



# 36th Annual Symposium

19 - 21 March 2007

Teddington, Middlesex, England

## Preliminary Information

### Note:

- Early Registration Deadline 15 December
- One day registrations are available
- Non-members have 2007 membership to UIA included in full conference registration
- HIFU Council Meeting is complimentary
- Complete list of hotels close to NPL is included
- Go to [www.ultrasonic.org](http://www.ultrasonic.org) for links to all available hotels.

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### Ultrasonic Industry Association

UIA is an international association whose mission is to improve processes, techniques and materials through the application of ultrasonic technology. The 36th Annual UIA Symposium features:

- Industrial applications presentations
- High Intensity Focused Ultrasound (HIFU) Industry Council meeting
- Medical applications presentations
- Third Annual New Product and Application Awards
- Graduate Research Award Paper, sponsored by Precision Acoustics
- Tour of NPL

If you are involved in any aspect of ultrasonics, this is the meeting you can't afford to miss! Information about the presentations, HIFU Industry Council, New Product and Application Award Program, Graduate Research Award, hotel and registration are included in this brochure.

If you have any questions, please contact UIA at 937.586.3725 or at [uia@ultrasonics.org](mailto:uia@ultrasonics.org)

### Conference Overview

The UIA Board of Directors meeting will be held on Sunday, 18 March. There are no other formal meetings that day; however, we suggest you arrive on Sunday.

The conference begins on Monday morning, 19 March at 8 am. and concludes on Wednesday afternoon at 5 pm.

Monday's programs include industrial sessions, lunch, and a wine and cheese reception at NPL.



National Physical Laboratory



NPL is the United Kingdom's national standards laboratory, an internationally respected and independent centre of excellence in research, development and knowledge transfer in measurement and materials science. For more than a century NPL has developed and maintained the nation's primary measurement standards - the heart of an infrastructure designed to ensure accuracy, consistency and innovation in physical measurement. NPL is pleased to co-sponsor the 36<sup>th</sup> UIA Annual Symposium. The Symposium will be held at the NPL. See the map on page 5 for more detailed information.

Tuesday's programs include the HIFU Industry Council meeting, Transducer mini-sessions, Poster Sessions and a tour of NPL. An optional evening event will be held at the House of Parliament.

Wednesday's programs will focus on medical sessions.

Key companies providing products and services for the ultrasonic industry will be featured in the UIA exhibit area.



Bushy House on the NPL grounds is the site of our Monday Wine and Cheese Reception. It was built in 1663 by Edward Proger who was commanded by Charles II to build a "Lodge for Our Service in one of Our Parks at Hampton Court called North Parke".

**Enjoy a Special Evening with UIA**  
We're in the process of finalizing an optional special event for UIA Symposium participants to be held on Tuesday evening. The cost for this event will not increase after the earlybird deadline; you may pay later. For updated information, go to [www.ultrasonics.org](http://www.ultrasonics.org)

## HIFU Industry Council - Tuesday, 20 March

The Council provides a forum for manufacturers and researchers in the High Intensity Focused Ultrasound (HIFU) medical therapy field. The HIFU Council allows industry, researchers and regulatory agencies to come together to exchange ideas on the best approach to these challenges and hopefully to develop a plan for future activities.

The UIA is actively seeking the support and commitment for attendance from leading companies and researchers in the field, to ensure all of the leaders in HIFU technology will have an opportunity to participate in this Council. Attendance at the HIFU Council is complimentary.

## UIA Graduate Research Award **Entry Deadline 26 January**

This Graduate Research Award recognizes excellence in graduate studies in the science and technologies of interest to the Ultrasonic Industry Association. Entry form is available from [www.ultrasonics.org](http://www.ultrasonics.org). The winning paper will be presented at the conference. This year, the Graduate Research Award is sponsored by Precision Acoustics ([www.acoustics.co.uk](http://www.acoustics.co.uk)) and it includes a \$1,000 stipend to the winner. The deadline for entries is Friday, 26 January. The winner will be notified in sufficient time to make arrangements to attend the Symposium to present the winning paper.

## 2nd Annual Ultrasonic Product and Application Competition

New ultrasonic energy products and applications will be showcased at the second annual new ultrasonic product and application competition. The UIA Conference offers the best opportunity to see the newest in ultrasound in one location. If your company is interested in submitting a product or application for consideration, please go to [www.ultrasonics.org](http://www.ultrasonics.org) for the competition entry form.

## Tuesday 20 March 2007 Schedule

There are several activities scheduled on Tuesday for the convenience of symposium participants interested in either the Industrial Sessions on Monday or the Medical Sessions on Wednesday.

