



# Vibrations

News from the Ultrasonic Industry Association

Tom Kirkland, Editor

Fall 2002, Vol. 12, No. 3

## UIA's 32nd Annual Symposium in New York, NY

To All UIA Members and Honored Guests,

As summer winds down and fall comes in, the 32nd Annual UIA Symposium is fast approaching. As in years past, the meeting promises to provide a semi-formal setting where those interested in the application of power ultrasonics to science, medicine, or industry can gather to share ideas, learn of the latest research in the field, network, and, dare we say, catch up on some gossip. The flavor of this year's program will be truly international in scope, with scheduled presenters coming from as far away as Kiev.

A full three-day schedule, to be held on October 21, 22, and 23, has been prepared that touches upon many interesting new findings and developments in ultrasound science and hardware. The first day's schedule includes presentations on the latest scientific and medical applications; the second day offers presentations on acoustics, material processing, and joining technology.

Other lecture topics include a biographical review of the pioneers of ultrasound technology by Dr. Karl Graff of the Edison Welding Institute and a novel new method of ultrasonic transducer characterization.

We will present our annual Proctor & Gamble Award to the winning entrant in our Student Paper Contest. A manufacturer and service provider exhibit gallery will be open during the Symposium as well.

Several of the leading ultrasonic welding companies have joined forces to prepare and present a daylong seminar and workshop on the subject of ultrasonic welding and joining. Attendees are encouraged to bring their applications or parts to the seminar and have industry experts recommend solutions to their joining problems. This ultrasonic welding seminar is scheduled for the third day. The full Symposium schedule is included in this issue of *Vibrations*.

We are pleased to hold this year's Symposium in the "City That Never Sleeps," New York, NY. The pulse, excitement, and energy of the city are as vibrant as ever. Our schedule allows the attendees ample time to sample the many sights and experiences this major world center has to offer. The location for the Symposium is the New York Helmsley Hotel on 42nd Street, right in the middle of the theater and entertainment district.

We certainly hope you will take advantage of this unique opportunity and join us in New York.

Looking forward to seeing you there!!!

Sincerely,

Ronald Manna  
Ronald Staut  
Symposium Co-Chairs

### UIA Sustaining Members

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## Industry Leaders to Present Ultrasonic Plastic Welding Seminar at UIA 32nd Annual Symposium

The Ultrasonic Industry Association is pleased to announce that a special seminar, entitled "Ultrasonic Plastic Welding," will be held on Wednesday, October 23, 2002, at the Helmsley Hotel in New York City. This special seminar will follow the UIA's annual symposium, held on October 21 and 22 at the Helmsley.


Attendees are invited to bring a new or a "problem" plastic part for review as a potential for ultrasonic bonding. Leaders in the ultrasonic plastic welding industry will address questions as well as provide information on basic ultrasonic principles, horn and anvil design, materials selection, joint design for plastic parts, process control, and successful applications.

This seminar provides an ideal opportunity to interact with an industry forum that will include representatives from Edison Welding Institute, Branson Ultrasonics, Dukane Corporation, Sonobond Ultrasonics, and Stapla Ultrasonics.

For registration details, please log on to [www.ultrasonics.org](http://www.ultrasonics.org) or see the registration form for the UIA seminar provided in *Vibrations*, the association's newsletter. The UIA's annual symposium is open to all interested persons, with October 22nd's session most germane to those interested in ultrasonic plastic welding.

Lunch will be provided.

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# UIA Symposium Program

## SUNDAY, OCTOBER 20

1:00 pm – 5:00 pm	Registration Open
1:00 pm – 5:00 pm	Exhibits Set Up
4:00 pm – 5:30 pm	UIA Open Board Meeting

## MONDAY, OCTOBER 21

7:00 am – 6:00 pm	Registration Open
7:00 am	Continental Breakfast
7:30 am – 6:30 pm	Exhibits Open
8:00 am	<b>Opening 32nd Annual Symposium</b> Co-Chairpersons Ronald Manna and Ronald Staut
8:30 am – 12:00 pm	<b>Sonically Enhanced Processing</b> Linda Weavers, Session Chair
12:00 pm	Lunch Procter & Gamble Research Award
1:00 pm – 5:00 pm	<b>Medical and Standards Session</b> Co-Chairpersons Mark Schafer and Ronald Manna
5:00 pm – 6:30 pm	<b>Wine and Cheese Reception</b>

## TUESDAY, OCTOBER 22

7:00 am – 5:00 pm	Registration Open
7:00 am	Continental Breakfast
7:30 am – 5:00 pm	Exhibits Open
8:00 am – 12:00 pm	<b>Industrial Applications Session</b> Janet Devine, Session Chair
12:00 pm	Lunch Annual Membership Meeting
1:00 pm – 5:30 pm	<b>High Power Applications</b> Jeff Frantz, Session Chair
5:30 pm – 7:00 pm	UIA Board Meeting

## WEDNESDAY, OCTOBER 23

7:00 am – 8:00 am	<b>Plastic Welding Seminar Presented by Industry Leaders</b> Late Registration and Continental Breakfast
8:00 am – 12:00 pm	Ultrasonic Plastic Welding Seminar
12:00 pm – 1:00 pm	Buffet Lunch
1:00 pm – 4:00 pm	Ultrasonic Plastic Welding Seminar

\*Program subject to change without notice\*

## UIA PRESENTS UNIQUE ULTRASONIC PLASTIC WELDING SEMINAR

Attend a special seminar presented by representatives of UIA member companies involved in providing ultrasonic plastic welding equipment, tooling, and applications expertise. Each of these companies regularly presents seminars on their own, but this time they have joined forces to present a technical seminar at which you can learn from not just one expert, but a roomful.

