**SYMPOSIUM**

**VERIFICATION, VALIDATION, AND UNCERTAINTY QUANTIFICATION**

**PEW DC Conference Center**

**901 E St., NW**

**The Americas Room, 2nd Floor**

**Washington, D.C. 20004**

**March 28, 2012**

8:00    Working Breakfast (30 minutes)

8:30    Welcome; goals of the symposium

 *David Levermore, University of Maryland*

*Chair, National Academies’ Board on Mathematical Sciences and Their Applications*

*Introduced by Tinsley Oden, University of Texas at Austin*

(15 minutes)

8:45 Overview of the new Academies’ report

This talk will cover the key findings and recommendations, leaving the details to future presentations.

*David Higdon, Los Alamos National Laboratory*

(45 minutes)

9:30 How will NNSA use this report?

 *Thuc Hoang, NNSA*

(10 minutes)

9:40 How this report will influence nuclear energy modeling and simulation

 *Alex Larzelere, DOE*

(10 minutes)

9:50 Break (10 minutes)

10:00 Report’s examination of common concepts, terms, approaches, tools, and best practices of verification, validation, and uncertainty quantification (VVUQ)

 *Marv Adams, Texas A&M*

 (45 minutes)

10:45 Outside response of common concepts, terms, approaches, tools, and best practices of VVUQ

 *Bob Moser, University of Texas at Austin*

(30 minutes)

11:15 Questions and discussion regarding common concepts, terms, approaches, tools, and best practices of VVUQ

 (15 minutes)

11:30 Report’s examination of educational changes needed in the mathematical sciences community and mathematical sciences education needed by other scientific communities to most effectively use VVUQ

 *Wei Chen, Northwestern University*

 (30 minutes)

12:00 Working Lunch (1 hour)

1:00 Parametric Manifold Models for Validation; Verification for Parametric Manifold Models

*Tony Patera, Massachusetts Institute of Technology*

 (30 minutes)

1:30 VVUQ efforts in data-intensive computing

*Lee Jameson, National Science Foundation*

 (30 minutes)

2:00 Need for solid mathematical foundation for risk-based verification, validation, and accreditation (VV&A)

*James Elele, Naval Air Systems Command*

(30 minutes)

2:30 Break (15 minutes)

2:45 Report summary on the mathematical sciences research needed to establish a foundation for building a science of V&V and for improving the practice of VVUQ.

 *Omar Ghattas, University of Texas at Austin*

 (30 mins)

3:15 Panel discussion: What are the open challenges in VVUQ? What does the status of the field look like from different perspectives?

 *Jay Boris, Naval Research Laboratory*

 *Bob Moser, University of Texas at Austin*

 *Habib Najm, Sandia National Laboratory*

(1 hour)

4:15 Questions for the panel

 (30 minutes)

4:45 Closing

 *Tinsley Oden, University of Texas at Austin*

(15 minutes)

5:00 Adjourn