**Transducer Session** Brief 10 minute sessions will be held on Tuesday morning.

**Poster Sessions** will be held mid-day, with the authors available for questions. **Additional posters are being accepted — see the Call for Posters at [www.ultrasonics.org](http://www.ultrasonics.org)**

**HIFU Industry Council** will be held on Tuesday afternoon.

**Tour of NPL** will be available on Tuesday afternoon. To meet the stringent requirements of testing for compliance with regulatory, safety and quality standards, NPL, the UK's national standards laboratory, provides a comprehensive range of measurement and consultancy services for hydrophones, radiation force balances and medical ultrasonic equipment.

**Optional Evening Event** will allow UIA Symposium participants to enjoy a unique venue together. This is a great networking opportunity for the ultrasonics community as well as enjoying an evening together.

## Hotels convenient to the UIA Symposium

NPL has arrangements with hotels within a 20 minute taxi ride of the laboratory. Please see the list on the next page. Many of the closer hotels have a limited number of rooms, so we encourage you to contact NPL via e-mail to secure your hotel reservations. Please contact the hotel directly, and note that you are attending a meeting at the NPL to get the NPL rates. There is also a list of bed and breakfasts and guest houses that offer budget accommodations. You may email NPL at [events@NPL.co.uk](mailto:events@NPL.co.uk) for more information. Additional hotels within a 30 minutes taxi ride from NPL are available at [www.ultrasonics.org](http://www.ultrasonics.org)

# Tentative Schedule

## Industrial Sessions - Monday, 19 March 2007

Karl Graff, *Ultrasonic Metal Welding of Advanced Materials*

P. K. Kalsi, K. L. , Ramakumar, V. Venugopal, *Studies on recovery of uranium from fluoride containing matrix by Sonochemical method*

Leo Klinstein, *iQ Series Ultrasonic Power Supply*

Dr. M.J. Nategh, *Finite Element Analysis of Ultrasonic Cutting in One and Two Directions*

M.A. Margulis, I.M. Margulis, *Equipment for measurement of radiated and absorbed acoustic power during ultrasonic cavitation using comparative calorimetric method.*

Bajram Zeqiri, NPL, *An investigation of the threshold pressure for inertial acoustic cavitation generated within a cylindrical sonochemical reactor operating at 25 kHz*

Dr Frank F Rawson, Ms Sue Osborne, *A Modular 250 Kilowatt High Power Through-feed Fluidsonic Processor using a concentrated 20 kHz ultrasonic field for chemical and biological applications*

J. P. M. Trusler, G. Memoli, *Acoustical characterization of a cylindrical resonator for multi-bubble sonoluminescence experiments*

Susan Ward, Ford Motor Company & Janet Devine, Sonobond Ultrasonics, Inc, *Implementation of Ultrasonic Metal Welding on an Aluminum Vehicle Structure*

Klaus-Vitold Jenderka, *Investigation of sound fields in ultrasound cleaning baths and correlation with the erosion effect*



Clock Court at Hampton Court (located near the National Physical Laboratory) is named after the Astronomical Clock which was made for Henry the Eighth in 1540. The outside shows the hour (the Roman numbers I to XII - I to XII - are repeated twice, first for the morning and then for the afternoon). The numbers in the centre show the phase of the moon. The Sun is shown going around the Earth, because that is what people believed at that time.

## Invited Presentations

### Industrial Session: Monday

Timothy J. Mason *Ultrasound in Environmental Protection - Some Recent Developments*

### Medical Session: Wednesday

Gail Ter Haar *High Intensity Focused Ultrasound (HIFU) - The Future of Local Control for Cancer Therapy? Techniques and Challenges*

Selected papers will be available at Tuesday's Poster Session. For the Call for Posters, please visit [www.ultrasonics.org](http://www.ultrasonics.org)

## Medical Sessions - Wednesday, 21 March 2007

Jack Sliwa, *Epicardial HIFU for Treating Atrial Fibrillation*

Sunita Chauhan, *FUSBOTs: Image-guided Robotic Systems for Focused Ultrasound*

Li Min et al, *Local Control in Bone and Soft Tissue Malignancies Treated by High Intensity Focused Ultrasound*

David Carter, *Patent Portfolio Development Strategies for Attracting Investors*, Carter, DeLuca, Farrell & Schmidt

Ronald A. Roy *The Physical Effects of Bubbles and Cavitation in High Intensity Focused Ultrasound Therapy*

