



National Modeling & Simulation Coalition Overview

Richard J. Severinghaus
Chair, Policy Committee

On the web: www.thenmsc.org

November 2017

Organization

- All volunteer organization, created in 2012
- An affiliate of the National Training & Simulation Association (NTSA), NM&SC operates in consonance with the by-laws, policies, and business practices of the National Defense Industrial Association (NDIA), NTSA's parent organization
- President, NTSA, advises the Coalition, and provides administrative support and staff services, from NTSA/NDIA resources, as needed
- The NM&SC is managed and directed by a Policy Committee

- All interested stakeholders across M&S domains and disciplines:
 - Industry
 - Academia
 - Government
 - Individuals

The Coalition strives to grow and sustain collaboration among regional and national simulation and modeling organizations. NM&SC is not a lobbying organization.

Policy Committee

Rick Severinghaus, Chair

CEO/Director, CRTN Solutions, LLC

Randall Garrett, Ph.D., Vice Chair

Senior Scientist, SimIS, Inc.

Brig. Gen. Steve Seay, USA (Ret.), Secretary

Director of Leadership & Career Development Strategies, Univ. of
Central Florida

Elizabeth Baron

Technical Specialist, Virtual Reality & Advanced Visualization, Ford
Motor Company

Pamela J. Boyers, Ph.D.

Associate Vice Chancellor for Clinical Simulation, Univ. of Nebraska
Medical Center

Who we are

Policy Committee

Jesse Citizen

Director, Defense M&S Coordination Office

Rick Darter

President & CEO, Rave Computer Association, Inc.

Dayna Downing

Program Manager, Simulation Programs, Children's Health System,
Dallas

Marjorie Zielke, Ph.D., Professor, Univ. of Texas, Dallas

Director, Center for Modeling and Simulation & Professor of Practice,
Univ. of Texas, Dallas

Standing committees

Technology/Research & Development

Bob Armstrong, Director, Sentara Center for Simulation & Immersive Learning, & Program Director, National Center for Collaboration in Medical Modeling & Simulation, Eastern Virginia Medical School

Communications, Outreach & Public Affairs

Lisa Bair, Solutions Architect & SAIC Fellow, SAIC

Education & Professional Development (acting)

Richard Severinghaus, CEO & Director, CRTN Solutions, LLC

Industrial Development/Business Practice

Eric Weisel, Ph.D., Director, Research & Development, Old Dominion University, & Director, Virginia Modeling, Analysis, & Simulation Center

Who we are

Board of Advisors

Tom Mastaglio, Ph.D., Chairman, MYMIC, Inc.

Fred Hartman, Institute for Defense Analyses

NTSA

RADM James Robb, USN (ret), President, NTSA

Linda Brent, Ph.D., CEO ASTA Group, NTSA Congressional Liaison

Patrick Rowe, Director of Membership Services, NTSA

NM&SC Charter

An unincorporated, voluntary non-profit coalition sponsored by & composed of professional societies and government, industrial, & educational organizations having a common interest in the purpose to be served by the Coalition as set forth in its Charter:

- Serve the needs of all components of the M&S community of practice in order to expand the use of M&S and to recognize it as a profession, as an industry, and in the marketplace
- Establish and maintain a forum for dialog across industry, government, academia and professional societies
- Provide a central channel of communication in order to simplify, expedite, and improve national consideration of the many policies, regulations, problems, opportunities and questions of broad application involved in the M&S enterprise

Vision

... to be the capstone organization to promote, expand, and sustain Modeling and Simulation (M&S) as a profession, discipline, and practice to better the human condition and to strengthen the National well-being

Mission

to create a unified national community of individuals and organizations around the M&S discipline and professional practice and to be the principal advocate for M&S.

