1999 IEEE International Ultrasonics Symposium

Lake Tahoe, Nevada

October 17 - 20, 1999
1999 IEEE International Ultrasonics Symposium & Short Courses

October 17-21, 1999
Caesars at Lake Tahoe,
Lake Tahoe, Nevada

Invitation From The General Chair

It is my great pleasure and privilege to invite you to the 1999 Ultrasonics Symposium that will be held on October 17-20 at Caesars in Lake Tahoe, Nevada. The site of the Symposium is one of the more famous winter/summer resorts in Northern California and Nevada. Lake Tahoe and surrounding Sierra mountains provide a breathtaking backdrop to the Symposium this year.

The technical program committee has endeavored to provide a stimulating and interesting program with an excellent mix of invited and contributed presentations, and we are honored to have Professor Cal Quate start the proceedings with the plenary talk.

The social committee set an attractive social program both for the attendees and spouses. The conference dinner will take place at the famous Bonanza Ranch of television fame throughout the world. The surrounding old west towns and scenery provide ample opportunities for sight-seeing and visiting the not so distant California and Nevada gold rush days.

I hope that the combination of the technical program and the attractions and opportunities that the location offers will allow you all to have an educational and enjoyable symposium in the Sierra Nevada mountains.

B. T. Khuri-Yakub
General Chair

Message From The Technical Chair

On behalf of the Technical Program Committee, who put this Symposium together, I would like to invite you to the 1999 IEEE International Ultrasonics Symposium to be held in Lake Tahoe, Nevada. The number of submitted abstracts this year (630) has set a new record for the Symposium. The establishment of a new Technical Interest Group, Transducers and Transducer Materials, contributed significantly to this record response. To accommodate all of the outstanding submissions and the addition of the new interest group, we have decided to have five parallel oral sessions this year in addition to three poster sessions.

This year marks the success of our several-year effort to implement an all electronic abstract submission process. The electronic submissions have allowed us to provide rapid response to the authors, both in verifying receipt of their abstracts and in posting the results of the review by the Technical Program Committee. Although there may have been minor problems encountered by a few authors, the Technical Program Committee is indebted to the staff at FASS, who manage this symposium, for making this process run so smoothly.

Eric S. Furgason
Technical Program Chair

Deadlines:
Audio Visual Requests         September 15, 1999
Advance Registration          September 15, 1999
Hotel Registration            September 24, 1999

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1111 North Dunlap Avenue, Savoy, IL 61874

Registration & Fees
All Symposium participants and guests must register and are requested to wear badges. The Symposium fee includes admittance to all technical sessions, and a soft-cover copy of the Symposium Proceedings (except for students, retirees, one-day and guest registrants). Details of evening and social events are provided in the Social Program section.

Symposium Fees:
Advance On-Site
IEEE Members (a) $330 $370
Non-members (a) $410 $450
Students & Retirees $50 $60
Guests $40 $40
One-day Registration $150 $150
(a) Including soft-cover proceedings and CD-ROM.

Short Course Fees:
Advance On-Site
IEEE Members $110 $130
Non-members $140 $160
Students & Retirees $50 $50

The reduced rates for advanced registration are available only by completing the advance registration form available at piezo.stanford.edu/UFFC (it is also located at the center of the Advance Program), enclosing proper payment, and mailing to:

1999 IEEE International Ultrasonics Symposium
C/O FASS
1111 N. Dunlap Avenue
Savoy, IL 61874 USA
or FAX to: 217/398-4119

The Advance Registration form must be received by FASS by September 15, 1999. Postmarks do not apply. Each registrant must complete a separate Advance Registration Form. The remittance is payable, in US Dollars only, by personal or company check drawn on a US Bank, money order, VISA, MasterCard, or American Express. Bank drafts, foreign currency, and purchase orders will not be accepted. For advance registration, the remittance must accompany the Advance Registration Form. On-site registration must be made in US dollars.

Refund Policy
There will be a $25.00 service charge to process refunds for those who have pre-registered but who are unable, for whatever reason, to attend the Symposium. A letter requesting the refund should state the registrant’s name and to whom the refund check should be made payable. No refunds will be given for requests received after October 10, 1999.

Hotel Reservation
For reservations, please mail Hotel Reservation Form available at piezo.stanford.edu/UFFC to Caesars Tahoe, PO Box 5800, 55 Hwy 50, Stateline, NV 89449, or fax to (775) 586-2024, or call the reservations department at (800) 648-3353.

Group Code: IEEE
Room Rates: $90.00 + 10% room tax.

Rates applicable until September 17, 1999 after which reservations will be based on availability, at the prevailing rate.

Proceedings
The Symposium Proceedings including the CD-ROM version will be available in early 2000. A soft-cover copy will be shipped to all paid registrants except students, retirees, guests, and one-day registrants. A hard-cover copy may be ordered for an additional $50.

Extra copies of the Symposium Proceedings may also be ordered at the registration desk. Additional soft-cover Proceedings, $100; additional hard-cover proceedings, $150.

For overseas mailing addresses, an additional $55 per copy is required to defray the air and freight mailing costs.

Please note that only those papers that are presented at the Symposium will be included in the Proceedings.

Social Program
Evening Events
Monday, October 18, 1999
Social Reception
6:30 pm - 9:00 pm
Circus Maximus

Tuesday, October 19, 1999
Banquet
5:30 pm - 10:30 pm
Ponderosa Ranch
Price per person US $50.00

The Ponderosa Ranch - legendary home of the Cartwrights of T.V.’s famous Western Series - BONANZA. Yes, it’s also
here - amidst the towering pines, the clear skies, and the scenery that you come to Tahoe for! And with some creativity and planning, your night at the Ponderosa Ranch will be an Old Western Town come to life!

You will certainly enjoy being guests at the Ponderosa Ranch. Here you will tour the Ponderosa Ranch House and see Hop Sing’s kitchen, Ben Cartwright’s library, the barn, and collections of antique farm equipment, as well as the Optical Illusion Mine. You may browse the shops, have a drink at the Silver Dollar Saloon, see the Church of the Ponderosa, and much, much more.

Once in the main street of town, the activity increases. There could be square dancers performing, who may find willing participants from the crowd. The kidnapping that could have occurred earlier will, of course, soon come to trial, with Old Western Justice being served - yes, a hanging.

A Country Western Band will be performing in the Silver Dollar Saloon to provide that special musical sound to set the mood for listening, dancing, and for what is yet to come. A Can-Can Show, with an 1890’s revue, could perform at a few select times throughout the evening, reminiscent of Miss Kitty and her girls.

You will enjoy smoked chicken and ribs, coleslaw, bread roll, ranch-style beans, and all you can drink from a souvenir Ponderosa tin cup.

A Country Dance Teacher could be on site to teach Western-style dancing to those who want to learn. Guns of Yesterday, the most motley crew you would ever have seen in the Old Wild West, could be causing their usual ruckus. You can’t stop them from having gunfights during your party!

How many people today recall a real Old Time Medicine Show, complete with the “Elixir of Life” and “Marvelous Snake Oil”? This is a terrific addition to round out the evening!

You can even renew your wedding vows at the Church of the Ponderosa. Here, Reverend I. Am Wright and his lovely wife, Tammy Maybe Wright will be performing the ceremonies and passing out the “Ol’ Weddin’ Certificates”.

Guest Program

A varied program is being planned to entertain those who register for the Symposium as guests. Registration permits you to enjoy our continental breakfast each morning, as well as the evening Social Reception. Three guest tours, individually priced, have also been arranged for the enjoyment of the guests.

PLEASE NOTE: Only registered GUESTS may attend the Guest Breakfast.

Guest Tours

Tour A: Tramway to Heavenly with Lunch
“We Breathe the Air the Angels Breathe”
Monday, October 18, 1999
11:00 am - 3:00 pm
Price per person (including lunch): US $50.00.

That quotation is from “Roughing It”, published by Mark Twain in 1872. Today that quote is as true as it was over 100 years ago at Lake Tahoe when Twain penned it! What better way to breathe that wonderful mountain air and enjoy the spreading vistas of Lake Tahoe scenery than to take a cable car ride to the top of the mountain.