Pascal Laugier, *Quantitative Ultrasound Techniques using Axial Transmission to Assess Bone Fragility*

James Greenleaf, *Applications of Ultrasound Radiation Force*, Mayo Clinic, Minnesota

Ji Xiao-Juan et al, *Effect of Ultrasound Microbubble Contrast Agent on Rabbit Liver VX2 Tumor with High Intensity Focused US Therapy*

D. J. Cotter, *36 kHz Ultrasonic Surgical Horns for Endoscopic-Nasal Approaches to Brain Tumors*

V.A.Ishinova, E.M.Tsirulnikov, *Tactile Sensitivity and Psychotherapy Treatment*

The complete schedule for papers will be available in December at [www.ultrasonics.org](http://www.ultrasonics.org)

# 36<sup>TH</sup> Annual UIA Symposium

## 19 - 21 March 2007

### 2007 Call for Posters

The Ultrasonic Industry Association invites you to submit a poster for display 19 – 21 March and presentation on 20 March 2007 at its 36<sup>th</sup> Annual Symposium in **London, England** at the National Physical Laboratory. Plan now to join UIA for this international conference featuring the best of ultrasound from both the United States and Europe. Accepted posters receive a reduced registration fee for the conference. For more information, please go to <http://www.ultrasonics.org/symp2007.html>

Please check the appropriate category of your proposed poster presentation:

**Industrial Applications:** NDE, Measurements, Cleaning, Atomization, Pulp/Paper, Metal and Plastic Joining and Fastening, Welding and Cutting Films, Fabrics, Metals and Plastics, Sonochemistry, Underwater, Remote Sensing

**Medical:** Surgical, Therapeutic, HIFU/LIFU, Biological Nonlinear Effects, Low Frequency Tissue Characterization, Bio-Acoustic Microscopy, Transducer Design/Materials/Calibration

**Deadline:** **28 February 2007**

**Please print clearly**

Poster Title \_\_\_\_\_

Authors \_\_\_\_\_

Presenters \_\_\_\_\_

Main Contact Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State/Prov \_\_\_\_\_ Zip/Postal \_\_\_\_\_ Country \_\_\_\_\_

Phone \_\_\_\_\_ Fax \_\_\_\_\_ E-mail \_\_\_\_\_

**Accepted presenters receive a discounted registration fee.**

A poster is a 1 meter wide x 2 meter high rectangular board on which you can affix visually appealing material that describes your research. How you use this is up to you: you may choose to print out up to nine 8.5in x11in or A4 sheets of paper (e.g., paper copies of overheads) and tile the poster board with these pages. Or, you may choose to format a single large sheet of paper describing the work and attach that to the poster board. You may orient it with the long edge either horizontally or vertically. You should prepare the best material (visually appealing and succinct) that effectively communicates your research problem, techniques, results, and what is novel and important about your work.

**What, when, and where to submit?** Although the final deadline for submission is 28 February 2007, for any submissions that arrive by 16 February 2007, we will help verify that printing, and formatting is appropriate and provide feedback within a couple of days (with time to make a final submission by the final deadline). Any submissions that arrive after the earlier deadline will be taken as is and rejected if they do not meet the criteria. All posters should be submitted by email to [uia@ultrasonics.org](mailto:uia@ultrasonics.org)

Submit a one page abstract about your work/poster in PDF format by email. The poster itself should not be included in the email, instead please include a URL of the poster in your one page abstract---the poster should be available for download in pdf format from this URL.

The one page abstract should identify the key contribution of the work being presented in the poster. In addition, it should describe the particular the problem being addressed, what makes this problem interesting or important, and what your approach is to the problem. Include the title, authors, institutional affiliations, status (student, faculty, and so on) of each author and an email address of the contact author. In the final version of the abstract, you should also include a URL that will provide additional information about your work to the attendees. Your abstract should not exceed one page; longer submissions will not be considered for review.

**Submission process:**

Submit your one page abstract as PDF attachment to [uia@ultrasonics.org](mailto:uia@ultrasonics.org) Be sure to include a URL for your poster in the abstract. If it is not possible to make your poster available for download via an URL, please contact the chair at [uia@ultrasonics.org](mailto:uia@ultrasonics.org) for alternatives. Your submission will be acknowledged by email within two days after you submit.

**Please remember that the abstract should be no more than one page in PDF form only. Word documents will not be accepted.**

At the symposium, we will distribute to all symposium attendees the abstracts in addition to the symposium proceedings.

