Architecture Working Group, Senior Reviewer for the Army Standards Nomination and Approval Process for Semi-Automated Forces, U.S. Army Training and Doctrine Command (TRADOC) Modeling and Simulation Committee, and the Deputy Undersecretary of the Army for Operations Research and Systems Analysis (ORSA) Advisory Committee.

Doctor McGinnis is a graduate of the U.S. Military Academy and has Masters of Science degrees in Applied Mathematics and Operations Research from Rensselaer Polytechnic Institute and a Ph.D. from the University of Arizona in Systems and Industrial Engineering. He attended the Command and General Staff College at Fort Leavenworth and the Naval War College in Newport, Rhode Island where he earned a Masters of Arts in National Security and Strategic Studies.

Mike's professional and scholarly body of work includes three national awards and over 40 published and peer-reviewed papers published during 17 years of working in the fields of systems engineering and operations research domains. Reflecting his contributions to military operations research, Mike has been a regular member of U.S. delegations to foreign nations as part of the Deputy Undersecretary of the Army for Operations Dr. McGinnis has been honored with the 1995 Military Operations Research Society Rist Prize, the 2004 Military Operations Research Society Barchi Prize, and the 'best paper' for the 2005 Interservice/Industry Training, Simulation & Education Conference (I/ITSEC) Research and Development Track. He was inducted into Who's Who in Engineering Education in 2005.

Mr. Donald W. Monell
Deputy Manager for the Constellation Software and Avionics Integration Office, NASA

Don Monell serves as the Deputy Manager for the Constellation Software and Avionics Integration Office. In that capacity, he is responsible for ensuring program-level coordination and integration of plans and activities pertaining to Constellation software, avionics, and modeling & simulation efforts (e.g., requirements development, program simulation developments, distributed HWIL and SWIL testing, etc.). Additional responsibilities include working across the Constellation projects and the NASA centers to ensure adequate development and placement of modeling, simulation capabilities.

Mr. Monell has over 25 years experience working a wide range of aircraft and spacecraft systems design and analysis activities. He started his career as a cooperative education student at the NASA Langley Research Center (LaRC) while attending college at Purdue University. Following graduation he worked in industry performing structural analysis and testing in support of military aircraft programs. Mr. Monell resumed his government service career in 1990 when he returned to NASA LaRC to work on the International Space Station Program. Beginning in 1996, he began working on a series of projects responsible for the overall planning and development of agency-wide collaborative engineering environment capabilities. In July 2001, Mr Monell joined the Marshall Space Flight Center where he managed the development of the Advanced Engineering Environment for the 2nd Generation Reusable Launch Vehicle (2GRLV) program. Mr. Monell also served a one-year rotation assignment (2004) at NASA Headquarters working in the Exploration Systems Mission Directorate. Upon return from NASA HQ in 2005, he served in the Vehicle Integration Office of the Crew Launch Vehicle Project where he managed the Avionics Integration and Vehicle Systems Test activities along with his responsibilities of M&S planning across Exploration. In mid-2006 he began serving as the Manager for the Cx Modeling, Simulation and Data Architecture office in the Cx SE&I office. In August 2007, he accepted the position of Deputy Manager for the Constellation Software and Avionics Integration Office in Cx SE&I.

Mr. Monell received a Bachelor of Science degree in Aeronautical and Astronautical Engineering from Purdue University and a Master of Science degree in Systems Engineering from Virginia Tech.

He currently resides in Gurley, Alabama with his wife, Patti, and their three children.

Dr. John M. Nestler
U.S. Army Engineer Research and Development Center

Dr. John M. Nestler is currently a member of the Cognitive Ecology and Ecohydraulics Team, U.S. Army Engineer Research and Development Center (ERDC), Vicksburg, MS. Prior to this position, Dr. Nestler was Director, Environmental Modeling and System-wide Assessment Center, ERDC, from 2004-2007. He currently serves as an Associate Adjunct Professor, Department of Civil and Environmental Engineering, University of Iowa, an Honorary Professor, University of Birmingham, UK, an Assistant Adjunct Professor, University of Georgia, and is on the Editorial Board, River Research and Applications.