From the South Shore of Lake Tahoe, the guests will enjoy the aerial tram ride to the “Top of the Tram” situated at 8200 feet at Heavenly. High above the city of South Lake Tahoe, you seem to be sitting “On Top of the World”: special menus, unmatched ambiance, outside decks, beautiful views, truly a one-of-a-kind experience.

Tour B: M. S. Dixie II Emerald Bay Cruise with Lunch
Tuesday, October 19, 1999
10:15 am - 1:30 pm
Price per person (including lunch): US $40.00.

A classic example of the riverboats found on the waterways of America during the steamboat era of the 1860s, the M. S. Dixie continues to provide the Dixie’s famous tradition of great food and unbeatable hospitality. Your group will be welcomed aboard with the famed “Dixie Hospitality”. The M. S. Dixie II will depart from the pier and begin leisurely cruising along the Southern Shoreline as the towering mountains above Stateline come into full view. Members and their spouses will enjoy sightseeing from all three decks on the M. S. Dixie II, the largest, most sophisticated paddle wheeler ever to cruise Lake Tahoe.

The group will enjoy both a terrific lunch and the spectacular scenery of Lake Tahoe as can only be appreciated from a vantage point on the Lake itself. The cruise is two hours of fabulous sightseeing.

The afternoon will be a perfect blend of Lake Tahoe’s spectacular beauty and the charm of a Mississippi Riverboat. Let your mind wander back in history as you listen to the legends of Lake Tahoe. This is truly an afternoon of unforgettable scenery!

Tour C: Virginia City Tour with Lunch
Wednesday, October 20, 1999
10:00 am - 3:00 pm
Price per person (including lunch) US $40.00.

Descending from the Tahoe Basin via Scenic Spooner Summit, your Tahoe Ambassador will set the mood for the day by sharing the history of the Great Bonanza Trail and the gold seekers who blazed the first trails for the white man into the area.

Our first stop will be Carson City, Nevada’s Capitol City, where we will explore the Nevada State Museum. Housed in the old U.S. Mint building, it offers fabulous renditions of a working mine and a ghost town. The museum with its varied displays of Nevada’s history truly sets the scene for sights to come.

Following the museum, your Tahoe Ambassador will take you past historic Victorian homes and view the Governor’s mansion.

Proceeding to Virginia City, the exciting history of Virginia City, Nevada, will begin to unfold. Once the richest place on earth, you will hear of the many “rags to riches” and “riches to rags” tales. The gold and silver discoveries had a tremendous impact on the whole country. As an example, did you realize that Nevada was made a state because the Union needed Virginia City’s riches to finance their Civil War effort?
After arriving in Virginia City, you will be escorted through the town. See historic mines, the old red light district, and the mansions built by the mine owners and supervisors.

Everyone needs some time to explore their particular interests. Optional individual activities include mansion tours or merely exploring the old time shops and gambling halls still in operation.

Your Tahoe Ambassador will be with you throughout the day, not only to share his/her knowledge of the area, but to ensure that all of the activities run smoothly, that you have someone along to answer all questions, but more importantly, to make sure a “good time is had by all”.

Exhibits

The Exhibit Displays will be in the Augustus/Claudius rooms. Companies will display their products, and representatives will be there to meet Symposium attendees. The exhibits will be in place from October 18th in the morning, until noon October 20th. Companies with space reserved as of May 1999 include:

- Sumitomo Electric U.S.A., Inc.
  New York, NY
- Panametrics, Inc.
  Waltham, MA
- W.L. Gore & Associates
  Phoenix, AZ
- Valpey-Fisher Corporation
  Hopkinton, MA
- Sensor Technology
  Collingwood, ON, Canada
- Seacor Piezo Ceramics
  Branford, CT
- Ritec, Inc.
  Warwick, RI
- Materials Systems, Inc.
  Littleton, MA
- Matec Instrument Companies, Inc.
  Northborough, MA
- SPECS, U.S.A., Inc.
  Sarasota, FL
- Crystal Technology, Inc.
  Palo Alto, CA
- Sound Technology, Inc.
  State College, PA
- Tetrad Corp.
  Englewood, CO

1999 IEEE International Ultrasonics Symposium & Short Courses

Short Courses

Course 1: Fundamentals of Ultrasonic Waves
Instructor: David Cheeke

Course 2: Introduction to Surface Acoustic Wave Technology
Instructor: Donald C. Malocha
University of Central Florida
Orlando, FL, USA

Course 3: Beamformation in Medical Ultrasound
Instructor: Kai E. Thomenius
GE Corporate R&D
Niskayuna, NY USA

Course 4: Wavelets and Waves in SAW and BAW Devices: A Signal Processing Approach
Instructor: Ali R. Baghai-Wadji
Vienna University of Technology
Vienna, Austria

Course 5: Ultrasound Systems for Blood Velocity Estimation
Instructor: Jørgen Arendt Jensen
Technical University of Denmark
Lyngby, Denmark

Course 6: Micromachined Acoustic Sensors and Actuators
Instructors: Amit Lal
University of Wisconsin
Madison, WI, USA
and
Richard M. White
University of California Berkeley
Berkeley, CA, USA

Course 7: Contrast Agents: Theory, Experiment, and Clinical Application
Instructors: John S. Allen, Katherine Whittaker Ferrara and Jonathan Lindner
University of Virginia
Charlottesville, VA, USA

Course 8: High Temperature Techniques using Ultrasound
Instructor: Donald E. Yuhas

September 1999
A brief outline of Quate's career:

Ultrasonics is a long and revered field of research is a late comer to the field of Scanning Probes, but it is gaining momentum. The advent of scanning probes has changed the criteria for resolution for microscopes. The wavelength of the radiation no longer sets the limit on resolving power. Much of the work with scanning probes has been carried out with electrons in the STM, or the overlap of electronic wavefunctions in the AFM, or electric and magnetic fields in the SCM and MFM. Recent innovations include piezoelectric films which bend the cantilever to control the spacing between tip and probe arrays which enable us to increase the scanned area. We will review some of this in our talk and relate it to the latest advances to illustrate that Ultrasonics is on the verge of invading the field of scanning probes.

Invited Speakers:

**Group 1 (Kathy Ferrara): Medical Ultrasonics**
- Dr. Gerald R. Harris
  - FDA/CDRH
  - "Medical Ultrasound Exposure Measurements: Update on Devices, Methods, and Problems"
- Robert C. Waag and D. B. Phillips
  - University of Rochester Medical Center
  - "Measurement and Correction of Ultrasonic Wavefront Distortion"
- Greg E. Trahey, R. C. Gauss, and M. S. Soo
  - Duke University
  - "Adaptive Imaging in the Breast"
- David T. Blackstock
  - University of Texas at Austin
  - "Nonlinear Acoustic Fundamentals"

**Group 2 (Don Yuhas): NDE & Industrial Applications**
- Dr. Marvin A. Hamstad
  - NIST
  - "Wideband Acoustic Emission Studies: Modeling, Sensors, Equipment and Experimental Results"
- Dr. Leonardo Masotti, E. Biagi, M. Calzolai, L. Capineri, S. Granchi, and M. Scabia
  - University of Florence
  - "FEMMINA: A Fast Echographic, Multiparametric Multi-Imaging Apparatus"
- Dr. Edward J. Stapes
  - EST
  - "The Electronic Nose Simulation of Olfactory Response Containing 500 Orthogonal Sensors in 10 Seconds"
- Dr. Showko Shiokawa and J. Kondoh
  - Shizuoka University
  - "Surface Acoustic Wave Sensor for Liquid-Phase Applications"
- Dr. Martin Spies
  - University of Saarland
  - "Simulation of Ultrasonic Testing of Complex-Structured Materials and Components"
- Dr. Kjetil F. Kaarenes
  - Norwegian Computing Center
  - "Sparse Spike Deconvolution"
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Group 3 (Bikash Sinha): Physical Acoustics
Dr. John Vig
US Army CE COM
“Dual-Mode Oscillators for Clocks and Sensors”
Prof. Kenshiro Takagi
University of Tokyo
“Ultrasonic Phase Conjugation Waves-Generation, Visualization, and Applications”
Dr. Lane A. Gore and Dr. Ernie K. Kirchner
Teledyne MEC
“Applications of Thin-Film Transducers to BAW Devices for Microwave Frequency Electronic Systems”
Dr. Bikash Sinha and Dr. Smaine Zeroug
Schlumberger-Doll Research
“Applications of Sonics and Ultrasonics in Geophysical Prospecting”
Dr. Kenneth M. Lakin
TFR Technologies, Inc.
“Thin Film Resonators and Filters”

Group 4 (Gary Montress): Surface Acoustic Waves
Hideharu Ieki and M. Kadota
Kanazawa Murata Manufacturing Co., Ltd.
“ZnO Thin Films for High Frequency SAW Devices”
Guenter Martin
Institute of Solid State & Materials Research - Dresden
“Transversely Coupled Resonators and Filters (TCRFs)”
Yasushi Yamaomo, H. Kawahara, Y. Takahashi, S. Yoshimoto, T. Tsuda, N. Sakairi, and R. Kajihara
NEC Corporation
“Intermediate Frequency SAW Filters for Mobile Phone Applications in Japanese Markets”
Carl M. Panasik
Texas Instruments Inc.
“Third Generation Cellular Communication Systems: Where’s the SAW Device?”

