
UIA 33rd Symposium, September 22nd-24th, 2003

The facility was excellent and the weather benign at the UIA's 33rd annual symposium at the University Place Conference Center in Indianapolis. The conference was located in a spacious room and the exhibits were right next door enabling us to review the items and information exhibited by APC International, Branson Ultrasonics, Dukane Intelligent Assembly Solutions, Misonix, Morgan Electro Ceramics and Piezo Technologies.

The meeting was opened with a welcoming address from UIA President Ron Manna.

The first session, on Industrial Processes, included EWI's Dr Karl Graff's continuing work in drawing superconductor wire, followed by presentations on various types of transducers and piezoelectric materials by Dr De Liufu from Piezotech, George Bromfield of Zevex and Dr Mitch Thompson who currently manages new product development for the Piezo Film group.

During the afternoon session Edgar de Vries of OSU presented his work on ultrasonic metal welding followed by Andrea Cardoni who presented work done in collaboration with Dr Margaret Lucas of the University of Glasgow on ultrasonic cutting system analyses. Tom Kirkland of Dukane presented a paper on the use of crush foils in piezoelectric transducers and Janet Devine of Sonobond gave an overview of the uses of ultrasonic energy in assembly of plastics and synthetic fabrics. Monday evening gave all attendees the

opportunity to mingle and network at a wine and cheese reception in the University Center's Sports Gallery.

Tuesday's session was led by Dr Kenneth Suslick of the University of Illinois at Urbana and was devoted to sonochemistry. Several of Dr Suslick's graduate students presented fascinating papers on various applications of sonochemistry.

The graduate student award was presented to Gustavo Gonzalez for his entry on the use of ultrasonic energy in tenderizing beef. Gustavo, who received his PhD from Iowa State University in August, presented his paper after our business luncheon. Ron Manna presented Dr Gonzalez a plaque and a check for \$1,500 from the UIA.

At the business luncheon, our current president, Ron Manna, was unanimously re-elected for another year. The list of officers, board members and committee chairs can be seen on UIA's web site: www.ultrasonics.org.

Tuesday afternoon we were privileged to tour the Image Science Center of the University Department of Radiology. This is a brand new facility with some equipment still in the process of being unpacked, and very impressive. A second tour was organized by Adam Morris of Piezotech and we all enjoyed the tour of a modern ceramics facility and the hospitality of the staff at Piezotech. Dr Naren Sanghvi invited our group to visit Focus Surgery, which we did enthusiastically. Dr Sanghvi personally showed us the equipment he is

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using (much of it from Misonix) and shared his findings in the treatment of prostate surgery using HIFU. Many thanks to all who helped to orchestrate and organize these great tours.

Wednesday was a half-day session on medical uses of ultrasound chaired by Naren Sangvhi and Mike Phillips. Our distinguished speakers included Dr Leon Frizzel, a professor of Electrical, Computer and Bioengineering at the University of Illinois; Dr Larry Crum, Director of the Center for Industrial and Medical Ultrasound at the University of Washington; our own Ron Manna, Vice President of Misonix, and Dr Naren Sangvhi of Focus Surgery.

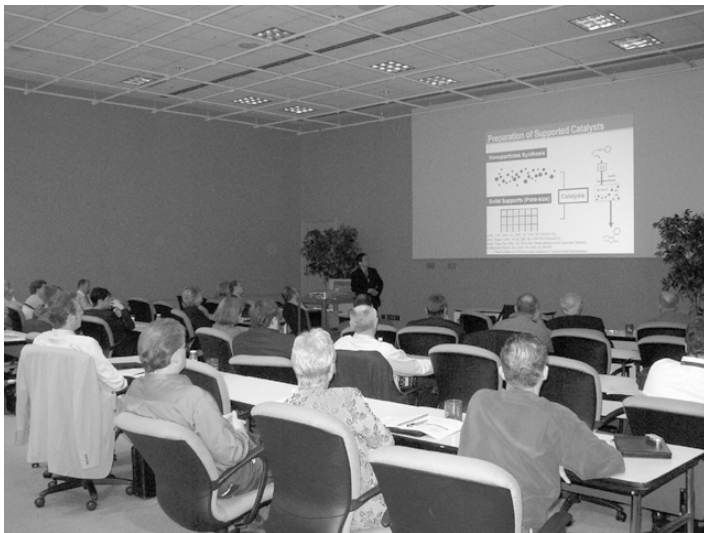
The UIA appreciates the work done by our president, Ron Manna, Symposium Co-Chairs Janet Devine and Ron Staut, Session Chairs Jeff Frantz, Tom Kirkland, Dr Kenneth Suslick, Dr Mark Schafer, Dr Naren Sangvhi, and Mike Phillips and all our presenters for making this a memorable meeting.