Dr. Nestler has made contributions to environmental flow determination methods, hydrologic methods for predicting cumulative impact on wetlands, techniques for predicting effects of turbine passage on fishes, and developed improved methods for fish protection and passage at dams. The primary focus of his research interests is to couple together into a single, seamless system, the tools used by engineers with the tools used by ecologists. Most recently, Dr. Nestler led the coupling of fish movement and population models to engineering water quality and CFD models. He developed tools to allow engineering models to support simulation of higher trophic level organisms such as fish and shellfish. He is active in issues involving coastal and river environmental sustainability, coastal and river large-scale ecosystem restoration, fish passage, fish movement analysis and forecasting, advanced habitat modeling methods, and Eulerian-Lagrangian-agent modeling methods.

Dr. Nestler has well over one hundred professional publications and is inventor or co-inventor on 10 patents. Other collaborators and affiliations that Dr. Nestler is associated with are Dr. Larry Weber, University of Iowa, Iowa City, Iowa, Dr. James Anderson, University of Washington, Seattle, Washington, Dr. David Galat, University of Missouri, Columbia, Missouri, and Dr. Domingo Rodríguez, University of Puerto Rico at Mayagüez, Mayagüez, Puerto Rico.

Dr. Nestler received an undergraduate degree in Biology from Valdosta State College, an M.S. in Zoology from University of Georgia, and a Ph.D. in Zoology from Clemson University.

NAVAL
POSTGRADUATE
SCHOOL

Dr. David H. Olwell
Chair, Department of Systems Engineering, Naval Postgraduate School

Dr. Olwell assumed duties as Chair of the Systems Engineering Department in October, 2004, and was reappointed in 2006. He leads a team of over twenty faculty members in the design and delivery of residential and distance-learning educational programs in systems engineering for almost 300 students, and in the execution of a research program that supports DoD and the Navy. He is the principal investigator in a major multi-year project to improve modeling and simulation education in the Department of Defense.

Dr. Olwell's research areas are in reliability engineering and statistical process control. He is the author of three textbooks and a research monograph, and recently co-edited Statistical Methods in Counter-terrorism (Springer, 2006). He has extensive consulting experience inside the Department of Defense and for non-governmental entities, including Ford, Herman Miller, Lexmark, Delphi Automotive, and ReliaSoft.

Dr. Olwell has been an innovator in using web technologies to support Navy students, including delivering the first web-based course to a ship at sea in 1999. He has supervised the development of on-line courses, certificates, and hybrid degree programs. He leads the NPS learning assessment task force for the regional accreditation visit. He pioneered the student retention strategy for NPS DL programs. He has extensive experience integrating competing stakeholder desires for educational programs while maintaining high quality.

Dr. Olwell earned a Bachelor of Science Degree (with distinction) from the United States Military Academy. His graduate education includes two Master of Science degrees (Mathematics and Statistics) and a doctoral degree in Statistics from the University of Minnesota.

Dr. Olwell was an associate professor at the US Military Academy prior to joining the faculty at the Naval Postgraduate School in 1998. He was Director of the Mathematical Sciences Center of Excellence at West Point, and Associate Chair of the Operations Research Department at NPS.

He was recognized in January 2004 with the Navy Superior Civilian Service Award for his contributions to the Systems Engineering DL program at NPS.

Mr. Jon Parker
Assistant Director for Modeling and Computing, Center on Social and Economic Dynamics,
The Brookings Institution

Mr. Jon Parker is the Assistant Director for Modeling and Computing at the Brookings Institution's Center on Social and Economic Dynamics. Jon has published on the modeling of epidemics, bioterrorism, spatial population dynamics, chronic public health challenges such as teenage smoking and efficient agent-based model development. Jon developed the CSED Large-scale Agent Model (LSAM), a distributed agent-based epidemic model that is capable of easily simulating several billion agents. The LSAM has an implementation that is specific to the United States that is being used extensively to model public policy responses to epidemic threats such as Avian Influenza for the Department of Homeland Security. He has a BS in Computer Science from Johns Hopkins University and is a Sun Certified JAVA Programmer.