Group 5 (Lew Brown): Transducers & Transducer Materials
Jonathan J. Bernstein, G. Kirkos, R. Miller, S. Finberg, K. Houston, B. Xu, Y. Ye, and L.E. Cross
MEMS Technology Center
“Advanced MEMS Ferroelectric Ultrasound 2D Arrays”
L. Eric Cross
Penn State University
“High Strain, High Coupling Piezoelectric Ferroelectric Single Crystals: Current Status and Future Prospects”

Travel Awards for Students
We are delighted that you are interested in coming to the IEEE International Ultrasonics Symposium meeting this year in Lake Tahoe, Nevada and hope to see you there. The criteria for travel support for students will be the following:
1. Presenting at the meeting
2. Nearest graduation date
3. Farthest travel
4. One per lab
5. Earliest application

We hope you consider our Symposium for presentation of your work. We look forward to seeing you at the meeting.

You can email to Prof. J. F. Greenleaf at jfg@mayo.edu for student support. In your application you should provide the following information:
Name:
University:
E-mail address:
Full Address:
Program in which registered:
Expected date of degree:
Title of the paper:
Co-authors:
Work done and existing interest in ultrasonics:

Travel Assistance for Non-Students
Travel assistance is also available for non-students. However, it is offered to presenting authors only. Assistance is limited to economy return air fare for travel to the Symposium, registration fee and three nights’ hotel accommodation.

You can email to Prof. B. T. Khuri-Yakub at khuri-yakub@stanford.edu for non-student travel support. In your application you should provide the following information:
Name:
Institution:
Department:
E-mail address:
Full adress:
Title of the paper:
Co-authors:
Work done and existing interest in ultrasonics:

Limited funds are available to support student and non-student presenting authors at the 1999 symposium. Awards will be made on competitive basis.

The application deadline is July 15, 1999.

Notes and Corrections:
Jun-ichi Kushibiki, Ex-Vice Chairman of the UFFC Tokyo chapter, wrote to tell us that the “1999 Officers,” listed which appeared on page 34 of the Spring 1999 UUFC-S Newsletter are actually the “1998 Officers.” Please accept our apologies for the error.

Please also note that at press time, there was no Call for Papers available for the 2000 International Frequency Control Symposium.
1999 IEEE International Frequency Control Symposium

This year's IEEE International Frequency Control Symposium (FCS) was held jointly with the 13th European Frequency and Time Forum (EFTF) in Besançon, France from April 13 to April 16, 1999. This marks the first time that the FCS has been held outside the United States and the first time that it has been joined with any other conference. This combined meeting was part of a two-conference trial of joint meetings between the FCS and EFTF. The second such meeting will be held in Baltimore in 2003. The reaction of attendees to these two joint meetings will be used to determine whether the two conferences will extend the practice.

With an attendance exceeding 650 and 320 papers accepted for presentation, this was clearly the largest single meeting ever held on the topic of time-and-frequency technology. The conference was hosted by the Société Française des Microtechniques et de Chronométrie and Co-Chaired by Raymond Besson of the Ecole Nationale Supérieure de Mécanique et des Microtechniques and Donald Sullivan of the National Institute of Standards and Technology (NIST). Fred Walls of NIST served as Chairman of the Technical Program Committee.

The technical program was opened with plenary presentations by Nobel Laureates William Phillips of NIST and Claude Cohen-Tannoudji of Ecole Normale Supérieure. The ensuing program was exceptionally well rounded with large numbers of papers on atomic clocks; time scales; time transfer; crystal oscillators; microwave oscillators; optical frequency standards; microwave and optical-frequency synthesis; piezoelectric materials; SAW and STW devices; sensors and actuators; and noise and stability in various devices. There was substantial international diversity among the 31 exhibitors at the conference, and the banquet and reception were lively and well attended. Special thanks go to Isabelle Bourgon, the very-well-organized Conference Secretariat, and to Barbara McGivney, Wendy Ortega and Mike Mirarchi for attending to the many organizational details that made the meeting run so smoothly.

At the awards ceremony, both FCS and EFTF awards were presented to the following seven individuals:
- IEEE W.G. Cady Award - presented to Raymond L. Filler “for contributions to the fundamental understanding of acceleration sensitivity, hysteresis and the aging of quartz resonators.”
- IEEE I.I. Rabi Award - presented to Bernard Guinot “for outstanding contributions to the definition and implementation of the concepts on which international timekeeping is based.”
- IEEE C.B. Sawyer Memorial Award - presented to Shih S. Chuang “for contributions and leadership in the development and commercialization of micro-machined quartz crystal devices.”
- European Time and Frequency Award - presented to G. John Dick “for outstanding contribution to development of cryogenic oscillators of different types with extremely low phase noise and for prediction of the importance of noise characteristics in oscillators associated with atomic frequency standards.”
- European Young Scientist Award - to three young scientists.
- NoNi DiMarcq, “for outstanding degree of activity, initiative and creativity in the application of atom cooling to atomic frequency standards.”
- Filippo Levi, “for crucial experiments on dark lines in alkali vapors leading to the development of a cesium maser and other light-shift-free microwave frequency standards.”
- Michael Tabor, “for development of very low noise oscillators using Galani phase noise cancellation technique and for development of interferometric phase/amplitude detection techniques to reduce noise in systems and oscillators.”

Submitted by Don Sullivan,
General Co-Chair

Two Tenure-Track Faculty Positions in Acoustics
The University of Texas at Austin

The Department of Mechanical Engineering at The University of Texas at Austin anticipates filling two tenure-track positions at the level of Assistant Professor in the area of Acoustics (including Ultrasonics and Transducers). One position is in the Mechanical Systems and Design (MS&D) area of the Department, and the other position is in the Thermal/Fluid Systems (TFS) area. Candidates must possess a doctoral degree (or have all degree requirements substantially complete) in a field appropriate for teaching graduate courses and directing graduate research in Acoustics, and for teaching undergraduate courses in either the MS&D or TFS area of the Department. The candidate selected for the position must provide documents, including proper visa, proving eligibility to work in the U.S. Anyone interested in applying should send a resume, a list of at least three professional references, and a statement of career interests and objectives consistent with the position being applied for (MS&D or TFS) to Chair, Department of Mechanical Engineering, The University of Texas at Austin, ETC 5.160, Austin, TX 78712-1063. Applications should be received by December 31, 1999. The University of Texas at Austin is an Equal Opportunity, Affirmative Action Employer. Women and minorities are especially invited to apply.
IEEE Ultrasonics, Ferroelectrics, and Frequency Control Society
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President's Message

What does the President of the UFFC Society do? Now that my two-year term is nearing completion, I would answer this question differently than I would have two years ago. The UFFC Society Constitution defines the president's two major duties: "...The President shall supervise the affairs of the Society...," and, "...When the President is notified of meetings of IEEE Boards of which he/she is a member, the President shall insure representation of the Society at such meetings...."
Two years ago, I would have said that the first is the primary duty, and the second is a perfunctory role. Well, if I measure the importance of the two roles by the relative amounts of time I have devoted to them, the second is the more important one (I would estimate the relative times spent to be about 1 to 10).

Supervising the society's activities is the easier part of the job, thanks to the outstanding volunteers who serve the Society: the president-elect; the vice presidents; the committee chairs, vice-chairs, and members; the secretary/treasurer; the AdCom members; the editor-in-chief and associate editors; and the symposium officers. Thanks primarily to their efforts, the UFFC-S has made important progress during the past two years.