Our thanks also to the many students who submitted papers for the Graduate Student Award and our congratulations to Dr Gustavo Gonzalez, the award winner.

The UIA recognizes the contribution of our sponsors, including APC International, Branson Ultrasonics Corp., Dukane Intelligent Assembly Solutions, Misonix Inc., Piezo Technologies, Sonobond Ultrasonics and Zevex Inc.



Elizabeth Dibbern presents during the sonochemistry session.



Symposium attendees give attention to new technologies.



Andrea Cardoni discusses modeling of complex ultrasonic horns.

UIA Sustaining Members

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Edgar DeVries presents on ultrasonic welding of aluminum auto bodies.



The evening reception is always a hit.



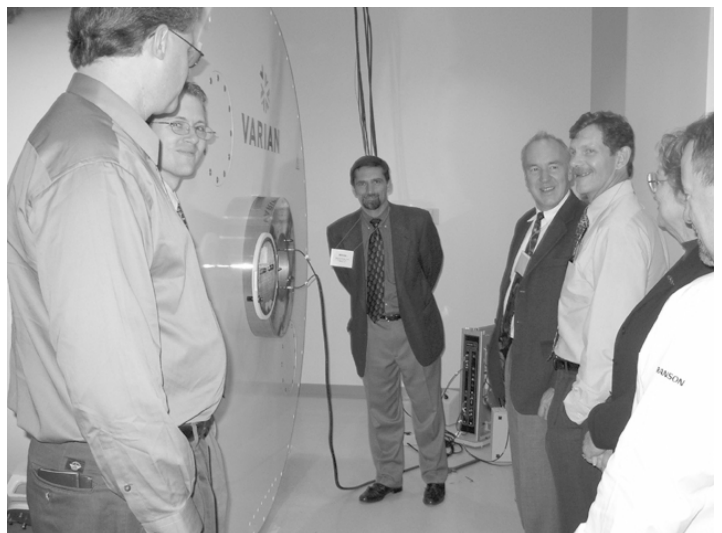
Janet Devine discusses various ultrasonic assembly methods.



Networking is a critical component of Symposium attendance.



Graduate Research Award winner Dr. Gustavo Gonzalez is congratulated by Past President and award committee chair Dr. Mark Schafer (right).



"Mark's Magnetic Personality" (as titled by photographer)



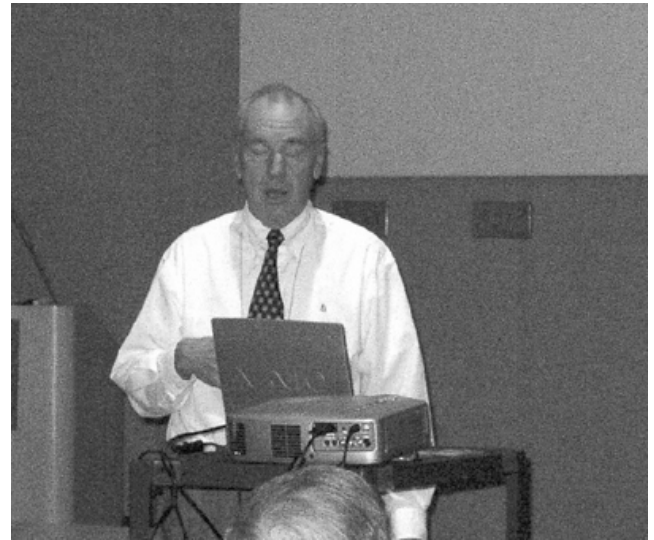
Jim Chapman presents on diagnostic ultrasound.



Naren Sanghvi discusses the efficacy of treating prostate diseases with high intensity focused ultrasound.



Dr. Larry Crum discusses the role of cavitation in medical ultrasound.



George Bromfield holds forth on broadband multi-resonant transducer design.



Dr. Leon Frizzel presents on the design of a phased-array transducer.