**Symposium Chair:** Ron Manna ▲ phone +1.631) 694-9555 ▲ Fax: +1.631.694.9412 ▲ [rmanna@misonix.com](mailto:rmanna@misonix.com)

**Medical Co-Chairs:** Alan Winder ▲ +1.203.226.0810 ▲ Fax: +1.203.226.4123 ▲ [a.winder@jwmed.com](mailto:a.winder@jwmed.com) Robert Muratore ▲ +1.212.502.1701 ▲ Fax:

+1.212.502.1729 ▲ [muratore@rriny.org](mailto:muratore@rriny.org) **Industrial Co-Chair:** Karl Graff ▲ +1.614.688.5269 Fax: +1.614.688-5001 ▲ [kgraff@ewi.org](mailto:kgraff@ewi.org)

**Please submit this form (preferably electronically) or via fax to:**

Ultrasonic Industry Association ▲ PO Box 2307 ▲ Dayton, OH 45401-2307

Voice +1.937.586.3725 ▲ Fax +1.937.586.3699 ▲

E-mail [uia@ultrasonics.org](mailto:uia@ultrasonics.org) ▲ Web [www.ultrasonics.org](http://www.ultrasonics.org)

# 36<sup>TH</sup> Annual UIA Symposium

## 19 - 21 March 2007

### HOTELS CLOSE TO THE NATIONAL PHYSICAL LABORATORY for the UIA 2007 Symposium

All rates quoted as NPL / Serco special rates are subject to availability, and may not be available at certain times of the year. All rates are offered at the hotel's discretion. Please contact the hotel of your choice directly, and indicate that you are attending an NPL conference to get the NPL rate.

#### The Park Lodge Hotel

Park Road, Teddington, Middlesex , TW11 0AB  
<http://www.galleongroup.co.uk/parkhotel.html>

**NPL/SERCO RATE:** £99 B&B Fri/Sat - £70 room only

Situated 5 minutes' walk from NPL, close to Teddington Station

- 43 standard bedrooms
- 8 family rooms
- 4 disabled bedrooms
- Restaurant & bar facilities

#### Liongate Hotel

Hampton Court Road, Hampton Court , KT8 9DD [www.dhillonhotels.co.uk](http://www.dhillonhotels.co.uk)

**NPL/SERCO RATE** £78.00 – single, room only £83.00 - single B&B £85.00 – double, room only

£90.00 – double B&B

20 minute walk through the park to NPL

- 38 bedrooms
- Restaurant & bar facilities
- Private function / meeting rooms

#### Chase Lodge Hotel

10 Park Road , Hampton Wick, Kingston upon Thames, Surrey, KT1 4AS  
[www.chaselodgehotel.com](http://www.chaselodgehotel.com)

**NPL/SERCO RATE** £82 B&B (double / double for single occupancy)

Located at the edge of Bushy Park, 20 minutes walk through the park to NPL and 5 minutes walk from Hampton Wick railway station

- 12 bedrooms
- Restaurant

#### The White Hart Hotel

1 High Street, Hampton Wick, Kingston, KT1 4DA [www.fullershorts.com](http://www.fullershorts.com)

**NPL/SERCO RATE** £110 B&B £105.00 room only

Situated at the foot of Kingston Bridge, 5-minute taxi ride to NPL and 10-minute walk to Hampton Wick and Kingston train stations.

- 37 bedrooms
- Restaurant (public) & bar facilities

#### Carlton Mitre Hotel

Hampton Court Road, Hampton Court, KT8 9BN <http://www.carlton.nl/mitre/default-en.html>

**NPL/SERCO RATE** £115 room only (standard)

£135 room only (deluxe)

10 minute taxi ride to NPL

- 36 bedrooms
- Restaurant & bar facilities
- Coffee lounge
- Use of *Colets Heath & Fitness Centre*, Thames Ditton

#### The Popes Grotto

Cross Deep, Twickenham, TW1 4RB

[www.youngs.co.uk](http://www.youngs.co.uk)

£98 standard room £108 river view room £114 superior room All rates B&B

5 minute taxi ride to NPL / on 2 bus routes to Teddington High Street

#### Premier Lodge Twickenham

Chertsey Rd (A316), Whitton, TW2 6LS

[www.premierlodge.co.uk](http://www.premierlodge.co.uk)

£56 Room Only £62.25 Single B&B £68.50

Double B&B

10 minute taxi ride to NPL

- 31 bedrooms
- Carvery restaurant & bar facilities in pub next door (The Winning Post)

#### Hotel Antoinette

26 Beaufort Road, Kingston, KT1 2TQ

[www.hotelantoinette.co.uk](http://www.hotelantoinette.co.uk)

£62.50 - single room £72.50 - double room £80 - garden suite £35 per person – triple rooms All rates B&B

15 minute taxi ride to NPL. 10 minute walk to Surbiton mainline train station / 20-minute walk to Kingston station

- 100 bedrooms
- Private garden
- Restaurant & bar facilities

#### Kingston Travelodge

21-23 London Road, Kingston, Surrey, KT2 6ND [www.travelodge.co.uk](http://www.travelodge.co.uk)

£69.95 per room (double / family only)

15 minute taxi ride to NPL. 2 minute walk to Kingston train station.