Current UIA Vice President, Tom Kirkland, will moderate a program that will include these topics and speakers:

Basic Principles of Ultrasound	Karl Graff, Director, Edison Welding Institute
Acoustic Tooling	Karl Graff
Fixtures	Jeff Frantz, Director of Applications and Tooling, Branson Ultrasonics
Thermoplastic Materials	Tom Kirkland, Business Unit Manager, Dukane Ultrasonics
Part Design Considerations	Jeff Frantz
Process Control	Donald Patten, Applications Lab Manager, Stapla USA
Other Assembly Processes: Staking/Swaging, Inserting, Spotwelding, Degating, Fabric/Film	Janet Devine, President, Sonobond Ultrasonics

One half-hour is reserved for discussion of applications raised by attendees. Attendees are encouraged to bring sample parts for this discussion. The final half-hour is reserved for an open forum in which all presenters will be available to answer any final questions. A seminar outline book will be provided for note-taking, and each presenter will be making educational and sales literature available to all participants.

# UIA Symposium Presentations

## **Sonically Enhanced Processing Session**

- Mechanisms and Factors Influencing the Ultrasonic Cleaning of Particle-Fouled Ceramic Membranes - Linda K. Weavers, Mikko O. Lamminen, and Harold W. Walker.
- Inactivation of Pathogens by Sonochemical Process - C.P. Huang and Sam Myoda.
- Innovative High Drive Piezoelectric Ceramic for Use in High Power Transducers - Jerod Brosch.
- Assessment of the Effectiveness of Ultrasonic Cell Disruption by Acoustic Phenomena as a Function of the Suspension Concentration - Attila Lorincz.
- A Novel Continuous Ultrasonic Processing Unit - Susan Poniowski and John Walicinshaw
- Acoustic Cavitation - Sergei Peshkovsky.
- The Possibilities of Power Ultrasonics for Composite Materials Production - B.N. Mordyuk, G.I. Prokopenko, A.V. Kozlov, and G.V. Kurdyumov.

## **Medical & Standards Session**

- A Novel Suture Welding Device for Fascia Closure: Pre-Clinical Results - Raymond Connolly, Thomas D. Egan, and Steven D. Schwaitzberg.
- Toward a Quantitative Ultrasonic Therapy - Robert Muratore, Frederic L. Lizzi, Jeffrey A. Ketterling, and Gayle Denman.
- A Model for Ultrasonic Surgical Instruments Cutting of Tissue and Surrogates - Jeffrey Vaitekunas.
- Sonoblate 500: A Novel Platform for Transrectal Image-Guided HIFU Treatment of Localized Prostate Cancer - Ralf Seip.
- Comparison of Tensile Properties of Novel Ultrasonically Welded Suture Loops and Traditional Hand-Knotted Braided Suture Loops - Maria Apreleva, Brian Swanson, and John C. Richmond.

## **Industrial Applications Session**

- The Acoustic Performance of Selected Precipitation-Hardened Stainless Steels Under Substantial Dynamic Stress at Ultrasonic Frequencies - Dave Wuchinich.
- Experimental and Computational Modeling of Vibration Performance of Ultrasonic Tools for Manufacturing Applications - Margaret Lucas.
- FEA-Assisted Measurement of Young's Modulus and Poisson's Constant in Stout Horn Blanks - Dave Wuchinich.
- Unconventional Use of Inserts Facilitates Feasible Ultrasonic Application - Tom Kirkland.
- The Ultrasonic Weld Mechanism-State of the Technology - Edgar de Vries and Karl Graff.
- Ultrasonic Drawing of Composite, Superconducting Wire - Karl Graff, Michael Tomsic, and Edward Collins.
- Computerized Complex for Ultrasonic Peening of Parts and Welding Elements - G. Prokopenko, B. Mordyuk, T. Krasovskiy, P. Mikheev, V. Knysh, Y. Kudryavtsev, and J. Klieman.

## **High Power Applications Session**

- Application Benefits to 15-KHZ Welding - Bob Jalbert.
- Automotive Ultrasonic Metal Welding Applications - Joe Stacey and Robert Foster.
- Evaluation of Methods for Embossing Micro-Features in Thermoplastics - David Grewell, Abbas Mokhtarzadeh, Avraham Benatar, and L. James Lee.
- Experimental Evaluation of Methods for Characterization of Power Output of High Power Ultrasonic Transducers - David Grewell, Karl Graff, and Avraham Benatar.
- Analytical Computer Model of High Power Sandwich Transducers - George Bromfield.