Dr. Charles H. Romine
Senior Policy Analyst, Office of Science and Technology Policy
Executive Office of the President

Dr. Charles H. Romine presently holds two positions of leadership related to High-End Computing. First, Dr. Romine is a Senior Policy Analyst in the Office of Science and Technology Policy, in the Executive Office of the President. His current responsibilities include providing policy analysis and input in the areas of high-end computing, advanced networking, cyber security, and all other areas of information technology R&D. His second position is as Acting Director of the National Coordination Office for the Federal Networking and Information Technology R&D Program. He is also the OSTP representative on the Federal CIO Council.

After earning his PhD in Applied Mathematics in 1986 from the University of Virginia, Dr. Romine joined the Oak Ridge National Laboratory (ORNL), where as a member of the research staff of the Computer Science and Mathematics Division, he conducted research in advanced numerical algorithms for high performance computers for 15 years. During that period, he authored or co-authored dozens of papers in computational science, and contributed computational expertise to projects on a wide range of topics including groundwater flow and contaminant transport, molecular dynamics, and the simulation of core collapse supernovae. He served as group leader of the Mathematics Research Group at ORNL for several years before joining the Department of Energy in 2001.

At the Department of Energy's Office of Science, in the Mathematics, Information and Computational Science Division of the Advanced Scientific Computing Research Office, Dr. Romine initially managed the Applied Mathematics Integrated Software Infrastructure Centers under the Scientific Discovery through Advanced Computing (SciDAC) Program. Later, he managed the DOE Applied Mathematics Basic Research Program for several years prior to joining OSTP in March of 2004 as the DOE representative to the National Science and Technology Council (NSTC). In June of 2005, he left the Department of Energy to join OSTP's staff as a Senior Policy Analyst, a position he currently retains. In February of 2007, he was also named Acting Director of the National Coordination Office for the Federal Networking and Information Technology R&D Program.

OLD DOMINION UNIVERSITY

Dr. Roseann Runte
President, Old Dominion University

Dr. Roseann Runte President of Old Dominion University, Dr. Roseann Runte has over 20 years experience as a professor and senior administrator. Her publications include books, articles and chapters on topics ranging from economic and cultural development to creative writing.

She has served on national and international boards including The National Bank of Canada, the National Library, the Club of Rome, UNESCO and the Royal College of Physicians and Surgeons. She is a member of the Executive Advisory Council for Sun-Gard SCT and the Association of Governing Boards.

Her work has been recognized with awards including the Order of Canada, the French Order of Merit, fellowship in the Royal Society and the World Academy of Arts and Science, several honorary degrees and a prize from the French Academy.

Mr. George R. Ryan, Jr.
Director T&E and Standards, Department of Homeland Security

Mr. Ryan was born April 9, 1947, in Somers Point, New Jersey. A graduate of Great Mills High School, Great Mills, Maryland, he earned a Bachelor of Science degree in Aerospace Engineering in 1971 from the University of Maryland. In 1978, he received a Master of Science Degree in Computer Science from George Washington University,

Mr. Ryan began his government career as a GS-2 student trainee in the Patuxent Plan for Career Development in 1965 at the Naval Air Test Center, Patuxent River, Maryland. After seventeen years of government service in a variety of technical and managerial positions, Mr. Ryan was employed for one year in private industry. He returned to government service in 1983 as the Special Assistant to the Technical Director, Range Directorate providing in-house technical consulting on test and evaluation and training ranges to the Naval Air Warfare Center Aircraft Division, Patuxent River, Naval Air Systems Command, Chief of Naval Operations, and the Secretary of the Navy.