Tom Kirkland presents on use of aluminum crush foils in piezoelectric Langevin-style transducers.

PRESS RELEASE

Ultrasonic Conference Provides International Exposure for Local Firms

Indiana's reputation as a hotbed for life sciences activities is growing, and so is its ability to attract industry events in all life sciences sectors. The Ultrasonic Industry Association's (UIA) 33rd Annual Symposium is prime example. During the Sept. 21 - 24 symposium, several Indiana-based companies took their place at the podium as primary speakers. "It's very important to understand there is an association like this in this country and for others to understand that we are actively engaged," said Narendra Sanghvi, president of Indianapolis-based Focus Surgery. "The interaction is extremely important for all of us."

Sanghvi gave a presentation on "Non-invasive Prostate Diseases Treatment with High Intensity Focused Ultrasound."

Focus Surgery's medical device uses ultrasound technology to treat prostate cancer and prostate disease. The technology is based on years of research and development performed in Indiana.

"Indiana has been a prominent player in the industry. Particularly the Indiana University School of Medicine," Sanghvi said.

Using ultrasound for medical purposes has its roots in industrial applications that require non-destructive force, such as stress testing an airplane wing without breaking it. In the past 30 to 40 years, ultrasound has been developed for medical diagnostic applications like looking at fetal development in the womb.

Based on research and development pioneered by the Indiana University School of Medicine in the 1970s ultrasound technology was harnessed to begin fighting brain cancer in a non-invasive fashion. Since then, the same technology has been applied to urology for the treatment of prostate disease. Focus Surgery was established to commercialize the technology.

Today, Sanghvi says Focus Surgery has nearly \$5 million of grants from the National Cancer Institute for research and development and has good contacts with universities around the country - all working together to solve ongoing advanced problems with ultrasound technology.

"These types of conferences get tremendous international pull and have a huge impact on bringing people to Indianapolis and letting them see the types of universities and companies growing up around them," said Adam Morris, president and CEO of Indianapolis-based Piezo Technologies.

Morris is on the board of the UIA and pushed to have the association's 2003 conference in Indianapolis. He said it was an easy sell and a great opportunity to showcase Indiana's talents in ultrasound.

At the conference, Morris introduced new piezoelectronic ceramic - the heart of any ultrasound-based technology - for applications including medical imaging, surgical devices, micro-positioning equipment, super-sensitive sensors. The new Piezo Technologies K-700 material will improve the performance of all types of ultrasonic devices and make new applications possible.

Conference attendees were able to tour both Piezo and Focus Surgery facilities during their stay in Indianapolis.

"I think it's very important to try to host some of these technical conferences mainly because of the exposure Indiana-based companies receive as a result," Morris said.

For more information about Piezo Technologies visit: www.piezotechnologies.com

For more information about Focus Surgery visit: www.focus-surgery.com

For more information about the Ultrasound Industry Association visit: www.ultrasonics.org

Reprinted from Indiana's Health Industry Forum Website: <http://www.ihif.org/stories/oct03/ultrasonic.html>



UIA Spring Medical Meeting 2004 Registration Form

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

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Nickname _____ Title _____

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Job sector (i.e., medical device, education...) _____

Area of interest (i.e., laboratory, materials, clinical...) _____

Please list any of your credentials _____

Registration Fees for UIA Spring Medical Meeting 2004

One Day Only, Monday, April 19, 2004, New York Helmsley Hotel, NY, NY

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2004 Medical Workshop

WORKSHOP AGENDA

2004 UIA Medical Workshop April 19, 2004

Helmsley Hotel, New York City The purpose of the workshop is to provide a forum for an interactive discussion of the current status of specific topics in medical diagnostic and therapeutic ultrasound. The topics include, but are not limited to, transducer/array design, fabrication and characterization, beamforming, modelling and simulation, bio-acoustic effects and bio-acoustic signaling, and clinical applications utilizing HIFU and LIFU. Display tables are available for those desiring to exhibit.

See the registration form for details.

