



2002 IEEE INTERNATIONAL ULTRASONICS SYMPOSIUM



October 8-11, 2002

Forum Hotel / Munich, Germany

Sponsored by the IEEE Ultrasonics, Ferroelectrics, & Frequency Control Society

In cooperation with VDE Association for Electrical, Electronic & Information Technologies, Germany

GENERAL CO-CHAIRS

Clemens Ruppel
+49-89-636-53325,
+49-89-636-24339 (fax)
c.c.ruppel@ieee.org
Bernhard Tittmann
+1-814-865-7827,
+1-814-865-3626 (fax)
brt4@psu.edu

TECHNICAL CO-CHAIRS

Reinhard Lerch
+49-9131-85-23131,
+49-9131-85-23133 (fax)
reinhard.lerch@lse.e-technik.
uni-erlangen.de
Robert Weigel
+43-732-2468-9710,
+43-732-2468-9712 (fax)
r.weigel@ieee.org

FINANCE

Herman van de Vaart
+1-908-832-7974,
+1-908-832-0684 (fax)
vdv@ieee.org

LOCAL ARRANGEMENTS

Astrid Ermert
+49-9195-993220,
+49-9195-993221 (fax)
astrid.ermert@t-online.de
Leonhard Reindl
+49-5323-72-2582,
+49-5323-72-3197 (fax)
reindl@iei.tu-clausthal.de

PUBLICITY

Helmut Ermert
+49-234-32-22842,
+49-234-32-14167 (fax)
h.ermert@ieee.org
Ken-ya Hashimoto
+81-43-290-3318,
+81-43-290-3320 (fax)
ken@usl.te.chiba-u.ac.jp
Donald Malocha
+1-407-823-2414,
+1-407-823-2414 (fax)
malocha@pegasus.cc.ucf.edu

EXHIBITS

Jian-yu Lu
+1-419-530-8079,
+1-419-530-8076 (fax)
jilu@eng.utoledo.edu

SHORT COURSES

Ton van der Steen
+31-10-4088036,
+31-10-4089445 (fax)
vandersteen@tch.fgg.eur.nl

PROCEEDINGS

Susan Schneider
+1-414-288-7178,
+1-414-288-5579 (fax)
susan.schneider@marquette.edu

SYMPOSIUM

MANAGEMENT

FASS, USA
VDE, Germany

Final Call for Papers

ABSTRACT DEADLINE: May 16, 2002

Papers are solicited describing original work in the field of ultrasonics. Poster and oral presentation formats will be used at the Symposium. Prospective authors should note that poster sessions provide an alternative format which allows for greater flexibility and expanded audience interaction. The abstracts should be submitted in electronic form according to the specific information posted on the conference web page. Additional conference information can be found at the Symposium web site:

<http://www.ieee-uffc.org/2002>

Each abstract will receive careful review and evaluation by the Symposium Technical Program Committee. Evaluation criteria will include originality of the work, contribution to the state-of-the-art, and overall interest to the ultrasonics community. Each abstract should be specific, contain clearly identified new material, and include quantitative information or data. *A good abstract must clearly and concisely explain the hypothesis, methods and conclusion of the paper. Results of research should be clearly indicated in the abstracts.* Papers are solicited from the following **subject classifications**:

Group 1 Medical Ultrasonics

MBB Medical Beamforming and
Beam Steering
MBE Biological Effects & Dosimetry
MBF Blood Flow Measurement
MCA Contrast Agents
MEL Elastography
MIM Medical Imaging
MSP Medical Signal Processing
MTC Medical Tissue Characterization
MTH Therapeutics, Hyperthermia,
Ultrasound in Surgery

Group 2 Sensors, NDE & Industrial Applications

NAM Acoustic Microscopy & Imaging
NAS Acoustic Sensors
NDE General NDE Methods
NMC Material & Defect Characterization
NPM Wave Propagation
NSP Signal Processing
NTD Transducers: NDE and Industrial

Group 3 Physical Acoustics

PBW Bulk Wave Effects & Devices
PGP General Physical Acoustics
PMI Magnetic Interactions
POI Optical Interactions
PUM Ultrasonic Motors & Actuators

Group 4 Surface Acoustic Waves

SAED SAW Acoustoelectric Effects & Devices
SDO SAW Devices & Oscillators
SFT SAW Filters & Transducers
SMP SAW Materials & Propagation
SSA SAW System Applications
SSP SAW Signal Processing
STD SAW Thin-Films & Devices

Group 5 Transducers & Transducer Materials

TFA Transducer Modeling
(FEA and Analytical)
TFT Transducer Fabrication Technology
TMC Transducer Material Characterization
and Modeling
TMM Materials/Technology for Medical
Transducers
TMT Medical Transducers
TMU Micromachined Ultrasound
Transducers
TPF Piezoelectric and Ferroelectric
Transducer Materials

Focused Sessions new this year: Each focused session highlights a theme of special general interest. Submissions for these special sessions are highly encouraged. Note that submitting to a focused session does not prevent your abstract from getting accepted in another session.