From 1988 to 1990, he was the Chief Engineer of the Range Directorate with responsibility for the directorate's research, development, business, and financial operations.

From 1990 to 1993, he was the Deputy for Programs, Range Directorate, including the Large Area Tracking Range, Tactical Training Range Programs, Tactical Combat Training System, and Common Airborne Instrumentation System (OSD Project Manager).

In November 1993, Mr. Ryan was assigned to the position of Director, Range Directorate. As Director, he had responsibility for the range operations, data acquisition, and laboratory services support for all test work at the Flight Test and Engineering Group, as well as major Naval Air Systems Command training range programs and the OSD tri-service Common Airborne Instrumentation System. Additional responsibilities included DOD Reliance lead for airborne instrumentation and manager of the Aircraft Division's Major Range Test Facility Range investment funds. He has served on numerous Navy and OSD panels and committees, including the Fixed-Wing Aircraft Test and Evaluation Reliance Panel, Range Commanders Council (Executive Committee), and Multi-Service Test Resources Investment Committee.

He served as Head, Atlantic Ranges and Facilities from October 1994 until his promotion to the Senior Executive Service in May of 1996 and appointment to Director, Atlantic Ranges and Facilities. He has direct responsibility for all facets relating to the development, maintenance, and operation of the range and test facility components of the Navy's principal Air Combat Systems test activity. He served as the Navy representative for a critical phase of Vision 21 and served as the chairman of the tri-service T&E Reliance and Investment Board. In 1998 he was appointed the Deputy for T&E in OPNAV. In June 2003, DEPSECDEF appointed him the Acting Director, Department of Defense Test Resource Management Center in addition to his Navy and BRAC positions. Mr. Ryan served as the Acting Director (3-Star equivalent) for nineteen months until a permanent Director was appointed in December 2004.

In October 2006, Mr. Ryan became the Department of Homeland Security's Director of T&E and Standards responsible for T&E/Standards oversight, policies, and processes across the Department's twenty two components.

Dr. Mika Sinanan
Professor, Co-Director, Center for Videoendoscopic Surgery

Mika N. Sinanan, M.D., Ph.D., professor of surgery at the University of Washington School of Medicine, received his M.D. from Johns Hopkins University in 1980. He completed his residency at the University of Washington in 1988 and then joined the faculty of the UW Department of Surgery. Dr. Sinanan received his Ph.D. in gastrointestinal physiology in 1991 from the University of British Columbia. In addition to his School of Medicine appointment, Dr. Sinanan is an adjunct associate professor in the UW Department of Electrical Engineering.

Widely published and recognized as a leader in minimally invasive gastrointestinal surgery, Dr. Sinanan became co-director the Center for Videoendoscopic Surgery at the UW School of Medicine in 1993.

Dr. Sinanan is committed to the advancement of robotic surgery and was the Co-PI of a grant from the Department of Defense, "Studying Mini Robot Design for Military Telesurgery in the Battlefield."

Dr. Sinanan's other positions include medical director of the Surgical Specialties Center and chief of medical staff and associate administrator of quality for UW Medical Center.

Mr. Bill Tucker
Chief Scientist for Modeling and Simulation, Boeing Integrated Defense Systems

Bill is the Chief Scientist for Modeling and Simulation in Boeing Integrated Defense Systems. He has over 30 years of experience in modeling and simulation technology and applications. He has publications covering a wide range of M&S topics, but most recently has focused on the need to improve the M&S workforce via education and other programs, as well as the application of M&S in K-12 education to increase student exposure to Science, Technology, Engineering, and Math.

He is active in the M&S community, including serving as Vice-President for education and workforce development for the Society for Modeling and Simulation, chairman of the board of the Modeling and Simulation Professional Certificate Council, and chair of the M&S Caucus Advisory Panel Education team.

Within Boeing, he serves as the training lead for M&S within the Systems Engineering, and was instrumental in the establishment of a new skill code for M&S professional, as well as the ongoing development of career roadmaps and professional training inside the enterprise.

