

# Center of Excellence in Structural Health Monitoring

Fall Meeting  
7-8 November 2007

The Penn Stater Conference Center Hotel  
State College, Pennsylvania



## Keynote Speakers

**Dr. James L. Blackshire** is a research scientist in the Nondestructive Evaluation Branch, Materials and Manufacturing Directorate of the Air Force Research Laboratory. He has a broad background in nondestructive evaluation and structural health monitoring methods with particular expertise in piezoelectric sensors, elastic wave propagation, laser-based methods, and terahertz NDE. He is currently the research lead for structural health monitoring in aircraft structures within his group, where his research involves developing and evaluating innovative piezoelectric sensing systems for material state awareness in aerospace structures. He has more than 100 technical publications and is an active member in SPIE, IEEE, and ASNT. His work has resulted in numerous awards including the "Charles J. Cleary Scientific Achievement Award" in 2003, the AFRL Basic Research Award in 2005, and runner-up for the John L. McClucas award in 2005, which is given annually to the top AFRL scientist.

**Mr. K. Elliott Cramer** is a senior Research Scientist in the Nondestructive Evaluation Sciences Branch at NASA's Langley Research Center. During his tenure at NASA Mr. Cramer's research activities have focused on the development of nondestructive evaluation techniques for the inspection of advanced materials and structures. In 1994, Mr. Cramer received an R&D100 award for his contributions to the development of full-field thermoelastic stress imaging now commercially available as the DeltaTherm 1000 from Stress Photonics, Inc. As part of NASA's Return to Flight activities following the Space Shuttle Columbia Accident Mr. Cramer coordinated the development of the thermographic inspection system for reinforced carbon-carbon materials currently in use at the Kennedy Space Center. In 2007 Mr. Cramer was awarded The NASA Exceptional Engineering Achievement Medal. Mr. Cramer currently serves as the Associate Principle Investigator for the Aircraft Aging and Durability Project.

**Purpose of Meeting:** 1) introduce new Center members, 2) showcase ongoing projects at Penn State, 3) foster relationships, 4) give attendees an opportunity to learn about the state of the art, recent breakthroughs, future directions, and technology needs for SHM

**Center Mission:** Advance the state-of-the-art in SHM to improve public safety, reduce maintenance costs, improve readiness, and foster a paradigm shift in design by leveraging and fostering collaborative R&D efforts between academia, industry, and government entities. Provide a means for transferring technology to member companies, agencies, and institutions.

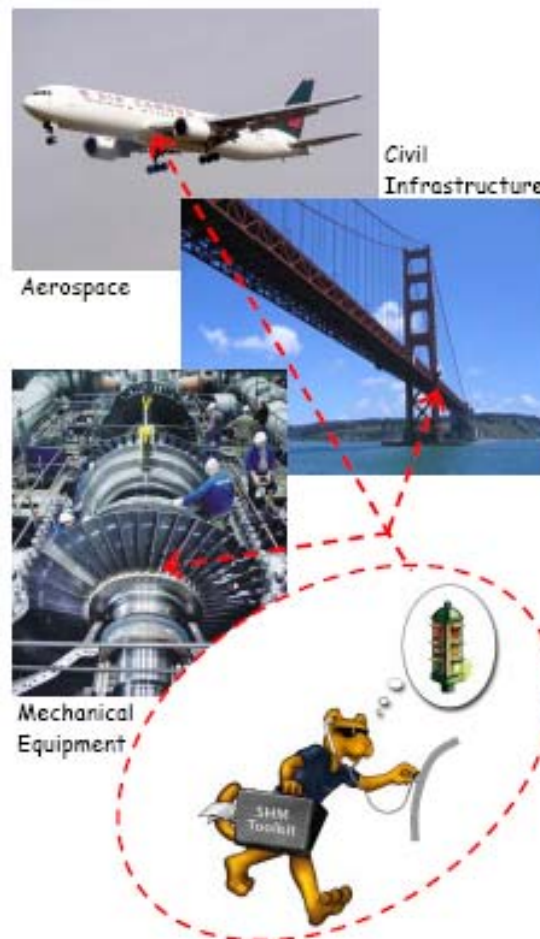


Center of Excellence in Structural Health Monitoring Inaugural Meeting  
Penn Stater Conference Center, University Park, PA  
Wednesday, 7 November 2007

