

SMASIS Conference Synopsis

Adaptive Structures and Materials Systems by definition are intelligent, flexible systems that have sentience and responsiveness to ever changing environments. The field has rapidly matured due to synergistic interdisciplinary efforts across sectors of universities, government and industry. To continue the high impact growth of this field and lead it into the future, the purpose of this conference is to assemble world experts across engineering and scientific disciplines (mechanical, aerospace, electrical, materials, and civil engineering, biology, physics chemistry, etc) to actively discuss the latest breakthroughs in smart materials, the cutting edge in adaptive structure applications and the recent advances in both new device technologies and basic engineering research exploration. The conference is divided into six symposia broadly ranging from basic research to applied technological design and development to industrial and governmental integrated system and application demonstrations.

Schedule

March 19, 2010: 400 word abstract due
April 26, 2010: Authors informed of abstract acceptance
June 11, 2010: Copyright form due
June 11, 2010: Final full-length paper due

Full paper will appear in an archival ASME Conference Proceedings. Selected papers will be published in archival Journals.

Participation

Authors should submit a 400 word abstract to the conference web site www.asmeconferences.org/SMASIS10. Questions can be directed to:

Diann Brei, General Chair
dibrei@umich.edu

Mary Frecker, Technical Chair
mxf36@psu.edu

Executive Committee

Dan Inman, Jay Kudva, Greg Carman, Kon-Well Wang, Ephraim Garcia, Dimitris Lagoudas, Nancy Johnson, Alison Flatau, Anna McGowan, Roger Ohayon, Janet Sater, Inderjit Chopra

Call for Papers

ASME Conference on SMART MATERIALS, ADAPTIVE STRUCTURES AND INTELLIGENT SYSTEMS

September 28 - October 1, 2010
Philadelphia, PA, USA

Sponsored by the Adaptive Structures & Materials Systems Technical Committee, Aerospace Division
Participating society: AIAA Technical Committee on Adaptive Structures

The conference is divided into six symposia broadly ranging from basic research to applied technological design and development to industrial and governmental integrated system and application demonstrations. The six symposia specifically are:

Multifunctional Materials: *focuses on the development of materials (polymers, oxide single crystals and ceramics, metals, multiferroics, new materials systems)*

Chair: Pavel Chaplya, Sandia National Labs

Co-Chair: Zoubeida Ounaies, Texas A&M

Topical areas: Material formulations, evaluation, synthesis, and processing; multifunctional composites and hybrid materials; bio-inspired and nanocomposites; self-healing materials; novel triggering approaches, including optical, chemical, electrical, and mechanical; material property enhancement; interface and interaction science.

Active Materials, Mechanics and Behavior: *focuses on characterization and mechanics based modeling of field coupled materials*

Chair: Stefan Seelecke, North Carolina State

Co-Chair: Marc Kamlah, FZ Karlsruhe

Topical areas: Advanced constitutive measurements, micro- and nano-mechanics of actuator & sensor materials, phase field modeling, multi-scale and multi-physics material models, finite element implementations, reliability issues: aging, fatigue, and fracture, materials for energy storage

Modeling, Simulation and Control: *focuses on the dynamic modeling, simulation, and control aspects of smart material systems and structures*

Chair: Mohammad Elahinia, Univ. of Toledo

Co-Chair: Chris Rahn, Penn State

Topical areas: Micro and macro level modeling, vibration and acoustic control, passive/semi-active/active damping and stiffness variation, actuation and motion control, intelligent and adaptive control, nonlinear control, hysteresis control, modeling simulation and control of micro/nano systems, nonlinear dynamics, and nonlinear vibration

Enabling Technologies and Integrated System Design: *focuses on the design processes and development of smart devices, active technologies and intelligent systems*

Chair: Nancy Johnson, GM R&D

Co-Chair: Norman Wereley, Univ. of Maryland

Topical areas: Sensors and actuators, power and control electronics, smart devices and technologies, compliant mechanism design, adaptive / intelligent /integrated systems design, smart structures design processes and tools, Industrial and Government smart products and system applications, smart electronics and devices, MEMS

Structural Health Monitoring / NDE: *focuses on the application of distributed sensor networks to damage detection*

Chair: Andrei Zagari, New Mexico Tech

Co-Chairs: Oliver Meyers, Mississippi State
Ken Loh, UC Davis

Topical areas: Damage identification & mitigation, sensor networks, data fusion, data mining and management, damage diagnostic and prognostic modeling software, system integration, and applications.

Bio-Inspired Smart Materials and Structures: *focuses on application of biological understanding to inspire novel biomimetic smart materials, devices and structures*

Chair: Lisa Weiland, University of Pittsburgh

Co-Chair: Mike Philen, VirginiaTech

Topical areas: Modeling of biological systems, understanding physical phenomena in biological systems, biomimetic and bio-inspired devices, machines and robotics, utilizing biological systems, smart prosthetic systems and intelligent implant materials and structures

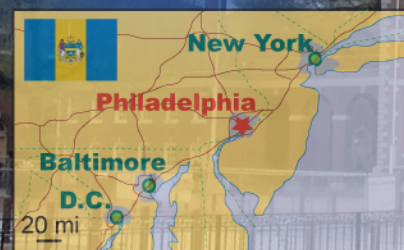


Image courtesy of Dan Smith