He is married to the former Mary Davis. They have four children. She, like their two oldest children, holds an engineering degree, demonstrating real commitment to technology education. Their third child is currently studying engineering, while the fourth is wondering what kind of engineer she should be.

AEgis
TECHNOLOGIES

Mr. William F. Waite
President and Co-Founder, The AEgis Technologies Group

As President and co-founder of The AEgis Technologies Group, Bill Waite directs its staff in delivering a wide variety of modeling and simulation (M&S) products and services. Mr. Waite has more than 30 years of professional hands-on experience in all phases of the M&S life cycle, and is currently active in the evolution of the M&S profession, industry, and marketplace. He serves on the Boards of Directors of the National Training Systems Association (NTSA) and the Society for Modeling and Simulation International [SCS]; and, he serves on the Advisory Council of the Modeling and Simulation Professional Certification Commission (M&SPCC), NTSA's Standards Committee, and its Congressional Caucus Advisory Committee.   Mr. Waite is currently the President of the Alabama Modeling and Simulation Council (AMSC).
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Mr. Brian H. Wells
Chief Systems Engineer and Senior Principal Engineering Fellow, Raytheon Company

Brian H. Wells is a Senior Principal Engineering Fellow and Chief Systems Engineer within the Raytheon Corporate Engineering organization.

As the Chief Systems Engineer, Wells is responsible for ensuring synergy among Raytheon businesses for key system engineering processes, tools, practices and Raytheon's systems engineering education curriculum. Brian also participates on various review teams from key proposals to program independent assessments. He is focused on achieving one-company, Mission Systems Integration (MSI) behaviors that include continual improvement and providing recognition of engineering expertise that is critical to our success. Wells works to achieve alignment across businesses to provide our customers with best value technical solutions and technologies.

As a Senior Principal Engineering Fellow, he provides system engineering and architecture expertise to all Raytheon businesses. He is an instructor in the System Engineering Technical Development Program.

His prior assignments were Technical Director of the Future Naval Capabilities (FNC) business area, the Total Ship System Engineering Lead for the DDG 1000 program and the Chief Engineer for the CVN-21 Warfare System.

Prior to his work on DDG 1000 and CVN-21, Wells was the Manager of the Systems Design Laboratory (SDL). As the SDL Manager, Wells defined the first Raytheon System Engineering Process and the first set of system engineering metrics. He led the effort that performed the first system engineering maturity assessment, which laid the early foundation for achieving CMMI level 3. Prior to SDL Manager, he was the Manager of System Engineering for the Patriot program. During his tenure on Patriot, Wells managed the activities that upgraded the system and the radar to the Phase 3 configuration, which includes Guidance Enhanced Missile (GEM) and upgraded system communications capabilities and Tactical Ballistic Missile (TBM) defense logic. The result of these activities led directly to the Patriot Advanced Capabilities, 3 (PAC-3) system fielded today.

Wells' early work activities include design, development and testing of missile systems. He was the manager of both the Missile Concept and Design Department and the Simulation Section for the Raytheon Missile Systems Division.

Wells is a member of the International Council on System Engineering (INCOSE) and the Surface Navy Association.
Born in 1953 in New Jersey, Wells is a graduate of Bucknell University, having earned a bachelor's degree in electrical engineering in 1975. He is also a graduate of the University of Illinois with a master's degree in electrical engineering in 1976.

Wells has completed numerous Raytheon management and technical development programs, including the Advanced Management Program, the Program Management Program, the Management Development Program, Lead Engineer Training, Six Sigma Leadership Training and Six Sigma Specialist Training.

Wells has received the Raytheon Excellence in Technology Distinguished Award (2003) the Raytheon Excellence in Business Development Award (2002), and the IDS President's Award (2003).   He is the author of a dozen technical papers on missile guidance and control, simulation and systems engineering.