Student Travel Support: Limited funds are available to support student attendees at 2002 symposium. Awards will be made on a competitive basis. Further information will be posted on the web page. The application deadline is **July 7, 2002**.

Student Paper Competition: Students who are submitting abstracts for presentation are invited to participate in a special student paper competition. Student paper finalists will be chosen by the Technical Program Committee (TPC) to join the final competition at the 2002 Symposium and to receive special accommodation during the Symposium in the Deutsches Museum. Five winners (one from each area of the TPC) will be chosen to receive a cash award. Students should indicate their interest by marking the appropriate box on the abstract submission form. More information about the competition can be found on the meeting web site (<http://www.ieee-uffc.org/2002>).

The Symposium will be held right after the well-known Oktoberfest. For your information, please browse through (http://www.muenchen-tourist.de/englisch/oktoberfest/muenchen-oktoberfest-einleitung_e.htm).

MUNICH 2002



Invited Speakers and Topics:

Reinhard Lerch & Robert Weigel

Group 1 (Ton van der Steen):

S. H. Maslak

H. Becher

M. Fink

K. A. Nightingale

J. A. Jensen

S. W. Smith

Medical Ultrasonics

Perspectives on Starting and Running a Medical Ultrasound Business

Ultrasound Contrast Agents and Cardiology

Ultra-high Speed Imaging of Elasticity

Remote Palpation

Scanners for High Speed Beamforming and Signal Processing

2D- and Intracardiac Arrays

Group 2 (David Cheeke):

M. Schickert

M. Kaltenbacher

W. Buff

O. A. Barbian, H. Willems and M. Beller

Sensors, NDE & Industrial Applications

Ultrasonic NDE of Concrete

The Use of Modern Simulation for Industrial Applications of High Power Ultrasonics

SAW Sensors for Direct and Remote Sensing

Transducer Arrays to Measure Corrosion Along Pipelines

Group 3 (Bikash E. Sinha):

K. M. Lakin

J. H. Cantrel

S. N. Ivanov

G. D. Mansfeld and I. M. Kotelyansky

Physical Acoustics

Coupled Resonator Filters

Nonlinear Equations of Motions for Fluids

Recent Developments in Low Loss Materials for Microwave Frequency Acoustic Devices

The Development of a New Class of BAW Microwave Acoustic Devices for Ecological Monitoring

Group 4 (Donald C. Malocha):

H. Yatsuda, H. Iijima, K. Yabe,
and O. Iijima

P. Hagn

F. Seifert and C. C. W. Ruppel

D. Coveyou

Surface Acoustic Waves

Flip-Chip STW Filters in the Range of 0.4 to 5 GHz

Ceramics: The Platform for Duplexers and Frontend-Modules

SAW Signal Processing: Extendable by Si-ASICs?

Key Technologies for SAW-Filter/Active-Circuit Integration in CDMA Handsets

Group 5 (L. Scott Smith):

A. F. W. van der Steen

A. Safari, M. Allahverdi, M. Ebrahimi,
R. Brennen, S. Turuc, A. Hall
and N. M. Haghi

T. Buma

Transducers & Transducer Materials

Intravascular Probes and Their Applications

Manufacturing for Prototyping of Novel Transducers

High Frequency Ultrasonic Imaging Using Optoacoustic Arrays

Focused Sessions:

Reinhard Lerch & Robert Weigel

1. High Frequency Ultrasound Tissue Ultrasound Tissue, Pathology and Cell Change Characterization
2. Advanced Ultrasonic Methods for Evaluation of Concrete Structures
3. Geophysical Prospecting Using Sonics and Ultrasonics
4. SAW Modules and Duplexers
5. Ultrasound MEMS

Short Courses:

Ton van der Steen

Tuesday, October 8, 2002 8:00 a.m. - noon

- Course 1: Fundamentals of Ultrasonic Waves, David Cheeke
- Course 2: Medical Ultrasound Transducers, Douglas Wildes
- Course 3: Elasticity Imaging, Stanislav Emelianov

Tuesday, October 8, 2002 1:00 p.m. - 5:00 p.m.

- Course 4: Nonlinear Acoustics and Harmonic Imaging, Victor Humphrey
- Course 5: Medical Beamforming, Kai Thomenius
- Course 6: Flow Measurements, Hans Torp

Tuesday, October 8, 2002 6:00 p.m. - 10:00 p.m.

- Course 7: Wavelets and Other Multiresolution Transforms in Acoustics, Ali R. Baghai-Wadji
- Course 8: Micromachined Ultrasonic Sensors and Actuators, Amit Lal and Richard M. White
- Course 9: Ultrasound Contrast Agents: Theory and Experimental Methods, Nico de Jong

Munich Information

For general information about Munich contact the official Munich tourist office (<http://www.munich-tourist.de>).

