

15th Annual Conference on Systems Engineering Research (CSER)

March 23 - 25, 2017, Crowne Plaza Hotel, Redondo Beach, CA

Disciplinary Convergence: Implications for Systems Engineering Research

Conference General Co-Chairs, USC



Prof. Azad M. Madni
Systems Architecting
and Engineering



Prof. Barry Boehm
Systems and Software
Engineering

Technical Program Co-Chairs, USC



Prof. Roger Ghanem
Mechanical
Engineering



Prof. Daniel Erwin
Aeronautical
Engineering

Research Paper Topics

- Formal Methods in Systems Engineering
- Resilience and Affordability
- Model Based Systems Engineering
- Systems and SoS Integration
- System Architecture and Complexity
- Trade-space Visualization and Analysis
- Cognitive Systems Engineering
- Cyber Secure Resilient Systems
- Lean and Agile Systems Engineering
- Cyber-Physical Systems and Internet of Things
- Systems Thinking and Complexity Management
- Infusion of System Science in SE
- Uncertainty Quantification
- Smart Manufacturing
- Advancing Systems Engineering Education
- Systems Engineering and Decision Science
- Wireless Health

Application Areas

- Autonomous Vehicle Networks
- Defense Systems and System-of-Systems
- Space and Aerospace Systems
- Financial Systems
- Global Supply Chains
- Healthcare Delivery
- Homeland Security
- Smart Manufacturing
- Medical Devices
- Sustainable Energy
- Transportation Systems
- Urban Systems and Infrastructure

Venue

- Crowne Plaza Hotel
300 N Harbor Dr, Redondo Beach, CA 90277

Conference on Systems Engineering Research (CSER) offers researchers in academia, industry, and government a common forum to present, discuss, and influence systems engineering research. It provides access to forward-looking research from across the globe, by renowned academicians as well as perspectives from senior industry and government representatives. Co-founded by University of Southern California and Stevens Institute of Technology in 2003, CSER has become the preeminent event for researchers in systems engineering across the globe

Important Deadlines

- **October 2, 2016:** Full papers due
- **December 15, 2016:** Notification to authors
- **February 1, 2017:** Final Conference Papers due
- Paper Length: Maximum 10 pages
- To Submit a paper and download the paper template visit: viterbi.usc.edu/sae/cser2017.htm

Conference Website
www.CSER2017.com

Conference Co-Managers



Mr. Terry Rector
The Aerospace Corp.



Ms. Marilee Wheaton
The Aerospace Corp.

Disciplinary Convergence: Implications for Systems Engineering Research

Keynote Speakers



Dr. Yannis Yortsos
Dean, Engineering
University of
Southern California



Dr. Paul Nielsen
Director and CEO
Software Engineering
Institute



Dr. Greg Hyslop
CTO and SVP., Engineering,
Test and Technology
The Boeing Company



Ms. Kristen Baldwin
Acting DASD,
Systems Engineering,
OSD



Dr. John Doyle
Professor
California Institute
of Technology

Banquet Speaker



Dr. John Slaughter
Professor
University of
Southern California

"Convergence...integrates knowledge, tools and ways of thinking from life and health sciences, physical, mathematical, and computational sciences, engineering disciplines and beyond to form a comprehensive synthetic framework for tackling scientific and societal challenges that exist at the interfaces of multiple fields" - National Research Council Report (2014)

*"...The central idea of **disciplinary convergence** is that of bringing together concepts, thinking, and approaches from diverse disciplines in conjunction with technologies to solve complex problems ... Systems engineering research today is beginning to exploit disciplinary convergence to address problems that appear intractable when viewed through the lens of a single discipline." -Azad M. Madni "Transdisciplinary Systems Engineering: Exploiting Convergence in a Hyper-Connected World" (Springer, 2017)*

Executive Leadership Panel

- **Dr. Elliot Axelband (moderator)**
Senior Engineer
RAND Corporation
- **Dr. Allen Adler**
V.P. Enterprise Technology Strategy
The Boeing Company
- **Dr. Wayne Goodman**
Senior V.P. Operations and Support Group
The Aerospace Corporation
- **Lieutenant General (Ret) Larry James**
Deputy Director
Jet Propulsion Lab, NASA
- **Dr. Sandra Magnus**
NASA Astronaut
Executive Director, AIAA
- **Mr. Marcus Nance**
Director, BDS Competitiveness & Integration
The Boeing Company

Systems Engineering Leadership Panel

- **Mr. Scott Lucero (moderator)**
Deputy Director, Strategic Initiatives
Office of the Secretary of Defense
- **Ms. Christi Gau Pagnanelli**
Director, Systems Engineering
The Boeing Company
- **Mr. Paul Gill**
Senior Manager
Aerojet Rocketdyne
- **Dr. Jairus Hihn**
Principal Systems Engineer
Jet Propulsion Lab
- **Ms. Rosalind Lewis**
Principal Director
The Aerospace Corporation