Mr. John Wiley
Manager, Technical Strategies and Integration, Federal Aviation Administration

John Wiley is the Manager of the Technical Strategies and Integration organization at the Federal Aviation Administration's William J. Hughes Technical Center. John is responsible for the governance, integration, transition, and strategic management of the Technical Center's products, services, and initiatives. The Technical Center is one of the world's leading engineering, research, development, and testing facilities for nearly every aspect of air transportation systems.

John has over 30 years of technical expertise in the aviation industry, 21 of those years in management. He served on the FAA Air Traffic Organization's transition team in Washington, D.C., where he provided strategy and direction in defining, communicating, and implementing a broad spectrum of new agency management initiatives.

Previously, as Managing Director of the Technical Center's Office of Integrated Engineering Services, he led a 500-person organization that supported the daily operation and modernization of the National Airspace System. John provided leadership and strategic direction in research, development, test, and evaluation of new air traffic control systems, weather information systems, air-to-ground communication systems, free flight and satellite communications, human factors and more.

He was also the Program Director of the Technical Center's Air Traffic Control Engineering and Testing Division. John was responsible for providing system engineering, test and evaluation, and second level maintenance services supporting the automation programs in the en route, oceanic, terminal and flight service domains of the National Airspace System.

John is a member of the International Test and Evaluation Association (ITEA) Executive Board and is also a member of the Rowan University Electrical and Computer Engineering Industrial Advisory Board. He is an active member of the Air Traffic Control Association, former president of the ITEA South Jersey chapter, and former member of the Human Factors Society of South Jersey. He holds a bachelor's degree in electrical engineering from Drexel University, and has completed graduate courses in artificial intelligence, management, strategic planning, and project management.

Dr. Bernard P. Zeigler
Professor of Electrical and Computer Engineering, University of Arizona, Tucson

Bernard P. Zeigler is Professor of Electrical and Computer Engineering at the University of Arizona, Tucson and Director of the Arizona Center for Integrative Modeling and Simulation. He is internationally known for his 1976 foundational text Theory of Modeling and Simulation, recently revised for a second edition (Academic Press, 2000), He has published numerous books and research publications on the Discrete Event System Specification (DEVS) formalism. In 1995, he was named Fellow of the IEEE in recognition of his contributions to the theory of discrete event simulation. In 2000 he received the McLeod Founder's Award by the Society for Computer Simulation, its highest recognition, for his contributions to discrete event simulation. In June 2002, he was elected President of the Society (recently, renamed The Society for Modeling and Simulation, International.) In 2003, his autobiographical retrospective on the evolution of the theory of modeling and simulation appeared in the International Journal of General Systems. (Vol. 32 (3)).

Zeigler served on two National Research Council committees to recommend directions for information technology and simulation modeling in the 21st Century and a third NRC committee that developed a book of recommendations on simulation enhancements to systems acquisition and manufacturing. He has given numerous keynote talks, tutorials and short courses, and organized symposia and conferences that were the first to promote modeling and simulation fundamentals and theory and has been a participant in recent workshops on the science of simulation.
In 2001, with Hessam Sarjoughian and other faculty, he founded the Arizona Center for Integrative Modeling and Simulation dedicated to the development of modeling and simulation as a discipline of the future.

Zeigler is currently heading a project for the Joint Interoperability Test Command (JITC) where he is leading the design of the future architecture for large distributed simulation events for the Joint Distributed Engineering Plant (JDEP). He is also developing DEVS-methodology approaches for testing mission thread end-to-end interoperability and combat effectiveness of Defense Department acquisitions and transitions to the Global Information Grid with its Service Oriented Architecture (GIG/SOA). He received the JITC Golden Eagle Award for research and development of the Automated Test Case Generator, 2005 and the Award for Best M&S Development in the Cross-functional Area, 2004/2005, by the National Training Simulation Association, May 2, 2006. He is preparing a book on the methodology of M&S-based dynamic data engineering to be published by Academic Press (2007).

He was appointed Fellow of the Society for Modeling and Simulation, International (SCS), 2006.