The most important measure of a Society's progress, in my opinion, is the impact on the membership. According to this measure, the most important decision by the UFFC Society, not just during the past two years, but ever, has been to digitize the back issues of all UFFC-S publications and to make the resulting products available to the members at an affordable price (see elsewhere in this Newsletter for details). Other important recent accomplishments/actions include, the agreement with the Electron Devices Society for reciprocal access to on-line publications, improvements in the quality, timeliness and special issues of our Transactions, the creation of two student AdCom member positions, highly successful symposia, and bringing “new blood” into the Society’s leadership - with the appointments of new vice-presidents, committee chairs and student AdCom members.

With respect to representing UFFC-S on IEEE Boards, this part of the job can, at times, be frustrating. It is not easy to change an organization of nearly 350,000 members. But, when one succeeds in making a change for the better, the job can be highly satisfying.

My most important accomplishment has been to propose, and shepherd through the approval process, the creation of the IEEE Sensors Council. Whereas before, the IEEE’s sensor activities were scattered throughout many societies, and the principal sensor publications were by commercial organizations, now, the IEEE has a focus on sensors and the possibility of becoming the dominant professional society, and publisher, in this important field. I had also participated in the deliberations of numerous IEEE committees. The topics included: how to restructure the IEEE’s financial management and how to streamline the organization; transnational issues, i.e., how to increase membership from outside N. America and the participation of such members in the leadership of the IEEE; how to improve the image of IEEE members and the image of the IEEE brand; and ethics issues, such as the possible conflicts of interest by IEEE editors who also serve as editors of competing journals. The debates about these issues will probably continue well beyond the end of my term.

On Jan 1, 2000, Fred Hickernell will become President of the UFFC-S. He will be taking over a society that is in good shape, both technically and financially. I wish him well, and hope that he will have at least as much fun being president as I did.

John Vig
President, UFFC-S

AdCom Briefs

The Administrative Committee (AdCom) meeting of the Ultrasonics, Ferroelectrics, and Frequency Control Society (UFFC-S) was called to order at 9:02 A.M., 18th June 1999, by J. R. Vig, UFFC-S AdCom President, at the Hotel Sofitel, Chicago (Rosemont), Illinois. Introductions of attending members were conducted.

J. R. Vig, UFFC-S AdCom President, introduced C. H. Frazier (University of Illinois) and K. E. Morgan (University of Virginia - Charlottesville), the UFFC-S’s AdCom Student Members for 1999.

G. K. Montress, UFFC-S Secretary/Treasurer, moved to approve the minutes of the 4th October 1998, UFFC-S AdCom meeting. The motion was seconded by R. H. Tancrrell. The motion passed, with two minor typos noted for correction prior to submission to IEEE for archiving.

G. K. Montress, UFFC-S Secretary/Treasurer, reported that two e-mail/FAX ballots had been conducted during the time period from 5th October 1998 to 17th June 1999. These ballots approved: the UFFC-S President’s Committee Chair and Representative appointments for 1999 and a $2k UFFC-S...
start-up funding contribution to the IEEE’s newly created Sensors Council.

The UFFC-S AdCom approved a plan to put all of the UFFC-S’s Conference Proceedings (US, FCS, and ISAF) and Transactions onto a set of CR-ROMs. They should be available in early 2000, and will be available to all UFFC-S members.

W. D. O’Brien, Jr., UFFC-S Transactions Editor-in-Chief, presented oral and written reports. The Federation of Animal Science Societies’ (FASS’s) handling of the editing and preparation operations for the UFFC-S Transactions continues to go very well in 1999. A new printer (Imperial Printing) is now handling the UFFC-S Transactions for FASS.

W. D. O’Brien, Jr., UFFC-S Transactions Editor-in-Chief, reported that the UFFC-S Transactions are available on-line now, beginning with the January 1997 issue. All UFFC-S members in good standing should be able to access the UFFC-S Transactions on-line.

The UFFC-S’s AdCom approved funds to place the 1995 and 1996 volumes of the UFFC-S Transactions on line as well, as soon as possible.

The UFFC-S’s AdCom approved a CY2000 budget of $44k for the UFFC-S Transactions Editor-in-Chief.

W. D. O’Brien, Jr., UFFC-S Transactions Editor-in-Chief, reported that five additional Special Issues of the UFFC-S Transactions are currently in progress, specifically: a Special Issue on Applications of Ferroelectrics, a Special Issue commemorating the 30th Anniversary of Piezoelectric PVDF, a Special Issue on Frequency Control and Precision Timing, a Special Issue on the Joint Korea-United States Workshop on Nondestructive Evaluation, and a Special Issue on Modeling, Optimization, and Design of Surface and Bulk Acoustic Wave Devices.

W. D. Hunt, UFFC-S Newsletter Editor-in-Chief, presented an oral report. The deadline for submission of material for the September 1999 (Fall) issue of the UFFC-S Newsletter is approximately 5th August 1999. This earlier than usual deadline is due to the fact that the 1999 IEEE International Ultrasonics Symposium is scheduled for 17th - 20th October 1999 and the UFFC-S Newsletter will contain information describing arrangements for the meeting.

H. van de Vaart, UFFC-S Finance & Operations Committee Chair, presented oral and written reports. The UFFC-S remains in good financial shape, with reserves of approximately $728k as of 31st December 1998.

The UFFC-S’s budget for CY2000 was approved.

A. Safari, UFFC-S Ferroelectrics Vice-President, presented oral and written reports. The 2000 ISAF will be held in Honolulu, Hawaii with A. Kingon and D. Viehland serving as General Co-Chairs and the 2002 ISAF will be held in Gaithersburg, Maryland with S. Freiman serving as General Chair. Niagara Falls, Canada, is the venue for the 2004 ISAF, with S. M. Pilgrim serving as General Chair.

J. A. Kusters, UFFC-S Frequency Control Vice-President, submitted a written report. The 1999 IEEE International Frequency Control Symposium was held in Besancon, France, as a joint meeting with the 13th European Frequency & Time Forum. The meeting was very successful, with 656 attendees.

J. A. Kusters, UFFC-S Frequency Control Vice-President, noted that the 2000 IEEE International Frequency Control
Symposium will be held in Kansas City, Missouri, on 6th - 9th June 2000. It will be the first jointly sponsored meeting with the EIA. J. D. Prestage has agreed to serve as Technical Program Chair for the meeting.

J. F. Greenleaf, UFFC-S Ultrasonics Standing Committee Chair, presented an oral report. The 1999 IEEE International Ultrasonics Symposium will be held in Lake Tahoe, Nevada; the 2000 IEEE International Ultrasonics Symposium will be held in San Juan, Puerto Rico; the 2001 IEEE International Ultrasonics Symposium will be held in Atlanta, Georgia; the 2002 IEEE International Ultrasonics Symposium will be held in Munich, Germany; and the 2003 IEEE International Ultrasonics Symposium will be held in Honolulu, Hawaii, with J. F. Greenleaf and W. D. O'Brien, Jr., serving as General Co-Chairs for the meeting.


The UFFC-S AdCom approved an increase in the Distinguished Lecturer’s travel budget. Effective immediately, the budget will be $20k per distinguished lecturer.

R. H. Tancrell, UFFC-S Awards Committee Chair, is formulating a plan for a uniform set of UFFC-S sponsored awards which spans the three primary technical areas of interest to the UFFC-S. He is coordinating this effort with the Ferroelectrics, Frequency Control, and Ultrasonics Standing Committees.

S. M. Pilgrim, UFFC-S Chapter/Membership Services Committee Chair, presented an oral report.

A. Ballato, UFFC-S Standards Committee Chair, presented written and oral reports. The UFFC-S’s Standards Committee is currently responsible for nine items: eight standards and one project.

F. S. Foster, UFFC-S Nominations Committee Chair, presented oral and written reports. The election for new UFFC-S AdCom members with their three year terms in office starting on 1st January 2000 will be held later this Summer (1999). The slate of nominees from IEEE Regions 1 - 7 is: L. Brown, M. M. Driscoll, R. L. Filler, R. M. Garvey, T. E. Parker, and T. Sinclair. Nominees from IEEE Regions 8 - 10 are: C. C. W. Ruppel, D. P. Tsarapkin, and A. F. W. van der Steen. Three new UFFC-S AdCom members will be elected from among the Regions 1-7 candidates, while one new UFFC-S AdCom member will be elected from among the Regions 8-10 candidates. The election should be completed by early November 1999.