# UIA Symposium Registration Form

Please print and complete all information. This information will be printed in the registration listing and on your name badge.

Name (circle one) Dr./Mr./Mrs./Ms. \_\_\_\_\_

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Yes, I will attend the reception on 10/21/02.

Member of (please check all that apply)  UIA  UTAG  USS  ASA  EWI  IEEE/UFFC

Do you need UIA Membership Information?  Yes, send me more information (or sign up at [www.ultrasonics.org](http://www.ultrasonics.org)).

Please list your job sector (i.e., industry, medical device, education) \_\_\_\_\_

Please list your area(s) of interest (i.e., laboratory, materials, sensing, etc.) \_\_\_\_\_

Please list any of your credentials \_\_\_\_\_

## Registration Fees for UIA Symposium

	One Day Only Monday or Tuesday (circle one day)	Two Days Only Monday & Tuesday or Tuesday & Wednesday (circle one set of days)	Full Conference Monday Thru Wednesday	Wednesday Workshop Only
UIA Member	<input type="checkbox"/> \$295	<input type="checkbox"/> \$390	<input type="checkbox"/> \$490	<input type="checkbox"/> \$150
Nonmember	<input type="checkbox"/> \$295	<input type="checkbox"/> \$425	<input type="checkbox"/> \$525	<input type="checkbox"/> \$175
Student/Retiree	<input type="checkbox"/> \$295	<input type="checkbox"/> \$325	<input type="checkbox"/> \$425	<input type="checkbox"/> \$140
Presenter	<input type="checkbox"/> \$295	<input type="checkbox"/> \$325	<input type="checkbox"/> \$425	<input type="checkbox"/> \$140 **
TOTAL ENCLOSED	\$ _____			

\*\* No registration fee for Wednesday presenters

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## UIA President's Message

We definitely live in interesting times. After a year as president of the UIA, I can report that we are stronger today than a year ago, which we attributed to significant effort from your Board of Directors. My thanks goes to all who have contributed to our cause. We unite under the auspices of the UIA, bringing competitors together for common goals. We may disagree at times, we compete in the marketplace, but we bring value to the community at large. We work together to improve processes, techniques, and materials through the application of ultrasonic technology.

At the UIA meeting in New York, the lion will lay with the cheetah, and both will learn and be better from the exchange. Whether your company is the lion or the cheetah (I have not met any lambs in the UIA), you can improve yourself and your organization, by attending. Come meet and discuss ideas with others who are passionate about ultrasonics. I hope to see you there.

Jeff Vaitekunas



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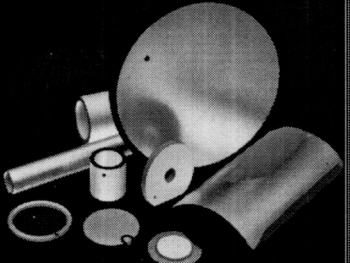
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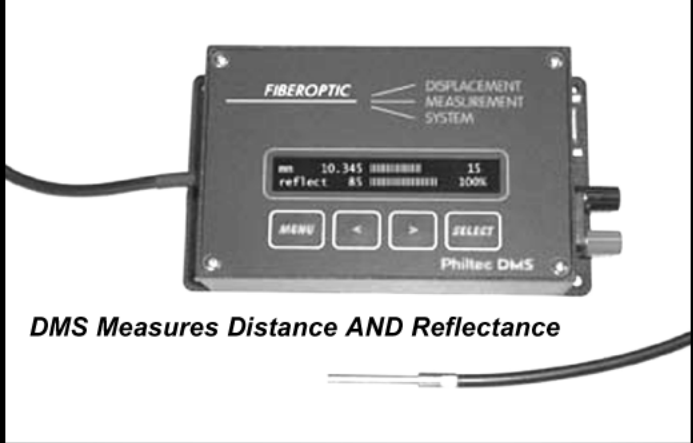
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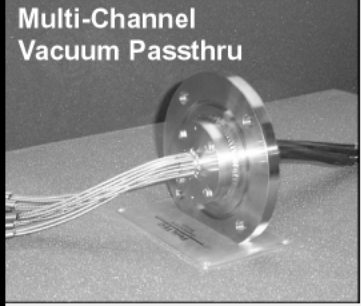


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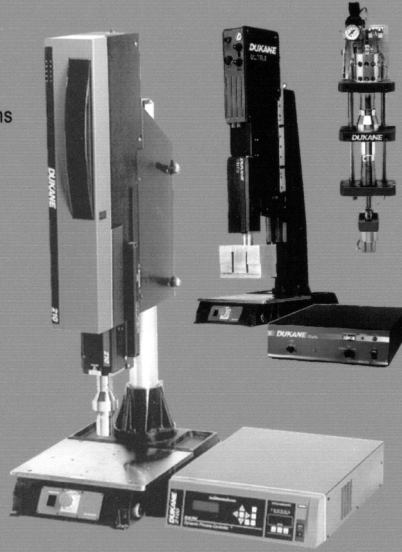
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