Purpose

- Serve the needs of all components of the M&S community of practice in order to expand the use of M&S and to recognize it as a profession, as an industry, and in the marketplace
- Establish and maintain a forum for dialog across industry, government, academia, and professional societies
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Continuing Activity

- *To represent and speak for the interests of its members in all matters of policy and procedure affecting the M&S collective*
- *To initiate constructive concepts, policies, and procedures dedicated to the improvement of cross-discipline and cross-organizational relationships*
- *To minimize unnecessary duplication of effort among its member associations, and to foster consistency in communications regarding common issues and policies*

Congressional Liaison

In the 115th Congress, the Congressional Modeling and Simulation Caucus again serves as a group of Members dedicated to highlighting how modeling and simulation technology can be used in the public and private sectors to solve critical problems. Its leadership is comprised of four Co-Chairs:

- Robert C. “Bobby” Scott (D, VA, 3rd Dist.)
- Stephanie Murphy (D, FL, 7th)
- John Rutherford (R, FL, 4th)
- Scott Taylor (R, VA, 2nd)

It is the intent of NM&SC to support the Caucus to the maximum extent possible

House Resolution 487

- In past years the Caucus has supported various legislative initiatives to promote the use of M&S, and in 2007 formally recognized M&S in H.R 487:

“Recognizing the contribution of modeling and simulation technology to the security and prosperity of the United States, and recognizing modeling and simulation as a National Critical Technology”.

The text of this Resolution can be accessed at the following link:

<https://www.congress.gov/bill/110th-congress/house-resolution/487/text>

Among the explicit purposes and objectives of NM&SC, two address NM&SC support of the intent expressed in H.R. 487, with specific intention to be available to Congress as requested:

- To receive requests from governmental agencies for information, evaluation, or opinion regarding M&S policies and procedures affecting the Government-industry relationship, and to facilitate and coordinate Coalition replies thereto.
- To cooperate with and, upon request, assist any Government or otherwise instituted modeling and simulation advisory committee concerned with the policies and regulations affecting the modeling and simulation community.

Established by Memorandum of Agreement:

- Alabama Modeling & Simulation Council (AMSC)
- Association for Computing Machinery, Special Interest Group in Simulation and Modeling (ACM-SIGSIM)
- Simulation Interoperability Standards Organization (SISO)
- Society for Modeling and Simulation Intl. (SCS)



**Simulation Interoperability
Standards Organization**
"Simulation Interoperability & Reuse through Standards"

Specific Activities

- Common M&S Research Agenda
 - Jan 2016 Workshop, sponsored by:
 - National Science Foundation
 - National Aeronautics and Space Administration
 - Air Force Office of Scientific Research
 - National Modeling & Simulation Coalition
 - National Training & Simulation Association
 - 2016, 2017 Special Events at I/ITSEC
- Education Campaigns, Industry & Congress
- Events
 - NM&SC National Meetings
 - 25-26 September, 2017, Dearborn, MI
 - 24 -26 September, 2018, Omaha, NE
 - NTSA sponsored “M&S Expo on the Hill”
tentative date: July, 2018, Rayburn HOB
- Advocacy for, and lead proponent for, creation of M&S industry codes within the North American Industrial Classification System (NAICS)



One View of Research Needs

Modeling and Simulation in the Age of Data: Key research areas in modelling and simulation for Big Data applications include:

- Network architectures to support Big Data analytics
- Big Data visualization techniques
- Big Data storage and management in the cloud
- Security and trust in Big Data management
- Energy-awareness in Big Data management
- High-performance computing models
- Big Data middleware
- Data-intensive applications
- Data Mining

From panel presentation, 27 April 2017, at MODSIM World conference
“Defending the Infrastructure w/ Modeling, Simulation, and Training”

Slide courtesy of
Dr. Misty Blowers, Senior Fellow
VP Cybersecurity Research
Misty.Blowers@ICF.com



NAICS status

2015 recommendation for new NAICS codes for Modeling & Simulation:

- Manufacturing Sector (Products)
- Professional, Scientific and Technical Services Sector

Economic Classification Policy Committee (ECPC) response: ‘no changes ‘

However, response comments included these statements:

“the ECPC acknowledges the support for the creation of a new industry”

“... the occupation is growing, and specialized training and education are clearly present.”

“Professional standards have been developed and are being more widely applied.”