Hotel Information

The Forum Hotel in Munich, Germany is the site of this year's Symposium. Munich, the cosmopolitan city with a heart, offers visitors the best in culture, business and entertainment all year round. The 580 rooms, including 12 suites and special floors which have been especially designed to meet the every need of today's business traveler, make the Forum Hotel the ideal place to stay. The 2100 square meters Conference Center is designed to meet the needs of up to 2000 guests.

The Forum Hotel is located within walking distance to the city center. From the Munich International Airport it can be easily and quickly reached using S-trains S1 or S8 for S-train station "Rosenheimer Platz", a station which allows for direct access within the same building complex to the Forum Hotel. A block of rooms has been reserved at the hotel for attendees. For making reservations please use the reservation form (.doc or .pdf from the symposium homepage <http://www.ieee-uffc.org/2002>) and send it directly to the hotel by FAX or e-mail. **The reservation cut-off date is August 8, 2002. After this date, rooms and rates will be assigned as available.** The symposium rate for a single room will be 151 € and for a double room 169 €. On the symposium homepage you can find information on three more hotels within walking range of the conference site.

Hotel contact information:

Forum Hotel	Tel: +49 89 4803 0
Hochstrasse 3	Fax: +49 89 4488 277
81669 Munich, Germany	E-mail: munich@interconti.com
	http://forum-munich.interconti.com

Oktoberfest

Everybody who is interested in arriving earlier in Munich in order to visit the Oktoberfest is urged to make early hotel reservations! Please do not wait for the symposium announcements and make your reservation for accommodation prior to the symposium **as soon as possible**. For making reservations please use the form "Overflow Hotel Booking" provided on the symposium homepage or contact the official Munich tourist office (<http://www.munich-tourist.de>).

Guest Program

For companions traveling with symposium attendees, a full schedule of activities is currently being finalized. An alternative schedule is listed below. Please watch the website (<http://www.ieee-uffc.org/2002>) for updates and registration information.

Wednesday, October 9: Visits to old town of Munich, the Olympic park and Castle Nymphenburg.

Thursday, October 10: Visit to Lake Chiemsee, Fraueninsel, and Castle Herrenchiemsee.

Friday, October 11: Visit to Castle Neuschwanstein.

Social Program

The Wednesday evening social gathering will be held in the Residence, a magnificent complex of buildings constructed by the powerful Wittelsbach family who ruled Bavaria for about 800 years. The Thursday evening Banquet will be at the Hofbräu Keller.

2002 IEEE International Ultrasonics Symposium

Instructions for Abstract Submission

DUE DATE: MUST BE SUBMITTED BY MIDNIGHT, CENTRAL TIME ON MAY 16, 2002.

All abstracts must be submitted electronically via the World Wide Web, at <http://www.ieee-uffc.org/2002/>. Instructions for submitting the abstract are available on the Web site. After the deadline it will **NOT** be possible to submit abstracts using this form. You will be given a **tracking number** and **password** when you submit the abstract. It is very important that you keep a record of these. You may revise submitted abstracts any time before the deadline, but you can only access your abstract using the password and tracking number.

Space limitations allow a maximum of 2,300 keystrokes (including characters, spaces, and punctuation). Begin count at the title and end count with the last word in the acknowledgment (if one is included). Abstracts that are too long will be rejected automatically by the system. Keystrokes should be counted before you add any special coding. The coding is not counted in the total keystrokes.

If you must use boldface, italic, subscript or superscript type anywhere in the abstract, consult the Text Attributes Coding Information below. This coding is not counted in the 2,300 allowed keystrokes. Special characters such as Greek letters and math symbols are available on the electronic submission form itself.

Text Attributes Coding Information

To make a **word** boldface, type `\bold{word}`

To italicize a *word*, type `\italicize{word}`

To make a character superscript, type `(3)` (superscript 3 in this example)

To make a character subscript, type `$_(2)$` (subscript 2 in this example)

To insert a hat above a character, type `\hat{a}` (â in this example)

Do not insert any extra spaces between the coding string and the adjacent characters in a word or expression. Do not use your word processor's attribute functions to create bold, italics, or superscripts and subscripts. You must use the coding given above. **The characters \$, %, #, &, _, ^, and {} are used by the LaTeX formatting language, which will be used to format the abstract. If you need to use one of these characters in your abstract, it must be preceded by a \ (backslash).**

Special math and Greek characters are available from a grid on the submission form itself; just click an insertion point into your text and choose the character you wish to insert.

For open and close quotes, use `` (2 single open quotes, from your keyboard) for open, and '' (2 apostrophes, from your keyboard) for close quotes.

Titles:

Please type the title in upper and lower case, **NOT** all capitals or all lower-case. The following is a correct example: A Study of SAW Antenna Duplexer for Mobile Application.

Authors:

If you are an author and also the contact for correspondence, please enter your information in **BOTH** places.

Subject Classifications:

Please carefully consider the Subject Classification, listed on the front of this sheet, so your work will be directed to the appropriate group for review.

Focused Sessions:

Please carefully consider whether your work fits into one of the five focused sessions, so your work will be directed to the appropriate group for review. Note that submitting to a focused session does not prevent your abstract from getting accepted in another regular session.