Workshop Sessions Tuesday 13 April

Tuesday morning features two workshops: The Newcomers to Ultrasonics Workshop provides the fundamentals of ultrasonic transducer and acoustic design analysis. This workshop will detail the technical background of acoustic design such as spring / mass systems, equivalent circuit models, series and parallel systems, and basic characterization methods. A transducer design process will be introduced. This process will introduce methods of electrical and mechanical design for ultrasonic transducers. Techniques of finite element analysis using ANSYS will be introduced such as material characterization and setup, static, modal and harmonic analysis, and post processing of electrical and mechanical results. Some advanced topics such as ANSYS generated impedance curves and heat modeling will also be presented.

The Finite Element Methods for Modelling Transducers Workshop will be the first of its kind - a discussion and comparison of some of the commercially-available Finite Element Analysis (FEA) Programs used in modeling Ultrasonic Transducers. A typical transducer type will be analyzed using a range of different programs, and then the experiences of each package will be compared regarding several criteria, such as: ease of use, inputs required, outputs obtained, cost and so on.

The poster session provides opportunity for a broad overview of ultrasonic research and applications. Student posters are accepted and a cash prize will be given for the top poster.

A tour of the PACLAB, Physical Acoustics Laboratory at Boston University is available on Tuesday afternoon.

Register on-line! Go to www.ultrasonics.org
Hotel Reservations: Call 800.SONESTA (U.S. & Canada) or +1.617.806.4200

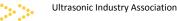


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Latest in Ultrasonic Research and Applications

Powering Sound Ideas...

2010 UIA 39th Annual Symposium



12 - 14 April 2010 Royal Sonesta Hotel Cambridge, MA USA





Technical Sponsor

Industrial Sessions Monday 12 April

7:45-8:15	Registration and Continental Breakfast
8:15-8:30	Welcome by Robert Muratore, President and Leo Klinstein, Co-Chairm
8:30 -9:00	Optimizing Piezelectric Ceramic Thickness in Ultrasonic Transducers, Dominick A. DeAngelis, Gary W. Schulze
9:00 - 9:30	Ultrasonic Cutting of Biodegradable Polylactic Acid (PLA) Films, $Dr.\ David\ Grewell,\ Julius\ Vogel$
9:30-10:00	Determining Bond Quality from VHPUAM Process Parameters, <i>Matt Short</i>
10:00 - 10:45	Refreshment Break in Exhibits
10:45-11:15	UAM Fabrication of Metal-Matrix Smart Material Composites, R. Hahnlen and M. Dapino
11:15-11:45	Ongoing Developments in Ultrasonic Machining, Matt Short
11:45 -1:00	Luncheon
1:00 - 1:15	New Product Award Presentation
1:15 - 2:15	Servo-Driven Ultrasonic Welding of Semi-Cyrstalline Thermoplastics, $Avraham\ Benatar\ and\ He\ Xiping$
2:15-2:45	Protease Inactivation in Milk by Thermosonication and Impact on Milk Characteristics, Sakthi Vijayakumar, David Grewell, Stephanie Jung, Stephanic Clark
2:45-3:15	Efficiency Improvement for Power Ultrasonic Transducer Systems, John Yen Laura Yao, Lihong Cheng
3:15-3:30	Refreshment Break in Exhibits
3:30-4:00	Ultrasonic Brazing Developments, Shankar Srinivasan and Dan Hauser
4:00-4:30	Measurement of the Acoustic Softening Effect in Forming and Joining of Metals, Margaret Lucas, Sa'ardin Aziz
4:30-5:00	Advanced Analysis and Characterization of the UAM, VHP UAM Bonding Process, D. Schick, R. DeHoff, M. Sriram, R. Hahnlen, M. Dapino and S. S. Babu

Medical Sessions Wednesday 14 April

7:30-8:05	Registration / Continental Breakfast
8:00-8:15	Welcome Robert Muratore, President, Dan Cotter, Co-Chairman
8:15 -9:15	Invited Speaker, Robin Cleveland
9:15-9:45	Correlation of Acoustic Pressure with BBB Disruption in a Primate Model, <i>Al Kyle and Matt Lawrence</i>
9:45-10:15	Real-time Monitoring of Tissue Deformation and Targeting during Robotic FUS, $Sunita\ Chauhan$
10:15 - 11:00	Break
11:00-11:30	Realtime acousto-optical QA methods for high intensity fields, Ian Butterworth and Adam Shaw
11:30-12:00	Metrology research for External Beam Cancer Therapy, Dr. Klaus-Vitold Jenderka
12:00 -1:00	Lunch
1:00 - 1:30	High Frequency Transducer Based on Lead Free Piezoceramic Thick Film, Karsten Hansen, Konstantin Astafiev, Rasmus Lou-Mueller, Wanda Wolny
1:30 - 2:00	Propagating Ultrasound Energy Through a Catheter Around Bends, David Constantine, James Sheehan and Jeffrey Vaitekunas
2:00-2:30	The evolution from ultrasonic dental scaling to bone surgery, Andrew Mathieson, Niccolo' Cerisola, Andrea Cardoni
2:30-2:50	Break
2:50-3:20	Multidimensional Analysis of Ultrasonic Surgical System Performance, Mark E. Schafer
3:20-3:50	A Deformable Template Model With Feature Tracking For Automated Ivus Segmentation, <i>Prakash Manandhar and Chi Hau Chen</i>
3:50-4:20	A Novel Ultrasound Method for Estimating Lesion Volume Bahram Jadidian Alan Winder, Robert Muratore