07:30 to 08:30 am **Registration, Continental Breakfast**

Morning Session: Introducing New Companies and New Technologies **Chairman: Ron Manna, UIA President**

08:30-08:35 **Opening Address** Ron Manna
08:35-09:30 **HIFU Atrial Fibrillation (AF) Treatment Catheter** Reinhard Warnking, CEO, Transurgical
09:30-10:00 **Shaped Lesion Formation with Therapeutic Array Transducers** Robert Muratore, Staff Research Scientist, Riverside Research Institute
10:00-10:30 **Non-Contact Ultrasound Wound Treatment Method and System** Eliaz Babaev, Founder & Chief Technology Officer, Celeration, Inc.
10:30-11:00 **Coffee Break & Networking**
11:00-11:30 **Biomedical Ultrasound at Fraunhofer-IMBT** Sorah Rhee, Executive Director, Fraunhofer Technical Center Hialeah
11:30-12:00 **Scanning Acoustic Microscopy for Sub-Cellular Imaging** Bahram Jadidian, President & Alan Winder, VP, J&W Medical LLC
12:00-01:00 **Lunch**

Afternoon Session: Musculo-Skeletal Ultrasound: Diagnosis & Therapy; New Transducer Materials, Design & Fabrication Processes **Chairman: Alan Winder, UIA Director**

01:00-02:00 **Clinical Musculo-Skeletal Ultrasound Imaging: State-of-the Art & Future Challenges** Levon Nazarian, MD, Staff Radiologist and Professor, Thomas Jefferson University Hospital
02:00-02:30 **Applications of Radiation Pressure in Imaging & Therapy** James Greenleaf, Professor Biomedical Engineering, Mayo Clinic
02:30-03:00 **Mechanical Stimulation & Treatment of the Axial Skeleton** Roger Talish, VP Operations & Jack Ryaby, CEO, Juvent
03:00-03:45 **Coffee Break & Networking** 03:45-04:15 **Broad Band Single Crystal Transducers for Contrast Agent Harmonic Imaging** Wesley Hackenberger, President, TRS Technologies
04:15-04:45 **Piezoelectric Micromachined Ultrasound Transducers** Amit Bandyopadhyay & Susmita Bose, Professors, School of Mechanical & Materials Engineering, Washington State University
04:15-05:15 **Considerations in Anticipation of Filing a US Patent Application** David Carter, partner of Carter, DeLuca, Farrell, & Schmidt LLP Note: program subject to change without notice.

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Fax: (217)398-4119 For additional information please email [UIA Headquarters \(uia@ultrasonics.org\)](mailto:uia@ultrasonics.org). Thank you for visiting us! Copyright © 2000-2004 Ultrasonic Industry Association

Medical Ultrasound Workshop

On April 19, 2004 the UIA is going to preside over the fourth annual medical ultrasound workshop at The Hemsley Hotel, New York City. This year, the workshop will be comprised of essentially three sessions: New Companies with New Technologies; Musculo-Skeletal Ultrasounds: Diagnosis and Therapy and New Transducer Materials; and Design and Fabrication Processes. This meeting will present a wonderful opportunity for those in industry, at both the engineering management and scientific levels, and to those in the financial investment community who wish to have a mature overview of several exciting activities in the fields of medical therapeutic and diagnostic ultrasound. An important goal of this meeting is to provide a forum for discussion and networking among those professionals employed or interested in the application and science of ultrasound medicine. There will be a small manufacturer's and service provider's exhibit area as well. Table space is still available if anyone wishes to set up a tabletop display. Details are available on the registration form.

The co-chairpersons for the workshop are Ronald Manna, VP at Misonix (Farmingdale, NY) for the morning session and Alan Winder, VP of J & W Medical LLC (Westport, CT) for the afternoon session. The conference agenda is on page 7.

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President's Message

To All UIA Members and Honored Guests,

One of the issues facing all of us associated with "high tech" products and their manufacturing is the millions of value added jobs being lost to low wage countries around the world. It seems that any job that requires one to pick up a pencil or screwdriver is subject to outsourcing these days. The reasons behind this movement are many and complex, but in the end, it will require all of us left to work smarter to keep US technology ahead of the curve and hopefully keep Americans gainfully employed in R&D and value added services.

As I opined in a prior letter, the technology of ultrasound is well poised to be part of the answer. However, it will take a concerted effort and capital investment to make this happen. The companies involved must commit money and resources to move the ideas from the R&D lab to finished product. In today's business climate, this is easier said than done. Many times, interesting and viable ideas have withered on the vine as neither the ultrasonic company nor the prospective customer wished to spend the capital needed to finish the scale up of the product. In most cases, it is the businessmen, not the visionaries who are making the call on capital investment. R&D funding is seen as investment fraught with risk. It is easier to sell a project with limited but insured short term gain than one with a higher risk to reward ratio.