D. C. Malocha, UFFC-S Long Range Planning Committee Chair, indicated that the UFFC-S’s Strategic Planning Document is operative, and he is coordinating efforts to achieve its major objectives.

The next UFFC-S AdCom meeting will be held at 9:00 A.M., on Sunday, 17th October 1999, in conjunction with the 1999 IEEE International Ultrasonics Symposium, in Lake Tahoe, Nevada.

The UFFC-S AdCom meeting adjourned at 5:54 P.M.

Gary K. Montress
UFFC-S AdCom Secretary/Treasurer, 1999

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**UFFC Digital Archive On Its Way**

Get ready to be able to clear out some needed shelf space in your office. Work has initiated on the creation of a complete digital archive of all the material published by the UFFC since its inception. The UFFC Digital Archive should become available sometime during the first half of 2000. The collection will include all copies of the Transactions on Ultrasonics, Ferroelectrics and Frequency Control (formerly known as the Transactions on Sonics and Ultrasonics) as well as the conference proceedings from the Frequency Control Symposium, the Ultrasonics Symposium, and the International Symposium on the Applications of Ferroelectrics. The earliest of these publications, the Proceedings of the Frequency Control Symposium, first appeared in 1947 so we will begin with a digital archive which spans roughly 50 years of the scholarly work of the UFFC Society. As a bonus, and in the interest of making the historical materials of the society widely available, all issues of the UFFC Newsletter will also be included. Further, Roger Ward has obtained permission for electronic publication of two out-of-print, classic texts:

- S. M. Pilgrim, *UFFC-S Chapter/Membership Services Committee Chair*, presented an oral report.

In the future, there is the possibility that we may wish to add more books to the UFFC Digital Archive. If you know of a book relevant to the UFFC which is out-of-print and for which you are willing obtain the permission to publish on the web, please feel free to contact John Vig at J.Vig@IEEE.org.

Federation of Animal Science Societies (FASS), the current publisher of the Transactions and manager of the Transactions website, has been selected as the contractor for this project. Chuck Sapp, the Executive Vice-President of FASS, said, “The work is underway and progressing very well. We are very excited about this opportunity to render the collected works of the UFFC into archival digital form. Given that we have also been selected to be the website manager for the organization, we can provide a seamless digital library with the new issues of the Transactions being added continuously to the collection. This is a new business area for us that we are eager to get into. Recently, we have signed contracts with three more organizations to create digital libraries for them as well.”

The UFFC Digital Archive will be accessible via the official UFFC website and a set of CD ROMs. There will be be-
tween 12 and 16 CDs in the CD ROM set and due to the nature of this form of the archive the titles, authors and abstracts of the entire collection will appear on the lead CD. One can search this data set and will be directed to the CDs where the papers are found. For the web version of the Digital Archive, however, the text of the articles will also be searchable and one can search through the entire collection more extensively. Further the web version will be more easily upgraded as new Transactions and Symposium Proceedings are published.

How much will this wonderful library cost me, you ask. For UFFC members it will cost only $30. There was strong feeling on the part of Jan Brown, chair of the subcommittee that spearheaded the creation of the library, that this should be considered a member benefit and not be terribly expensive. For nonmembers the cost will be $250. If you are a member and purchase the CD ROM Digital Archive, you will have access to the web version as long as you maintain your membership. A nonmember who purchases the CD ROM Digital Archive will have access to the web version for one year. If you decide to cancel your membership in the UFFC, you will no longer be able to access the web version of the archive.

“The most important decision made by the UFFC Society,” said President John Vig, “not just during my term, but I believe ever, has been to digitize the back issues of all UFFC-S publications and to make the resulting products available to the membership at an affordable price. To the best of my knowledge, no other action has benefited the membership of UFFC-S in such a far-reaching way.”

Changes Afoot for the UFFC Website

The decision was reached by ADCOM at its June meeting to consolidate the web activities of the UFFC and over the next few months these changes will begin to take form. We wish to thank Ryszard Lec who has served as the volunteer webmaster for the past few years. FASS, the publisher of the Transactions, has been retained as the webmaster and will provide professional maintenance of the website's various aspects. One can think of this website as being comprised of two main parts. One will be the UFFC Digital Archive with by the middle of next year will contain the collected works of the UFFC as well as being continuously updated to include new issues of the Transactions and Symposium Proceedings. The other will include information on, at a bare minimum, the activities of the Ultrasonics, Ferroelectrics and Frequency Control portions of the UFFC. This portion will have web editors for the different sections of the UFFC as well as a Web Editor-in-Chief. Anyone wishing to post something on the web, say for the Ultrasonics section, would contact the Web editor for Ultrasonics. The Web editor for US would review and edit the material and send it onto the Web Editor-in-Chief for approval and further editing. The Web Editor-in-Chief would then send the material onto the FASS webmaster for posting. In this manner, the society has only one person who interacts with the FASS webmaster. This will ensure the integrity of the website and the efficiency with which material is posted. “We really want to get beyond just supplying information on the activities of the society and make full use of the possibilities provided by the web,” says Richard Chiao, the new Web editor for Ultrasonics. “Initially on a trial basis in the Ultrasonics section of the site, we would like to try to boost user interaction on the site. For example, we want to try having regular, contributed web articles (which will preferably include links to software and data used in the paper so that readers can really get into the paper - enabling a new level of collaboration), a quick demo section on latest results, a collection of software tools and data, etc.”

The contact information for the editors is given below and you are welcome to contact them with contributions and suggestions you might wish to make regarding the sight.

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Frequency Control Web Editor:
John Vig, Ph.D.
WELCOME NEW UFFC-S MEMBERS

“We welcome the following new members to the IEEE Ultrasonics, Ferroelectrics, and Frequency Control Society who have joined in the past six months.

