



2009 IEEE International Ultrasonics Symposium

Short Courses & Tutorials

September 20-23, 2009



Celebrating 125 Years
of Engineering the Future

Ergife Palace Hotel, Roma, Italy

Sponsored by the IEEE Ultrasonics, Ferroelectrics, & Frequency Control Society

Final Call for Papers

Abstract Deadline: May 3, 2009



We are pleased to welcome you to the 2009 IEEE International Ultrasonics Symposium, which will be held in Roma, Italy, from September 20 to 23 at the Ergife Palace Hotel.

We are sure that you will enjoy your visit to Roma, which is rightly known as one of the most beautiful and interesting cities in the world. It is the city of the Caesars with majestic monuments from the golden days of the ancient Roman Empire. But it is also the center of the catholic world, with an endless number of grand, beautiful cathedrals and churches. But Roma is so much more than an open-air museum; everywhere you find great restaurants with superb food and wine, lovely bars and cafés, excellent shopping, and vibrant night life.

We look forward to meeting you in Roma.

Papers are solicited for this conference describing original work in the field of ultrasonics. Poster and oral presentation formats will be used at the symposium. Prospective authors should note that poster sessions provide an alternative format which allows for greater flexibility and expanded audience interaction. The deadline for submission of abstracts is May 3, 2009. The abstracts should be submitted in electronic form according to the specific information posted on the conference web page. Additional conference information can be found at the Symposium web site: http://ewh.ieee.org/conf/ius_2009/. Each abstract will receive careful review and evaluation by the Symposium Technical Program Committee. Evaluation criteria will include originality of the work, contribution to the state-of-the-art, and overall interest to the ultrasonics community. Papers are solicited from the following subject classifications:

Group 1: Medical Ultrasonics

MBB Medical Beamforming and Beam Steering
MBE Biological Effects & Dosimetry
MBF Blood Flow Measurement
MCA Contrast Agents
MEL Elastography
MIM Medical Imaging
MPA Medical Photoacoustics
MSD System & Device Design
MSP Medical Signal Processing
MTC Medical Tissue Characterization
MTH Therapeutics, Hyperthermia, and Surgery

Group 2: Sensors, NDE & Industrial Applications

NAM Acoustic Microscopy
NAI Acoustic Imaging
NAS Acoustic Sensors
NDE General NDE Methods
NFM Flow Measurement
NMC Material & Defect Characterization
NSP Signal Processing
NTD Transducers: NDE and Industrial
NWP Wave Propagation
NEH Energy Harvesting

Group 3: Physical Acoustics

PBW Bulk Wave Effects & Devices
PGP General Physical Acoustics
PLP Physical Acoustics Laser Interactions
PMI Magnetic/Electromagnetic Interactions
POI Optical Interactions
PPN Phononic Crystals & Devices
PUM Ultrasonic Motors & Actuators
PTF Thin Films

Group 4: Microacoustics – SAW, FBAR, MEMS

ADA Device Applications
ADD Device Design
ADM Device Modeling
AMP Materials & Propagation

Group 5: Transducers & Transducer Materials

TMC Materials Characterization and Fabrication
TPF Ultrasonic Applications of Piezoelectrics & Ferroelectrics
TMI Medical Imaging Transducers
TMO Modeling (Analytical & Numerical)
TMU Micromachined Ultrasound Transducers
TTT Medical Therapeutic Transducers
TFT Thick Film Piezo-Technology

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All roads lead to Rome ...

Student Travel Support: Limited funds are available to support *IEEE UFFC student member attendees* at the 2009 symposium. Awards will be given on a competitive basis. Please see the conference website for details.

Student Paper Competition: Students submitting abstracts are invited to participate in a student paper competition. To participate, the student must be the lead author and present his/her paper. Further information will be posted on the conference website (http://ewh.ieee.org/conf/ius_2009/)



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Invited Speakers

Group 1 : Medical Ultrasonics

- **Greg Trahey**, "Acoustic Radiation Force Imaging," Department of Biomedical Engineering Duke University, Durham, N.C. US
- **Alexander Klibanov**, "Molecular Imaging using Contrast Ultrasound," Cardiovascular Division, Department of Medicine, University of Virginia
- **Stanislav Emelianov**, "Ultrasound-based imaging of nanoparticles: from molecular and cellular imaging to therapy guidance," Department of Biomedical Engineering, University of Texas at Austin
- **Shin-ichiro Umemura**, "Therapeutic use of microbubbles and their precursors," Department of Information and Intelligent Systems, Graduate School of Biomedical Engineering Tohoku University, Sendai, Japan
- **Melissa J. Suter**, "Optical coherence tomography: recent technical developments and the impact on clinical utility," Massachusetts General Hospital and Harvard Medical School
- **Yoshifumi Saijo**, "Acoustic Microscopy – Beyond High Resolution Imaging," Biomedical Imaging Laboratory, Graduate School of Biomedical Engineering Tohoku University, Sendai, Japan

Group 2: Sensors, NDE & Industrial Applications

- **D. Guyomar**, "Energy conversion improvement in ferroelectrics: application to energy harvesting and self-powered systems," INSA Lyon, Lyon University, Villeurbanne CEDEX France
- **Hans-Juergen Salzburger**, "Electromagnetic Transducers and their Potential for Modern Non-Destructive Evaluation—State of the Art and Latest Applications," Fraunhofer-Institute for Non-Destructive Testing, Saarbruecken, Germany
- **F. Montero de Espinosa**, "Echographic Imaging Plates," Applied Acoustics Institute, Madrid, Spain
- **F. Xavier Ruis**, "Recent advances in carbon nanotubes for application to chemical and biological sensors," University Rovira, Tarragona, Spain

Group 3: Physical Acoustics

- **Minoru Kurosawa**, "Ultrasonic Motors," Tokyo Institute of Technology, Japan
- **Vincent Laude**, "Phononics," Directeur de recherche CNRS, Institut FEMTO-ST, France
- **Kimmo Kokkonen**, "Laser interferometers in physical acoustics," Helsinki University, Finland
- **V.I. Alshits**, "Fundamentals of acoustics—conditions of existence of acoustic waves in crystals with surfaces and interfaces," Institute of Crystallography RAS, Moscow, Russia

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Invited Speakers (Continued)

Group 4 : Microacoustics—SAW, FBAR, MEMS

- **Bernd Neubig**, "Comparison of Quartz and MEMS Resonators and Oscillators," AXTAL CONSULTING
- **Brian Otis**, "The role of high Q bulk acoustic wave resonators in low power IC design," University of Washington
- **Takeo Oita**, "RF MEMS: Focusing on the Next Step," Nihon Dempa Kogyo
- **M. Pitschi**, "High Performance Microwave Acoustic Components for Mobile Radios," EPCOS AG, Univ. of Erlangen-Nuremberg

Group 5: Transducers & Transducer Materials

- **Gordon Hayward**, "Biologically Inspired Ultrasound—its applications in NDE," University of Strathclyde
- **Gerhard Sessler**, "Broadband Ferroelectret Transducers," Darmstadt TU
- **Arne Ronnekleiv**, "CMUTs, achievements and limitations" NTNU, Norway
- **Pengdi Han**, "Growth, Properties and Applications of PMN-PT based Giant-Piezoelectric Crystals," HC Materials, Bolingbrook, Illinois

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