Congressional Modeling and Simulation Caucus
SELECT MEMBERS OF THE CAUCUS WILL PARTICIPATE IN THIS LEADERSHIP SUMMIT

Co-Chairs

J. Randy Forbes
R/Virginia 4th District

Solomon Ortiz
D/Texas 27th District

Caucus Members

Duncan Hunter
R/California 52nd District

House Armed Services Committee Ranking Member

Robert Aderholt
R/Alabama 4th District

Doug Lamborn
R/Colorado 5th District

Ken Calvert
R/California 44th District

Jim Matheson
D/Utah 2nd District

John Carter
R/Texas 31st District

Jeff Miller
R/Florida 1st District

Mike Conaway
R/Texas 11th District

Todd Russell Platts
R/Pennsylvania 19th District

Robert "Bud" Cramer
D/Alabama 5th District

Dutch Ruppersberger
D/Maryland 2nd District

Susan Davis
D/California 53rd District

Bobby Scott
D/Virginia 3rd District

Tom Davis
R/Virginia 11th District

Joe Sestak
D/Pennsylvania 7th District

Thelma Drake
R/Virginia 2nd District

James Walsh
R/New York 25th District

Tom Feeney
R/Florida 24th District

Zach Wamp
R/Tennessee 3rd District

Phil Gingrey
R/Georgia 11th District

Heather Wilson
R/New Mexico 1st District

Maurice Hinchey
D/New York 22nd District

Joe Wilson
R/South Carolina 2nd District

Ric Keller
R/Florida 8th District

The Congressional Modeling & Simulation Caucus continues to exert its influence as a national focus for the simulation and training industry. Under the leadership of Co-Chairmen Representative J. Randy Forbes (VA-04) and Representative Solomon Ortiz (TX-27), Caucus Membership now totals 24 members. The most significant event of recent Caucus activity is the unanimous passage on July 16, 2007 of House Resolution 487 which formally honors the contribution of M&S technology to the security and prosperity of the United States and recognizes M&S as a National Critical Technology. Furthermore, H.Res. 487 acknowledges the significant impacts of M&S on a breadth of fields including, defense, space, national disaster response, medical, transportation and construction. Congress is urged to continue to place emphasis on math and science as key disciplines in elementary and secondary education and to encourage the expansion of M&S within higher education. Finally, H.Res. 487 affirms the need to study the national economic impact of the simulation and training industry.

Whereas the United States of America is a great and prosperous Nation, and Modeling and Simulation contribute significantly to that greatness and prosperity;

(Engrossed as Agreed to or Passed by House)

HRES 487 EH

H. Res. 487

In the House of Representatives, U. S.,

July 16, 2007

Whereas the United States of America is a great and prosperous Nation, and modeling and simulation contribute significantly to that greatness and prosperity;

Whereas modeling and simulation in the United States is a unique application of computer science and mathematics that depends on the validity, verification, and reproducibility of the model or simulation, and depends also on the capability of the thousands of Americans in modeling and simulation careers to develop these models;

Whereas members of the modeling and simulation community in government, industry, and academia have made significant contributions to the general welfare of the United States, and while these contributions are too numerous to enumerate, modeling and simulation efforts have contributed to the United States by--

(1) expanding the understanding of nuclear chain reactions during the Manhattan Project through some of the earliest simulations replicating the reaction process, which ultimately contributed to the end of World War II;

(2) serving as a foundational element of the Stockpile Stewardship Program, which enabled the President of the United States to certify the safety, security, and reliability of the nuclear stockpile for more than ten years without the use of live nuclear testing, which demonstrates the Nation's commitment to nuclear nonproliferation;

(3) accelerating the effectiveness of joint, coalition, and interagency training exercises, while dramatically reducing the costs of such exercises, as demonstrated by United States Joint Forces Command's 2007 homeland security exercise, Noble Resolve, which was conducted virtually and required 5 months, 140 personnel, and $2,000,000 for development, compared to a 2002 Millennium Challenge exercise that was conducted live and required 5 years, 14,000 personnel, and $250,000,000 for development;

