

## Chronicle



### International Congress on Ultrasonics Gdańsk, Poland, September 5–8, 2011

The **International Congress on Ultrasonics'2011** held in Gdańsk, Poland was the third one (after Viena'2007, Austria and Santiago'2009, Chile) over the world meeting of the ultrasonics community, continuing a long tradition of **Ultrasonics International Conferences** (organized every second year since 1963 to 2005), as well as **World Congresses on Ultrasonics** (organized every second year since 1995 to 2005). Last 6 years experience of foundation of ICU congresses have shown a real progress in global integration process of the ultrasonics community and provided an excellent platform for the professional knowledge, exchange among scientists and engineers from academic and industrial centers as well as from other institutions and places of ultrasonics studies and applications.

Ultrasonics as multi-disciplinary field covers a great number of topics from fundamental physical aspects through chemical, biological, medical, material inspections and others branches to many applications. All contributions of topics of the field of ultrasonics were presented during the **ICU'2011** in Gdańsk, and the meeting provided a valuable and unique opportunity for participants to exchange their achievements and experience as well as to enlarge their international contacts on the field.

The **ICU'2011** organized by the University of Gdańsk, Institute of Experimental Physics at the Gdańsk-Oliwa Campus, on 5–8 September, 2011 gathered ultrasonic scientists, specialists, experts and other interested in the subject people from the whole world:

Algeria	–	2	Australia	–	2	Austria	–	3
Belgium	–	5	Brasil	–	9	Belarus	–	2
Canada	–	2	Chile	–	2	China	–	3
Czech	–	2	Denmark	–	7	France	–	32
Germany	–	30	Great Britain	–	18	Hungary	–	1
India	–	3	Iran	–	3	Ireland	–	2
Israel	–	1	Italy	–	5	Japan	–	48
Lithuania	–	10	Netherlands	–	1	Norway	–	2
Poland	–	21	Romania	–	1	Russia	–	25
Singapore	–	2	South Africa	–	2	Spain	–	12
Sweden	–	9	Switzerland	–	8	Taiwan	–	1
Ukraina	–	2	Uruguay	–	1	USA	–	7

The Congress was supported by the ICA (International Commission for Acoustics), Komitet Akustyki PAN (Committee on Acoustics, Polish Academy of Sciences), Polskie Towarzystwo Akustyczne (Polish Acoustical Society).

More than 300 (including accompanying persons and organizing committee) participants presented **304** papers which covered 37 regular sessions of special ultrasonic topics. Six of them were Structured Sessions. They were:

- Acoustics of ordered and disordered granular structures,
- Acousto-optics, being treated as the “**11th School on Acousto-optics and its Applications**”,
- Ultrasonic Standing Waves – Technics and Applications as “**USWnet’2011**” meeting,
- Picosecond Laser ultrasonics,
- Diffraction of ultrasound on periodic structures,
- Scanning laser NDE: Fundamentals and application.

The 8 Keynote Lectures and 7 invited papers reflected current trends and predictions for the future development. The Keynote Lectures were presented by:

1. Professor ANDRZEJ NOWICKI, Poland  
(Chair: Professor Lawrence Arthur Crum)  
Andrzej NOWICKI, Jerzy LITNIEWSKI, Marcin LEWANDOWSKI, *High Frequency Coded Skin Microsonography.*
2. Professor KENTARO NAKAMURA, Japan  
(Chair: Professor Wolfgang Sachse)  
Kentaro NAKAMURA, Sadayuki UEHA, *Non-contact actuation of plates, particles and fluid being based on power ultrasonic technology.*
3. Professor LAWRENCE ARTHUR CRUM, USA  
(Chair: Professor Andrzej Nowicki)  
Lawrence Arthur CRUM, Michael BAILEY, Michael CANNEY, Tatiana KHOKHLOVA, Vera KHOKHLOVA, Julianna SIMON, *The use of High Intensity Focused Ultrasound to induce tissue ablation.*
4. Professor TIMOTHY J. MASON, UK  
(Chair: Professor Ewald Benes)  
Timothy J. MASON, *Trends in sonochemistry and ultrasonic processing.*
5. Professor TADEUSZ STEPIŃSKI, Sweden  
(Chair: Professor Laszlo Adler)  
Tadeusz STEPIŃSKI, *Ultrasonic nondestructive inspection of solid objects.*
6. Professor FABIO CARDONE, Italy  
(Chair: Professor Antoni Śliwiński)  
Fabio CARDONE, *Ultrasonic Piezonuclear Reactions.*
7. Professor VICTOR A. AKULICHEV, Russia  
(Chair: Professor Eugeniusz Kozaczka)  
Victor A. AKULICHEV, *Cavitation Nuclei and Thresholds of Acoustic Cavitation in Ocean Water.*
8. Professor JÜRGE DUAL, Switzerland  
(Chair: Peter A. Lewin)  
J. DUAL, S. OBERTI, A. NEILD, J. WANG, T. SCHWARZ, D. MÖLLER, *Particle Manipulation Using Acoustic Radiation Forces in Micromachined Devices.*

The potential of ultrasonics has been also revealed in many individual oral and poster papers, presented in the six parallel sessions among which such alive branches as: ultrasonic motors and actuators, cavitation and sonoluminescence, biomedical ultrasound, medical non-linear acoustics, acoustic microscopy, ultrasonic metrology, ultrasonic sensors and others, were recognized with a great interest.