Woowai Lau
AZ Max I Fomishev
OK Kazuhiro Sunagawa
Japan

Douglas J Arnold
CA Yousry Y Botros
OR Sadahara Kanda
Japan

Xinwei Hao
CA Judd S Gardner
PA Toshihiro Ohtani
Japan

Henry G Pavy
CA Dan Nehring
PA Kiyotugu Sekioka
Japan

Meryll Don Gallego
CA Janette Santana
PR Yyu Ono
Japan

David J Powell
CA Noel C Eck
SD Jaesub Hwang
Korea

James Edmond Chomas
CA Kofi Korsah
TN Hyunjune Yim
Korea

Adam R Ostergren
CA Nicholas G Zacharopoulos
TX Yuumbo Cho
Korea

Kam Yin S Wong
CA Paul D Key
TX Joon-Hyun Lee
Korea

Marco Siccardi
CA David Dao Nguyen
UT Dong-Jin Yoon
Korea

Paul Reynolds
CA Steven Daniel Erickson
VA Bongyoung Ahn
Korea

Jacob M Li
CT Hong Wan
WA Seung Seok Lee
Korea

Zhi Yang
CT Yadong Li
WI Seunghee Lee
Korea

Daqing Piao
CT Alejandro Perez Williams
Argentina Jong-Seop Jeong
Korea

Philip Tang
FL Sergio Raul Gomez
Argentina Yang-Mo Yoo
Korea

Christoph T Schroeder
GA Humberto Ruben CAMPodonico
Argentina Donghyun Kim
Korea

Marvin E Precking
IA Toby D Tomlin
Australia Jeeong Seok Kim
Korea

Jeremy C Snarski
IL Gernot Hueber
Austria Maria E Fuentes-Montero
Mexico

Jose C Lleraez Jr
IL Nermin Fejzic
Bosnia and Herzegovina Mehdi Lebiad
Morocco

William Ho
IL Oswaldo P Paixao
BrazIL Evert Dekker
Netherlands

Chi Zhang
IL Hirohiko Katayabashi
Canada Jaeg C Schlegel
Netherlands

David A Payne
IL Paul R Bowler
Canada Rene Breeawer
Netherlands

Shan Wan
IN Chad Edward Jewers
Canada Birgit Vanek
Netherlands

Yonald Cherry
MA Mark C Madsen
Canada Sigmund Bardal
Norway

Francis P Harrington
MA Yuanyuan Wang
China Carlos Menendez
Peru

Rajesh K Panda
MA Hani A Youssef
Egypt Juan A Deustua
Peru

James C Maxwell
MA Hani A Youssef
Egypt Korneta Andrezej
Poland

Munya Liang
MI Khaled Anwar Maarouf
Egypt E Sozskiewicz
Poland

Steven R Wedan
MN Olivier Rousset
France Kui Yao
Singapore

Daniel T Groebner
MN Laurent Sandrin
France Gonzalo Fuentes Iriarte
Sweden

John J Cipollone
MO Naim BajcinCA
Germany Yung-Yaw Chen
Taiwan

Beth J Geiman
NC Markus Becker
Germany Yao-Ming Tsai
Taiwan

Jason M Zara
NC Tej Paul
India Puh-Liang Wen
Taiwan

Katherine J DunCan
NJ Hossein Hamdollahpour
Iran Tzu-Lun Weng
Taiwan

Gary E Ruleand
NJ Reza Kabiri Moridi Far
Iran Kamol Vichienhotu
Thailand

Paul M Bridenhaugh
NJ Ali Andalib Zoghi
Iran Zeynep Akalin
Turkey

Ken Bernard
NM Ran Manor
Israel A Almatawa
United Kingdom

Alan MacRobbie
NY Josef Keller
Israel Jose M Carmena
United Kingdom

James C Lacefield
NY Silvano Ossola
Italy Rodrigo San Vicente
Uruguay

Saptarshi Bhattacharyya
NY Vittorio M Passaro
Italy Javier E Navarro
Venezuela

Michelle A Cloyd
OH Takaki Ueno
Japan
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July 30 - August 2, 2000

Hilton Hawaiian Village
Honolulu, Hawaii

Sponsored by the Ultrasonics, Ferroelectrics and Frequency
Control Society of the IEEE
IEEE FELLOW NOMINATIONS

It is not too early to be thinking about Senior Members of the UFFCSociety that you would like to nominate for the Fellow grade. Nominations will be due in March of 2000 and forms will be ready by November, 1999. To refresh your memory on the process it is described in the paragraphs that follow which focuses on the IEEE Fellow Committee and how it operates.

The IEEE Bylaws define the Fellow grade as one of unusual distinction in the profession, to be conferred only by initiation of the Board of Directors upon a person of outstanding and extraordinary qualifications and experience in the IEEE designated fields, who has made important individual contributions to one or more of those fields. A nominee must be a Senior Member of the Institute and have been a member in any grade for at least five years prior to January 1 of the year of election.

The Fellow Committee, appointed by the Board of Directors, has the responsibility of making recommendations to the Board of Directors for nominees to be conferred the grade of Fellow.

The Fellow Committee acts as a guardian of IEEE Fellow grade standards and works carefully and faithfully to maintain these standards uniformly throughout the IEEE. The committee is concerned with determining whether the applicants meet the requirements of the IEEE Bylaws, and it seeks assistance from many sources in adjudicating the nominations.

The Fellow Committee depends upon the nominator of a candidate to furnish all of the basic necessary information requested on the nomination form and to point out the unique contributions of the candidate in a concise and succinct statement.

The Fellow Committee depends upon the society evaluations of the technical contributions of the candidates and their ranking of the candidates.

The Fellow Committee depends upon the Fellow grade references to comment on the candidate's specific NOMINATIONS achievements which they are qualified to judge.

The Fellow Committee will consider brief letters of endorsement from IEEE sections, chapters and committees.

In the processing by the Fellow Committee, the candidates' dossiers are evaluated on a basis of eight criteria:

1. Individual contributions as engineer, scientist, originator, technical leaders, or educator.
2. Evaluation by an IEEE society. Note that only one IEEE society evaluation is to be submitted for each candidate. The nominator is responsible for selecting the IEEE society that best reflects the candidate's field of technical accomplishments.
3. Tangible and verifiable evidence of technical accomplishments, such as technical publications, patents, reports, or published descriptions of products, facilities, and/or service.
4. Opinions of confidential Fellow references who are qualified to judge the work of the candidate (where possible, these should be associated with other than the candidate's own organization).
5. Service to IEEE and its predecessors, the AIEE or IRE.
6. Professional engineering service other than the IEEE.
7. Opinions of endorsers.
8. Total years in the profession.

Having considered all of the valuable information supplied from these many sources, a consensus of committee judgments is reached on the nominees to be recommended to the Board of Directors for evaluation to the IEEE Fellow grade, taking into account the maximum number of recommendations permitted by the IEEE Bylaws which can be submitted annually.

If you are interested in nominating one of our UFFC Society members you may obtain the necessary forms from Joann Kilyk, IEEE Fellow Committee, 445 Hoes Lane, Piscataway, NJ 08854, (732) 562-3843.

The following is a list of members of the UFFC-S who are eligible to be nominated for the rank of Fellow.

Congratulations in Order

Dr. Narendra Batra, Senior Member of IEEE and a long time dedicated member of the UFFC-S TPC committee was elected as a FELLOW of American Society for Nondestructive Testing (ASNT) in October, 1998.
UFFC Senior Members

Farhat Abbas  
Sheikh K Alam  
G. Arit  
Omar R Asfar  
Darrell L Ash  
Abdullah Atalar  
Sarah Audet  
Alireza Baghai-Wadji  
Narendra K Batra  
Henri Baudrand  
Madjid A Belkerdidi  
Paul J Benkeser  
Raymond J Besson  
Nihat Bilgutay  
M F Black  
Theron V Blalock  
Gerald V Blessing  
Shira L Broschat  
Lewis F Brown  
Jan Brown  
Werner Buff  
I C Chang  
David Cheeke  
Ai Chen  
Noriyoshi Chubachi  
Fernand S Cohen  
R L Cook  
S E Craig  
Aime S De Reggi  
Upkarjit S Dhaliwal  
Steven R Doctor  
Yizhong Dong  
Kevin D Donohue  
Louis G Durand  
Peter D Edmonds  
Helmut Ermert  
Karl F Etzold  
David H Evans  
Ernest J Feleppa  
Katherine Ferrara  
Raymond L Filler  
Peter J Fish  
Frederick M Fliegel  
F Stuart Foster  
Leon A Frizzell  
Akira Fukumoto  
Eric S Furgason  
Shangkai Gao  
Dr Solomon R Ghorayeb  
Allen W Glisson Jr  
Albert Goldstein  
Jacques Graffeuil  
John G Guatieri  
Zhilun Gui  
Gabriele Guidi  
Ian L Guy  
Amin M Hanafy  
Craig J Hartley  
Gordon Hayward  
Ping He  
Thomas S Hickernell  
Vincent M Hietala  
S T Hsu  
Takeshi Inoue  
Toshio Ishizaki  
Faquir C Jain  
Bernhard H Jakoby  
Cheng-Kuei Jen  
Peng Jiang  
Joie P Jones  
S G Joshi  
Fabien Josse  
Hirofumi Kawashima  
Bruce D Keller  
Peter Kellman  
Kenneth R Kelly  
Lawrence W Kessler  
Paweł Kielczynski  
Toshihiro Kojima  
Kofi Korsah  
Masanori Koshiba  
John A Kosinski  
Hayrettin Koymen  
Shogo Kozaki  
Frederick W Kremkau  
Venceslav F Kroupa  
Andrew D Kucar  
J A Kusters  
Kenneth M Lakin  
Sidney B Lang  
Theodoros Laopoulos  
Hugh G Larsen  
John D Larson  
William M Leach Jr  
John N Lee  
Oswald J Leroy  
Marc Lethiecq  
Longtu Li  
Maqiang Li  
Teong C Lim  
Qing-Huo Liu  
Jian-Yu Lu  
Shengguo Lu  
Reinhold Ludwig  
Wei-Gen Luo  
Lute Maleki  
Leo A Mallette  
Stephen J Martin  
Rafael Martinez-Ona  
Duane J Matthiesen  
Hewlett E Melton Jr  
Robert L Miller  
Robert M Montgomery  
K Saba Mylvaganam  
Mitsuo Nakazawa  
Carlo N Naldi  
Gifford Neill  
Juan Obregon  
Bryan Owings  
R K Pandey  
Hyunwook Park  
Song B Park  
Jeffrey A Pawlan  
Peder C Pedersen  
Soo-Chang Pei  
David Penunuri  
Harry E Peters  
Dennis L Polla  
William E Powell  
John P Powers  
Daniel Queen  
Gerard J Quintin  
T A Rabson  
Stanley A Reible  
Wei Ren  
William J Riley Jr  
Gerald E Roberts  
Maev Roman  
Brian E Rose  
E Wayne Rothermich  
Manas K Roy  
Clemens C Ruppel  
Harry L Salvo Jr  
Ram P Samy  
Jafar Sanie  
F Williams Sarles  
V Hugo Schmidt  
Susan C Schneider  
Walter A Schulze  
O Schwieb  
Chandra M Sehgal  
Franz J Seifert  
A Hamit Serbest  
P M Shankar  
David P Shattuck  
Tadashi Shiosaki  
R A Sigelmann  
Seth D Silverstein  
Peter M Smith  
Thane Smith  
Wallace A Smith  
Kawan Soetanto  
Waldemar Soluch  
Thomas L Szabo  
Hiroshi Takeuchi  
Yasuhiro Takeuchi  
Andrew C Tam  
George W Taylor  
Tat-Jin Teo  
Johan M Thijsse  
Charles Thompson  
Kohji Toda  
Piero Tortoli  
Dmitry P Tsarapkin  
C W Turner  
Shin-Ichiro Umemura  
Satish S Udpa  
Leo P Van Biesen  
Sabine Van Huffel  
John Vetelino  
Bruce A Vojak  
Shusou Wada  
Fred L Walls  
Roger W Ward  
John H Wasilik  
Keith A Wear  
Robert Weigel  
Robert B Wiggins  
Richard S Withers  
Gan Woon-Siong  
J Nelson Wright  
Masatsune Yamaguchi  
Ahmed M Yamani  
Linxin Yao  
Hao Ying  
Suk Wang Yoon  
Bernhard G Zagar  
Fu-Xue Zhang  
Shu-Yi Zhang  
Yixin Zhou