The full text of the ECPC’s response can be found at:

<http://www.census.gov/eos/www/naics/fr2015/responses/responses.html>

Scroll down to 17-0049 (“Various – Modeling & Simulation”)

A partial listing

- M&S Body of Knowledge
- SimSummit Archives
- SimSummit Survey on US DoD M&S Management / Leadership

2018 National Meeting

24 - 26 September, 2018

**iEXCEL at the University of Nebraska Medical Center (UNMC)
Omaha, Nebraska**



The Healthcare landscape across America is changing.



Innovation, particularly in Modeling, Simulation, and Visualization, is driving improvements in how healthcare is taught and delivered.

Join us to explore

Healthcare Modeling, Simulation & Visualization (MS&V) in the 21st Century

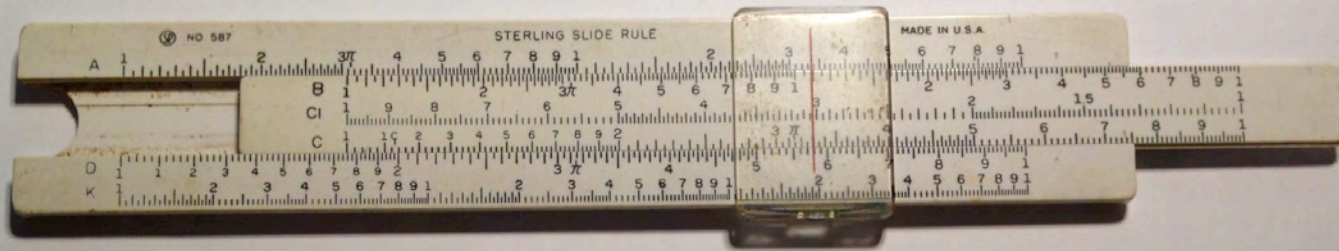
- ⌘ How are Modeling, Simulation, and Visualization (MS&V) technologies impacting healthcare training and professional certifications?
- ⌘ How are recent and significant advances in 3D visualization and concepts of simulation immersion affecting healthcare clinical and nursing practice?
- ⌘ What impacts are MS&V technologies, methods, and processes having on delivery of healthcare?
- ⌘ How are educational and skills training programs changing to better provide experience and skilled healthcare providers?

2018 National Meeting Agenda Topics

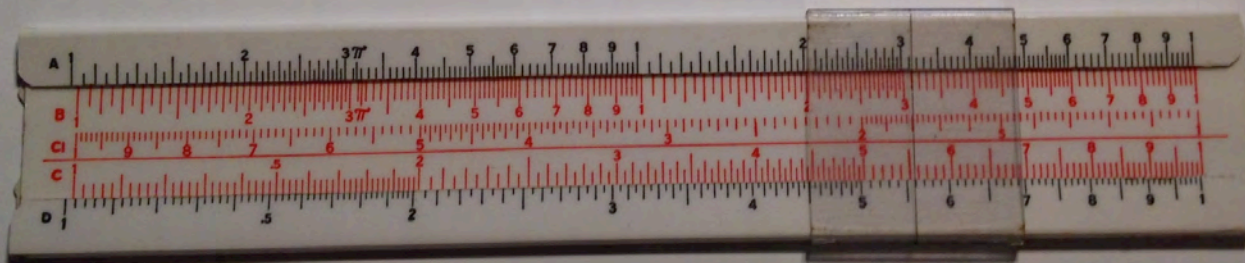
- **Industry Perspectives:** Changing the ways Modeling, Simulation, & Visualization are applied in healthcare education and practice
- **Computer Generated Imagery/3D/Augmented and Virtual Reality:** Technology applications for healthcare and use of computer gaming industry technologies
- **Professional Development:** M&S-focused curricula and credentialing programs supporting Healthcare Industry Needs
- **Healthcare Simulation:** Harnessing MS&V technologies for the benefit of the healthcare industry

Agenda & registration details will be posted, Spring 2018, on the web: www.thenmsc.org

Questions?



We have come a long way since these were the Nation's most useful science, engineering, and mathematics tools.



And there is yet much work to be done