

Registration ~

Company and industry attendees (non-ICAT members) who are invited to attend this symposium are considered guest members and are charged a registration fee of **\$200 USD**. These persons may attend a maximum of two ICAT meetings before being required to join the ICAT Consortium.

While ICAT Company Members are not charged a registration fee, the maximum number of participants from each company permitted to register at no cost is two; additional attendees will be required to pay the \$200 USD registration fee.

All attendees must pre-register for the tutorial using the attached *Registration Form*.

Lodging ~

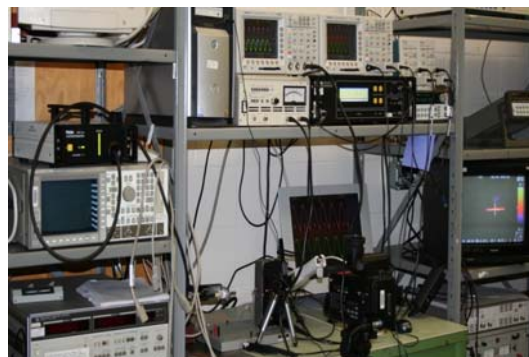
Lodging is available at The Penn Stater Conference Hotel or the Nittany Lion Inn. Hotel reservations may be made by phone, fax, or internet.

The hotel provides complimentary airport shuttle service between the hours of 8:00 a.m. and 10:00 p.m.; outside of these hours, taxi/shuttle services are available for a fee.

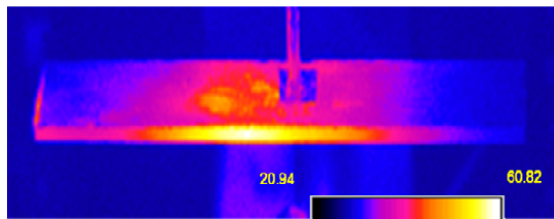
Please refer to the *Lodging Information* page for more hotel details.

Questions concerning registration and lodging should be directed to the ICAT Coordinator as follows :

Ms. Susie Sherlock
Phone: 814-865-3225
FAX: 814-863-6734
Email: icat@psu.edu



High-Power Piezoelectric Characterization System (HiPoCS) at ICAT, Penn State University, which can conduct under (1) constant voltage, (2) constant current, (3) constant power, and (4) constant vibration velocity, simultaneously with all thermal profiles.



Temperature distribution in a PZT rectangular plate under the first resonance mode.

ICAT International Center for
Actuators and Transducers

54th ICAT Smart Actuators One-Day Tutorial

*High Power Piezoelectric
Characterization Methods*

*April 10th, 2009
(Friday)*

*Organized By:
International Center for
Actuators and Transducers
(ICAT)*

Tutorial Location:

*Room 189, Materials Research Lab Bldg
Hastings Rd, University Park, PA 16802
USA*

Lodging: (suggested only)

*The Penn Stater Conference Hotel
215 Innovation Boulevard
State College, PA 16803
(814) 863-5000 (Local)
(800) 233-7505 (Toll-free Reservations)
(814) 865-8501 (Fax)
<http://www.pshs.psu.edu>*

PENNSTATE



About the Tutorial ~

International Center for Actuators and Transducers (ICAT) at The Pennsylvania State University will present a one-day tutorial course on “**High Power Piezoelectric Characterization Methods**” on April 10th (Friday), 2009. This course was requested by the ICAT Member companies, and is designed to provide all necessary key points, including the principle how to measure the piezoelectric-related losses, set-up of the characterization system, and practical demonstrations.

You are cordially invited to this one-day tutorial to learn how to characterize the high-power piezoelectric materials, and integrate these data into computer simulation.

Questions on this tutorial and its content may be directed to the ICAT Director:

Dr. Kenji Uchino
Phone: 814-863-8035
FAX: 814-865-2326
Email: kenjiuchino@psu.edu

Lecture contents ~

A “Handout/Manual” will be distributed in the course. References: “Micromechatronics,” K. Uchino and J.R. Giniewicz; CRC/Dekker, New York (April 2003). “Ferroelectric Devices,” K. Uchino, CRC/Dekker, New York (2000). To order the books from Micromechatronics Inc., access www.mmech.com, and receive the 20% discounted rate.

Preliminary Agenda

Friday, April 10 th (Morning)
8:15 – 8:30
<ul style="list-style-type: none">• <i>Morning Refreshments</i>• On-site Registration• Materials Research Lab Bldg (Hastings Rd) – Room 189
8:30 – 10:15
<ul style="list-style-type: none">• <i>Loss Mechanisms in Piezoelectrics</i> By Kenji Uchino (Penn State Univ)
10:15 – 10:30
<ul style="list-style-type: none">• Refreshment Break
10:30 – 12:00
<ul style="list-style-type: none">• <i>Three Characterization Methods: (1) Pseudo-DC, (2) Pulse Drive, and (3) Resonance Drive</i> By Kenji Uchino (Penn State Univ)
12:00 – 1:00
<ul style="list-style-type: none">• Lunch

Please note...

*Course registration deadline:
Friday, March 27, 2009*

Preliminary Agenda

Friday, April 10 th (Afternoon)
1:00 – 1:45
<ul style="list-style-type: none">• HiPoCS Version II <i>Explanation</i> – Room 189 By Seyit Ural (Penn State Univ)
1:45 – 2:30
<ul style="list-style-type: none">• HiPoCS Version II <i>Demonstration</i> – Room 138 By Seyit Ural (Penn State Univ)
2:45 – 3:00
<ul style="list-style-type: none">• Refreshment Break
3:00 – 4:30
Q & A
<ul style="list-style-type: none">• High Power Characterization• Efficiency, Drive Methods• Others By Kenji Uchino (Penn State Univ)

ICAT Website:

<http://www.psu.edu/dept/ICAT>