One way to overcome this mindset is to increase the interaction between the entrepreneur and university scientist and the business community. The best salespersons for new ideas are the researchers whose lives are wrapped up in the technology they are trying to develop. Here is where association groups such as ours can play an important role. By organizing events such as our upcoming Spring Medical Meeting, association groups can be the conduit between ideas and resources. The UIA understands this opportunity and is promoting the upcoming meeting to not only young

companies and research labs who are developing and using products in medical ultrasound, but to large corporations and the financial community as well. We hope to have some members of the investment community in attendance so networking between researchers and capital groups can take place. If history is any teacher, these interactions can result in synergies that can lead to dramatic changes in the marketplace. The UIA Education Committee has other initiatives under discussion that are even more proactive in bringing ultrasonic technology from the lab to the marketplace. As the plans are developed, we will be announcing them here. Of course, the continued support of our members by their membership renewal and attendance at our symposia will speed all of these plans through an increase in available funds.

While on the subject of our spring meeting, details of the agenda are given in other sections of this Newsletter. We have a very impressive array of papers scheduled by leading figures in the medical ultrasound field. Please join us in New York this April.

This year, the Board has decided to postpone the Annual Symposium that is normally held in the fall until spring of 2005. Because of the conflicts that exist with other symposia held in the fall, such as the IEEE Ultrasonic Conference, we have moved our meeting to the spring, in the hopes of greater exposure and attendance. Therefore, the support for our Medical Meeting is of even greater importance to our group this year.

Thank you for your continued interest in the UIA. See you in New York!

Sincerely yours,
Ronald R. Manna
President UIA

Dear Members of the UIA,

Yesterday you received an email for advertising opportunities. The link to our advertising page was incorrect. This version will take you directly to the advertising page.

As we enter 2004 it is time to look at our advertising for the newsletter and Directory. Many of us have seen the economy begin to turn favorably with increased sales in our respective markets. Advertising in the newsletter and/or directory has many more benefits than just supporting the UIA:

- It is a very inexpensive form of advertising.
- May be tax-deductible as the UIA is a non-profit organization.
- Every member of the UIA sees your message.
- Newsletters and directories are typically shared within company sponsors, which expand the viewing base.
- Member companies and individuals are in the ultrasonic business, so your message is reaching a key audience.

In an effort to streamline the advertising process we are sending out the information for both the Newsletter and the Directory together. You can sign up for them individually if you would prefer, but if you plan to advertise in both, this would simplify the things for you.

Accompanying this article is a page that details the rates and payment options. If you would like to view it online, please check it out at: http://www.ultrasonics.org/2004_Advertising.PDF

Please feel free to contact me or any board member; you can look us up at <http://www.ultrasonics.org/cmte.html> if you have any questions regarding advertising with us.

Regards

Jeffrey Frantz
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Web Sites of Interest

Contact UIA

UIA News -

- **2004 Spring Medical Workshop**
[Tentative Agenda](#) for the 2004 Medical Workshop on April 19, 2004 in New York City has been posted. Registration form will be posted soon.
- **2003 Fall 33rd UIA Symposium**
[Complete article](#) with links to photo gallery, program outline, and press coverage.
- **[Advertising Opportunities \(PDF\)](#)**
- **[Vibrations Newsletter - Current Issue \(PDF\)](#)**
Next issue being assembled now! Submit material to [Jeff Frantz](#), editor.
- **[What's New?](#)**
The [What's New?](#) menu item will bring you up to date on the latest changes to the site.

UIA Mission -

To improve processes, techniques, and materials through the application of ultrasonic technology.

UIA Vision -

To be the forum for manufacturers, users, and researchers in ultrasonic technology.

What's New on www.ultrasonics.org

There have been some fairly significant updates to the UIA web site since the last issue of Vibrations hit the press. Pages have been added documenting the history of every UIA event since the Baltimore Symposium in 1999. Information pages for future events also have been and will be created. They have all been grouped into a main UIA Events page.

There is a new feature called Industry Calendar that endeavors to present every upcoming trade show, conference, symposium, and training event of general interest to our constituency worldwide. This is an ambitious undertaking that is going to require the help of the entire membership to keep updated. Please pass along details as soon as you find out about an event, using the e-mail link provided on the Industry Calendar page. If you can provide a web link to the event home page, so much the better.