8:00	Registration (Location: Presidents Hall 3)
8:30	<b>Welcome</b> , <i>Judith Todd</i> , P.B. Breneman Department Head, Penn State Engng Sci & Mech
8:40	<b>Ben Franklin CoE SHM Introduction Part 1</b> , <i>Cliff Lissenden</i> , Director, Ben Franklin CoE SHM, Penn State Engng Sci & Mech
9:00	<b>KEYNOTE: SHM: A Material State Awareness Perspective</b> , <i>James Blackshire</i> , Air Force Research Laboratory, Materials and Manufacturing Directorate, NDE Branch
9:35	<b>Ultrasonic Guided Wave Potential in SHM</b> , <i>Joseph Rose</i> , Penn State, Engineering Science and Mechanics
10:00	<b>SHM on the USAF C-130 Aircraft</b> , <i>Karl Reichard and Jeff Banks</i> , Penn State, Applied Research Lab
10:25	Break
10:40	<b>Structural Health Monitoring Activities and Needs for Sikorsky Products</b> , <i>James Cycon</i> , Sikorsky
11:05	<b>Tools for Structural Health Monitoring and Assessment</b> , <i>Richard Gostautas</i> , Physical Acoustics Corporation
11:30	<b>Structural Monitoring and Evaluation of Bridges and Buildings</b> , <i>Danielle Kleinhans and Thomas Weinmann</i> , CTLGroup
11:55	Lunch (Location: Senate 23)
1:00	Poster Displays and Exhibits (Location: Senate 23)
1:55	<b>Afternoon Introduction</b> , <i>Edward Smith</i>
2:00	<b>SHM of Communication Components of a Satellite</b> , <i>Kamyar Nikpour</i> , Boeing Space & Intelligence Systems, Structural Mechanics
2:25	<b>Wireless Ultrasonic Sensor Network for SHM</b> , <i>George Zhao</i> , Intelligent Automation, Inc.
2:50	<b>Breakout Group Discussion</b>
3:30	Break
3:50	<b>Breakout Group Presentations</b>
4:10	<b>Ultrasonic Sensors for Structural Health Monitoring</b> , <i>Bernhard Tittmann</i> , Penn State, Engineering Science and Mechanics
4:35	<b>SHM of Composite Laminates with Guided Waves</b> , <i>Cliff Lissenden</i> , Penn State, Engineering Science and Mechanics
5:00	Adjourn
5:30	Reception with Poster Displays and Exhibits (Location: Senate 23)
6:30	Dinner (Location: Senate 23)

Center of Excellence in Structural Health Monitoring Inaugural Meeting  
 Penn Stater Conference Center, University Park, PA  
 Thursday, 8 November 2007

8:00	Registration (Location: Presidents Hall 3)
8:30	<b>Ben Franklin CoE SHM Introduction Part 2</b> , <i>Cliff Lissenden</i> , Director, Ben Franklin CoE SHM, Penn State Engng Sci & Mech
9:00	<b>KEYNOTE: Results of On-Orbit Testing of an Extra-Vehicular Infrared Camera Inspection System</b> , <i>Elliott Cramer</i> , NASA Langley Research Center, Nondestructive Evaluation Sciences Branch
9:35	<b>Ultrasonic Guided Wave Tomographic Applications in Structural Health Monitoring</b> , <i>Steven Owens</i> , FBS Inc.
10:00	<b>Infrastructure Health Monitoring Activities</b> , <i>Daniel Linzell</i> , Penn State, Civil Engineering
10:25	Break
10:45	PTI Laboratory Tour
1:00	Advisory Board Meeting (Location: Presidents Hall 3)



## Registration Form

**Register me for the Ben Franklin Center of Excellence in Structural Health Monitoring Fall Meeting, November 7-8, 2007, at the Penn Stater Conference Center. [Registration forms will be accepted by e-mail, mail, or fax through Wednesday, October 24<sup>th</sup>. Payment can be made at the meeting.]**

Name

Company

Address

City

State/Province

Country

Telephone

Fax Number

E Mail

Make checks payable to *The Pennsylvania State University*, in the amount of \$90

*Fax or mail completed registration form by October 24<sup>th</sup> 2007 to:*

Cliff Lissenden—Director  
Ben Franklin Center of Excellence  
in Structural Health Monitoring  
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**Accommodations available at:**

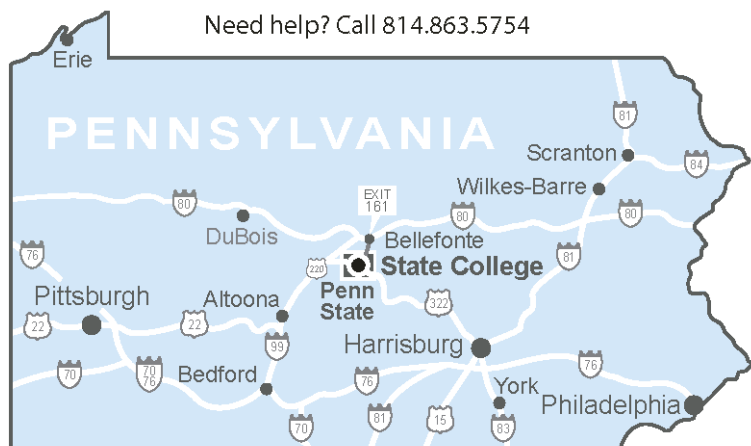
**The Penn Stater** 800.233.7505

Res. code: BEN1106

\$105 single occupancy

\$115 double occupancy

## Map & Directions



### Ben Franklin Center of Excellence in Structural Health Monitoring

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