September 1999
Joint Korea-United States Workshop on Nondestructive Evaluation

The Korean Society for Nondestructive Testing (KSNT) and the IEEE UFFC Society together organized a Joint Korea-United States Workshop on Nondestructive Evaluation held at the International House of the Pusan National University, May 24-27, 1999. Pusan is prominent both as a highly industrialized port city of 4.5 million people, and for its National University which is the second largest in South Korea. The workshop was largely supported by the Korean Science and Engineering Foundation, with further assistance provided by a number of Korean professional societies, the Mechanical Engineering School of the Pusan National University, and the Korean Chapter of the IEEE.

The workshop sessions were co-organized by Professors John Harris (University of Illinois) and Joon-Hyun Lee (Pusan National University). Korean and U.S. scientists from academia, government and industry were invited to report the status of NDT technology in their respective countries. The workshop attendees numbered 124 and included Dr. Hong-Geun Chang and Dr. Hae Lee, respectively president and past-president of the KSNT. Dr. William D. O'Brien from the University of Illinois and Dr. Gerald Blessing from the National Institute of Standards and Technology were UFFC Society representatives. Many of the participants are shown in the accompanying photograph. A list of the speakers and their abstracts can be found at http://uffc.brl.uiuc.edu/abstracts/intro.html. While a majority of these papers discuss ultrasonic techniques, eddy current technology is also represented. The workshop ended with tours provided of Professor Lee's university research laboratories in Materials, Strength, and NDE, and of the Kori Nuclear Power Plant near Pusan.

UFFC-S Society Passes Periodicals Review

The IEEE Periodicals Review Committee reviews the various societies’ periodicals every few years. The UFFC-S's Transactions were reviewed in June of 1999. Our Editor in Chief, Bill O'Brien, and our VP for Publications, Jan Brown, prepared the required documentation, and Bill made the presentation to the Review Committee. Thanks to Bill and Jan’s efforts, and the outstanding quality of our transactions, the review went very well.

At the end of the review, one of the Committee members remarked, half kiddingly, that maybe the Committee should go out of business and just provide the UFFC-S periodicals report for other societies to follow.

Tokyo Chapter

The Tokyo Chapter held the following five technical meetings during the first half of 1999, in conjunction with the Technical Group on Ultrasonics of the Institute of Electronics, Information and Communication Engineers of Japan.

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<th>Date</th>
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The 20th Symposium on Ultrasonic Electronics (USE99) will be held under the sponsorship of the UFFC-S Tokyo Chapter on November 17-19, 1999, at Japan Women’s University in Tokyo. Most of the papers presented at the last year’s Symposium (USE98) have recently been published in the special issue of Jpn. J. Appl. Phys., Vol.38, No.5B(1999).

We are inviting Prof. B.T. Khuri-Yakub, the UFFC-S 1999-2000 Distinguished Lecturer, to Japan. He kindly accepted our invitation to give lectures at several meetings such as the USE99. Tokyo Chapter is now contacting him to arrange the schedule of his lectures.
The officers of the Tokyo Chapter have been changed. The new officers for 1999-2000 are:

Chairman: Professor Kiyoshi Nakamura, Graduate School of Engineering, Tohoku University, Aramaki-Aza-Aoba 05, Aoba-ku, Sendai 980-8579.

Vice Chairman: Dr. Sadayuki Takahashi, Research and Development Group, NEC Corporation, Miyazaki 4-1-1, Miyamachi, Kawasaki 216-8555.

Secretary: Associate Professor Ken-ya Hashimoto, Faculty of Engineering, Chiba University, Yayoi 1-33, Inage-ku, Chiba 263-8522.

Treasurer: Associate Professor Ken Yamada, Graduate School of Engineering, Tohoku University, Aramaki-Aza-Aoba 05, Aoba-ku, Sendai 980-8579.

Sadayuki Takahashi
Vice Chairman,
UFFC-S Tokyo Chapter

Call For Papers
Special Issue on Modeling, Optimization and Design of Surface and Bulk Acoustic Wave Devices

(Submission Deadline: December 15, 1999)

The IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control invites the submission of manuscripts on any of the following topics concerning modeling, optimization and design of surface and bulk acoustic wave devices:

- SAW and BAW effects and devices
- Periodic structures and models
- Nonperiodic structures and models
- 2D and 3D models
- Waveguide structures
- Multi-track structures
- Multilayered structures
- Second- and higher order effects
- Models for packages, bond wires and EM interference
- Model reduction techniques
- Parameter extraction techniques
- Equivalent circuit models
- Frequency-domain methods
- Time-domain techniques
- Integral-equation based and boundary element methods
- Finite element methods
- Finite difference time domain methods
- Wavelet-based methods
- Parallel computing environments
- Fast algorithms
- Filter and transducer design techniques
- Linear and nonlinear optimization techniques
- Stochastic optimization
- Simulated Annealing
- Evolutionary computation
- Learning algorithms

All contributions to the UFFC Transactions must be sent to the Editor-in-Chief:

William D. O’Brien, Jr.
Department of Electrical and Computer Engineering
University of Illinois
405 North Mathews
Urbana, IL 61801
217/333-2407

In the transmittal letter identify that the contribution is being submitted for publication consideration for Modeling, Optimization and Design of Surface and Bulk Acoustic Wave Devices Special Issue. Consult the “Information for Contributors” for manuscript preparation and submission requirements that is published in the most recent January issue, or access the UFFC Transactions Home Page at http://www.ieee.org/uffc/tr.

All papers are subject to the normal peer-review process. Submission deadline is December 15, 1999 and the expected publication date is late-2000.

The guest editor for this special issue is Dr. Ali R. Baghail-Wadji.
28th Symposium on Electro-Mechanical Functional Devices

The 28th Symposium on Electro-Mechanical Functional Devices (EM Symposium) was held at the Tokyo Metropolitan University in Japan on May 27th and 28th, 1999. The IEEE Ultrasonics, Ferroelectrics, and Frequency Control Society’s Tokyo Chapter is one of the sponsors of this symposium. There were 23 oral presentations at the two-day symposium with over 160 attendees. Dr. Fred Flickernell was the invited tutorial speaker on the topic, “Thin-Films on SAW Substrates: Dreams Anticipated, Promises Fulfilled, and OpportunitiesAwaiting.” Following the symposium, Dr. Hickernell was a guest lecturer at Tamagawa University hosted by Professor Toshihiro Kojima. The day following the Tamagawa lectures, the Hickernells spent the day in the Kanakura-Yokohama area with Professor Kojima and Dr. Jun Yamada. The following is some historical information on the EM Symposium adapted from a review by Professor Y. Tsuzuki at the 25th anniversary meeting. Some photos in connection with the EM Symposium and Tamagawa lecture taken by Dr. Masao Takeuchi of Tamagawa University accompany this article.