The membership dues information and forms have been updated, as well as the board listings and many of the listings on the Member Links section. If your links are out of date in any way, please let us know and we'll get them fixed promptly.

Finally, the What's New page has been reformatted to give you a one-click guide to what has been updated on the site recently. Rather than try to keep things in chronological order we are striving to organize the information topically; therefore, the What's New page will perhaps become your most-used link as you look for the most current information on the site.

So what will we be working on next? Certainly the Member Links page needs some more attention. After that, we will tackle the biggest maintenance task before us, updating the Referral Network pages. This has not been done for a few years now, and all of the information needs to be verified and much of it updated. Watch your e-mail for a request to establish or renew your listing in the referral network.

Our aim is to continue to update the web site often enough that most of the membership will visit at least monthly, and that interested non-members would not only find the information useful, but would be attracted to UIA membership because of the content we offer. Please feel free to make any suggestions and especially to contribute any original material or links you believe would be appropriate and helpful to include on www.ultrasonics.org.

Tom Kirkland (tkirkland@dukcorp.com)

Ultrasonic Industry Association

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Joseph F. Brumbach

Joseph F. Brumbach, born January 7, 1921, WW II Veteran (Pacific Theater 1942-1947). Member of the Institute of Electronics and Electrical Engineers. Holder of more than 25 patents. Preceded in death by the late Patricia, nee Connor, Marilyn, nee Kluesing; loving son of the late Rex and Leveda, nee McCloud; brother of Leveda Jansik; loving father of John (Emma), Mark, the late Ann and Paul; loving grandfather of Leah Hibbeln. He was a good father and friend of many who loved music, laughter and the pursuit of knowledge. Visitation Wednesday, 9:30 a.m. until time of service 11:30 a.m. at **Skaja Terrace Funeral Home**, 7812 N. Milwaukee Ave., Niles. Interment All Saints Cemetery. In lieu of flowers,

memorials to Rainbow Hospice, 444 N. Northwest Hwy., Suite 145, Park Ridge, IL 60068 appreciated. Info, 847-966-7302 or www.skajafuneralhomes.com.

Published in the *Chicago Tribune* on 1/20/2004.

Joe was chief engineer for Fibrasonics Inc. from the 1970's until the late 1990's. He has numerous patents for the use of ultrasound and ultrasonic hardware in medical products such as phacoemulsifiers and CUSA type aspirators. He also had input to their ultrasonic soldering irons. FYI, Misonix purchased the assets of Fibrasonics in 2001. Some of his designs are still being used.

Letter from the UIA Membership Chair

Dear Fellow Members,

The past couple of years have been economically trying for the country as a whole, and, specifically, the UIA as a non-profit, professional organization. Due to this, the organization has seen its membership fall, much the same as other organizations similar to the UIA have experienced.

Organizations such as the UIA rely on the voluntary efforts of its members to direct its mission and strategy and to remain a relevant resource for the members. To this end, I am requesting that each member volunteer to help the UIA meet its goals.

"How can I help?" you must be thinking. Some very simple things can be done such as contacting a member of the board with ideas, thoughts, concerns, etc. The board has regularly scheduled conference calls and I assure you these things get discussed.

Most importantly, professional organizations like the UIA offer great networking opportunities with members and nonmembers alike throughout the ultrasonic industry. This is how each of you can help. Using your network of vendors,

customers and business associates, take the opportunity to mention the UIA and its benefits the next time you talk to them. If each existing member talks to 5 or 10 potential members and is successful at recruiting one new member, then the organizations membership would double in no time.

With the general improvement in the economy expected to continue, the time is right for us to recruit new members and add to our already extensive pool of expert resources within the UIA.

Good luck with your efforts and remember that membership applications are available online on the UIA website, www.ultrasonics.org.

Best Regards to All,
Adam Morris
UIA Membership Director
Email: amorris@piezotechnologies.com

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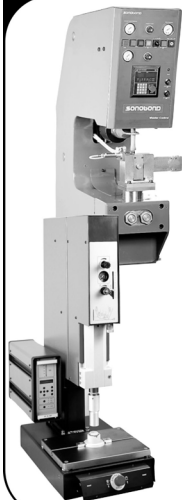
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- Piezo Text Book: English or Russian

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