(4) preserving countless human lives, as well as military and civilian aircraft, ships, and other vehicles through the rehearsal of repeatable, simulated emergencies that otherwise could not have been practiced;

(5) increasing the quality of health care through the development of medical simulation training, which led the Food and Drug Administration to require such training for physicians before certain high-risk procedures to treat heart disease and strokes;

(6) reducing the cost of health care, as demonstrated by medical malpractice insurance rate discounts being provided to anesthesiologists and obstetricians who include simulated procedures in their biennial training requirements;

(7) simulating large scale natural or man-made disasters to improve the effectiveness of local, State, and Federal first responders, law enforcement, and other agencies involved in a coordinated emergency response;

(8) forecasting weather and predicting climate change to enable scientists, industry, and policymakers to study the effects of climate change and also to prepare for extreme weather, such as hurricanes;

(9) protecting rivers, waterways, and endangered species reliant on these waters through the Environmental Protection Agency's hydrology Dynamic Stream Simulation and Assessment Model, which predicts impacts on water quality for the Truckee River, including its effect on Lake Tahoe and other portions of its basin;

(10) producing analysis that resulted in enhanced designs and construction of critical infrastructure, such as roads, interchanges, airports, harbors, railways, and bridges that increases transportation capacity and safety, and reduces travel time and environmental impact; and

(11) providing National Aeronautics and Space Administration (NASA) astronauts training to ensure a safe and productive mission in space, including the utilization of the Shuttle Training Aircraft, which simulates real aircraft shuttle characteristics and enables NASA pilots to have 1,000 simulated shuttle landings before they land the Space Shuttle for the first time as a glider;

Whereas these contributions, in addition to numerous contributions that are not listed but that equally have brought prosperity to our Nation, demonstrate that modeling and simulation efforts have, and will continue to--

(1) provide vital strategic support functions to our Military;

(2) defend our freedom and advance United States interests around the world;

(3) promote better health care through improved medical training, improved quality of care, reduced medical errors, and reduced cost;

(4) encourage comprehensive planning for national disaster and emergency preparedness response;

(5) improve and secure our critical infrastructure and transportation systems;

(6) protect the environment; and

(7) allow the Nation to explore the Earth and space to further our understanding of our world and universe;

Whereas modeling and simulation frequently complements or replaces experimentation where experimentation is hazardous, expensive, or impossible, thus providing far greater capability than experimentation alone;

Whereas the modeling and simulation industry provides well-paying jobs to many Americans and represents an opportunity for Americans with strong foundations in science, technology, engineering, and mathematics to contribute to the prosperity and security of the United States;

Whereas other countries have recognized the value of modeling and simulation as an opportunity to gain a competitive advantage over the United States economically and militarily, and some of these same countries produce more engineers each year than the United States;

Whereas modeling and simulation efforts are critically dependent on a fundamental education in science, technology, engineering, and mathematics;

Whereas modeling and simulation require unique knowledge, skills, and abilities that are not adequately incorporated into governmental occupational classification codes; and

Whereas advances in modeling and simulation can be achieved through innovation in the private sector, and proper export controls and intellectual property rights are critical to the continued growth and innovation in this sector: Now, therefore, be it

Resolved, That the House of Representatives--

(1) commends those who have contributed to the modeling and simulation efforts which have developed essential characteristics of our Nation;

(2) urges that, consistent with previous legislation passed by this and previous Congresses, science, technology, engineering, and mathematics remain key disciplines for primary and secondary education;

(3) encourages the expansion of modeling and simulation as a tool and subject within higher education;

(4) recognizes modeling and simulation as a National Critical Technology;

(5) affirms the need to study the national economic impact of modeling and simulation;

(6) supports the development and implementation of governmental classification codes that include separate classification for modeling and simulation occupations; and

(7) encourages the development and implementation of ways to protect intellectual property of modeling and simulation enterprises.

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