Abstracts of all papers presented were published in the *Book of Abstracts of ICU'2011* and distributed among the participants. The full texts of papers delivered by the authors have been collected and are being prepared for publication by AIP (American Institute of Physics) and will be available as electronic version at the end of this year.

During the Congress, two meetings of the ICU Board took place. Among the current matters of the ICU policy such problems as renewing the By Laws of ICU, venues for organizing next congresses, supporting young acousticians and other matters were discussed. Also the Board assigned **3** ICU Golden Whistle Awards to: Prof., prof., Wolfgang Sachse, Antoni Śliwiński and Juan A. Gallego-Juárez as well as awarded young acousticians with RWB Stephens Prizes (see the list below).

The awards were handed over during a ceremony before the Congress Banquet to Professor Wolfgang Sachse and to Professor Juan Gallego-Juárez and also to Professor Antoni Śliwiński (awarded in Santiago de Chile, in 2009).

The venue for ICU'2013 will be in Singapore from the **1st to 4th May**.

The Organizing Committees of the Congress are also presented below.

### RWB Stephens Prize at ICU 2011

The journal *Ultrasonics* and the Editorial Board would like to extend their warm congratulations to the following winners of the **RWB Stephens Prize**, which was announced at the International Congress on Ultrasonics in Gdańsk, Poland, September 5–8, 2011 (in alphabetical order):

1. Alexander MACHIKHIN  
Laboratory of Acousto-optic Spectroscopy, Moscow, Russia  
*Acousto-optical tunable filters-based 3D spectral imaging.*
2. Samuel RAETZ  
Bordeaux University, France  
*Asymmetric thermoelastic generation in semi-transparent materials with an oblique laser incidence.*
3. Priscilla ROGERS  
Monash University, Australia  
*Oscillating micro-bubbles for selective particle sorting in acoustic microfluidic devices.*
4. Thomas SCHWARZ  
ETH Zurich, Switzerland  
*Ultrasonic resonator for manipulation of bacteria.*
5. Timm Joyce TIONG  
University of Bath, UK  
*Sonochemical cleaning efficiencies in dental instruments.*

Furthermore the following received RWB Stephens Prize Honourable Mentions (in alphabetical order):

1. Fabian BAUSE  
University of Paderborn, Germany  
*Ultrasonic nondestructive testing of composite materials using disturbed coincidence conditions.*
2. Jaroslavas BELOVICKIS  
Vilnius University, Lithuania  
*Acousto-optic interaction of Leaky Surface Acoustic Waves in Y-cut LiTaO<sub>3</sub> crystals.*
3. Marc HAUPTMANN  
KU Leuven/ATF, Belgium  
*The importance of control over bubble size distribution in pulsed megasonic cleaning.*
4. Jun KONDOH  
Shizuoka University, Japan  
*Development of methanol sensor for direct methanol fuel cells using a shear horizontal surface acoustic wave (SH-SAW).*
5. Dmytro Yurievich LIBOV  
Kiev National Taras Shevchenko University, Ukraine  
*Resonant vibrations of Pb(ZrTi)O<sub>3</sub> disk.*
6. Michael GEDGE  
University of South Hampton, UK  
*The development of ultrasonic devices for use in an oceanographic flow cytometer.*
7. Geoffrey ROGERS  
Monash University, Australia  
*Piezoelectric ultrasonic micro-motor system for minimally invasive surgery – the intellimotor.*

#### ICU Board Members

Adriano Alippi, Italy	Marc Dechamps, France
Arthur G. Every, South Africa	Nick Pace, UK
Bogumil Linde, Poland (ICU President)	Oleg Sapozhnikov, Russia
Ewald Benes, Austria (ICU Secretary)	Oswald Leroy, Belgium
Gail terHaar, UK	Pascal Laugier, France
Hailan Zhang, China	Peter Lewin, USA
Jens E. Wilhelm, Denmark	Sadayuki Ueha, Japan
Juan Gallego-Juarez, Spain	Sigrun Hirsekorn, Germany
Larry Crum, USA	Tim Mason, UK
Leonard Bond, UK	Vitali Goussev, France
Luis Gaete-Garretton, Chile (ICU Chairman)	Wolfgang Sachse, USA

#### ICU YSAC Members

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Nico Declercq, Belgium	Stefan Radel, Austria

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Leif Bjørnø, Denmark	Andreas Mandelis, Canada
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Eugeniusz Kozaczka, Poland	Jens E. Wilhelm, Denmark
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The Organizers would like to express their thanks to all who helped in accomplishing the Congress: International Commission for Acoustics, Polish Acoustical Society,

Committee on Acoustics of the Polish Academy of Sciences for their patronage and cooperation, University of Gdańsk for its hospitality and assistance, Gdańsk Convention Bureau for their voluntary service, and ATA Travel Agent for its backing.

Cordial thanks are expressed to all participants and their accompanying persons, particularly to Authors of presentations, Chairmen of Sessions, the members of Scientific Committee as well as of the Organizing Committee and to other contributors active for making a success of the Congress.

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*Antoni Śliwiński, Bogumił Linde*