- 72 rooms (36 doubles & 36 family rooms)

#### Kingston Lodge Hotel

Kingston Hill, Kingston upon Thames, Surrey, KT2 7NP [www.macdonald-hotels.co.uk/](http://www.macdonald-hotels.co.uk/)

**NPL/SERCO RATE** £110 B&B

20 minute taxi ride to NPL, situated on the edge of Richmond Park and within easy reach of Kingston upon Thames town centre.

- 64 bedrooms
- Restaurant & bar facilities



National Physical Laboratory

National Physical Laboratory  
Hampton Road, Teddington, Middlesex, TW11 0LW

Tel: 020 8977 3222 Fax: 020 8943 6458

[www.npl.co.uk](http://www.npl.co.uk)

E-mail: [enquiry@npl.co.uk](mailto:enquiry@npl.co.uk)

### Public Transport



**By Rail,**  
**Teddington Station**  
20 minutes walk to NPL.



**By Air**  
**Heathrow Airport**  
Take a taxi, approximately  
20 minutes. There is a bus service  
(285) to Teddington.



**Buses.**  
Teddington is well served  
by buses (281, 285 and R68) but as  
routes are subject to change,  
visitors are advised to check before  
travelling.



## UIA 2007 SYMPOSIUM REGISTRATION FORM - 19 - 21 MARCH 2007

### **1 PLEASE TYPE OR PRINT**

First name \_\_\_\_\_

Last name \_\_\_\_\_

Nickname for badge \_\_\_\_\_

Position/Title \_\_\_\_\_

Employer \_\_\_\_\_

City, State/Prov, Country \_\_\_\_\_

### **2 FOR MAILING PURPOSES, I PREFER MY [ ] HOME ADDRESS [ ] WORK ADDRESS AS FOLLOWS:**

Address \_\_\_\_\_

City, ST, Zip, Country \_\_\_\_\_

To help us contact you during the day, please note your preferred numbers:

Telephone \_\_\_\_\_ Fax \_\_\_\_\_

E-mail \_\_\_\_\_

[ ] Please DO NOT include my name and mailing information in any published lists

[ ] **SPECIAL ACCOMMODATIONS** - If you require special accommodations for a disability to attend this meeting, please check this box. We will contact you to discuss this further.

### **3 PLEASE REGISTER ME IN THE FOLLOWING MANNER:**

Registration Type	By 15 Dec	AFTER 15 DEC	Amount Due
Full Conference - Member	\$635	\$715	\$
Full Conference – Non member*	\$790	\$865	\$
Daily Rate – Member □ Mon □ Tues □ Wed	\$300	\$350	\$
Daily Rate – Non member □ Mon □ Tues □ Wed	\$375	\$425	\$

\*Full conference registration for nonmembers includes individual membership for the balance of 2007

	Daily	Full Conference	
Speakers and Accepted Poster Presenters	\$250 □ Mon □ Tues □ Wed	\$550	\$
Student	\$145 □ Mon □ Tues □ Wed	\$495	\$

### **4 METHOD OF PAYMENT**

*FIN for voucher use only: 13-6130371*

[ ] Payment enclosed. Please make checks payable to: UIA Payable in US Funds, please

[ ] Please charge my credit card: [ ] Master Card [ ] Visa You may register online after 10 November

Card Number: \_\_\_\_\_

EXP / \_\_\_\_\_

Person's name on card \_\_\_\_\_

Business Card

Personal Card

Signature of  
that person \_\_\_\_\_

### **5 CORRESPONDENCE INFORMATION - REGISTER ONLINE AT [WWW.ULTRASONICS.ORG](http://WWW.ULTRASONICS.ORG)**

 Mail registration form and all payments to:  
UIA, P O Box 2307  
Dayton, OH 45401-2307



Address for express mail only:  
11 West Monument Ave, Ste  
510

 Fax registration form to:  
+1.937.586.3699



For further information call:  
+1.937.586.3725