The Symposium on Electro-Mechanical Functional Devices has been organized by the “EM Committee,” which was originally established in 1969 as one of the research committees in the Institute of Electrical Engineers of Japan (IEEJ). Professor M. Onoe (Professor Emeritus of the University of Tokyo and former Director of the Institute of Industrial Science (IIS)) chaired the EM committee in its initial stage. In conjunction with the committee, technical meetings were most frequently held at IIS with researchers from both universities and industries. Through the meetings, Professor M. Onoe was keen for stimulating quartz device technology and led Japanese quartz people into today’s international level. In 1971, the first EM symposium was held as an open forum of the EM committee.

After Professor M. Onoe, Professor M. Ariga (Professor Emeritus of Tokyo Metropolitan University) and then Professor Y. Tsuzuki of Yokohama National University succeeded as chairmen. Thanks to their tireless zeal, the EM symposium has grown into one of the three prestigious conferences on ultrasonics in Japan, and is now a key conference for acoustic wave device engineers, in particular for those working on quartz related devices.

Since Professor M. Yamaguchi of Chiba University was appointed to be the present chairman, he has positively opened the door to SAW device researchers attempting to make the symposium more general to those who are interested in EM devices of time and frequency. In 1993, he started the scheme for tutorial talks by foreign researchers. The following have present tutorial lectures on areas of interest to researchers in Japan:

Professor Lee of Princeton University and
Mr. Clinton Hartmann (1993)
During the last 28 years, EM devices have been successfully applied to various modern digital and/or communication systems, and their market has significantly and unexpectedly grown. Quartz oscillators are now widely used, not only in clocks and watches, but also in most electronics products as highly stable time and frequency standards. SAW devices established their status as high performance filters in VBF and UBF ranges. In accordance with such situations, the annual symposium has frequently adopted such issues to discuss from both points of view device developments and systems applications. Since miniaturization is a very crucial technology to be developed in EM devices, sophisticated micromachining and/or thin-film technologies, applicable to device fabrication, have also been one of the main topics in the symposium.

Presently, fundamental resonance frequencies of commercially available SAW and bulk quartz filters for mobile telephone systems are about to attain to 2.5GHz and 100 MHz, respectively. Sensors like acoustic gyroscopes are also being paid much attention for their promising future in automatic control applications. Such developments of EM devices suggest that the research fields covered with the EM symposium and its importance could extensively be increased in the future.

The Ultrasonics community lost a good friend and capable colleague. Frank Moeller succumbed to Amyotrophic Lateral Sclerosis (ALS, also known as Lou Gehrig’s Disease) during sleep on August 22nd, 1999 at his home in Plano, Texas.

Frank was born on December 3rd, 1961 in Germany. He studied electronic engineering at the Ilmenau Institute of Technology (now Technical University of Ilmenau), Germany, where he received his Engineer Diploma in 1988 and Ph.D. degree in Electrical Engineering in 1991. From 1990 to 1996, he was a scientific assistant for research and teaching in the Department of Electrical Engineering and Information Technology, Institute of Solid State Electronics, Technical University of Ilmenau. His research included passive remote-controlled SAW sensors, active SAW devices using layered structures, and SAW devices modeling, simulation and design. He also taught electronic circuit classes and developed undergraduate teaching laboratories. He was twice a visiting scholar in the Department of Electrical and Computer Engineering, University of Central Florida, Orlando.

Frank joined RF Monolithics in Dallas as a SAW design engineer in the summer of 1996. He was involved with the design of low-loss SAW filters and the development of software synthesis tools. He had made significant contributions to RFM’s new SAW product development. Beginning the fall of 1999, he was an R&D scientist at RFM.

Frank had been an active participant of IEEE professional activities. He served as peer reviewer of a number of manuscripts submitted to the UFFC Transaction, and was a familiar face in IEEE International Ultrasonics Symposia. He had authored or co-authored more than 20 journal articles and other written publications, delivered more than 20 oral and poster presentations, was a co-inventor of 4 patents granted by the former East German government, and was a co-inventor of one patent presently pending.

Throughout his short life, Frank was known as a hard worker with unquestionable work ethic, a devoted husband, and a loving father. He was patient, kind and always willing to help. Frank Moeller was survived by his wife of fifteen years, Andrea, and three young children, Tobias, Torsten and Maria, ages 14, 11 and 10.

A trust fund is being set up to help Frank’s family but is not yet in place. If you would like to make a tax deductible contribution, please contact either Rodolfo Chang at rchang@rfm.com or Shen Jen at shenjen@rfm.com. Your kindness will be greatly appreciated.
Nominations for
UFFC-S DISTINGUISHED SERVICE AWARD

The Distinguished Service Award is a new award created by AdCom to recognize long-term support of the Society’s activities. The first Award was presented in 1997. Recognition is given to those who innovate new Society programs, administer major Committees, manage Society functions, or promote the Society’s areas of technical interest to the larger community. The recipient usually has served for many years with sustained participation in the Society’s management. Selection is made by the Officers and the Awards Committee. Nominations may be submitted at any time. Who is the person you would like to honor in this way?

Photocopy this section and send via FAX or mail:
(You may submit more than one if you wish.)

Suggestions for the next Distinguished Service Award:

__________________________________________________________

Your Name/Address:

__________________________________________________________

Send at anytime to: Roger H. Tancrell
Chair, UFFC-S Awards Committee
7 Valyn Lane
Wilmington, MA 01887-1147
Tel/FAX: (978) 657-9748
e-mail: r. tancrell@ieee.org

Nominations for
DISTINGUISHED LECTURER AND/OR TOPIC

The UFFC-S Distinguished Lecturer is welcomed by organizations around the world to present an up-to-date review of new developments in ultrasonics, ferroelectrics, or frequency control. The Distinguished Lecturer represents the Society to the larger technical community, and stimulates interest in the Society’s professional areas. Recent lecturers have spoken to local chapters, universities and companies throughout North America, Japan, Europe, China, and South America.

Which topics would you like to hear? Which member would give a stimulating lecture? Fresh ideas are always welcome. Nominations may be submitted at any time. Be heard by filling out the attached form.

Photocopy this section and send via FAX or mail:
(You may submit more than one if you wish.)

Suggestions for the next Distinguished Lecturer and/or Topic:

__________________________________________________________

Your Name/Address:

__________________________________________________________

Send at anytime to: Prof. Mack A. Breazeale
Chair, UFFC-S Distinguished Lecturer Subcommittee
The National Center for Physical Acoustics
University of Mississippi
University, MS 38677
Tel: (601) 232-7490
FAX: (601) 232-7494
Future UFFC-S Symposia

ULTRASONICS SYMPOSIA
2000 IEEE International Ultrasonics Symposium
San Juan, Puerto Rico

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Department of Electrical & Computer Engineering
Orlando, Florida 32816-2450 USA
(407) 823-5793 (Phone)
(407) 823-5835 (FAX)
mad@engr.ucf.edu (e-mail)

2001 IEEE International Ultrasonics Symposium
Atlanta, Georgia

For information contact:
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(601) 232-7494 (FAX)
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(217) 333-2407 (Phone)
(217) 244-0105 (FAX)
wdo@uiuc.edu (e-mail)

2002 IEEE International Ultrasonics Symposium
Munich, Germany

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2003 IEEE International Ultrasonics Symposium
Honolulu, Hawaii

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Mayo Clinic
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(507) 284-8496 (Phone)
(507) 266-0631 (FAX)
jfg@mayo.edu (e-mail)

FREQUENCY CONTROL SYMPOSIA
2000 IEEE International Frequency Control Symposium
Kansas City, Missouri — 6 - 9 June 2000

For information contact:
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(303) 497-3772 (Phone)
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2001 IEEE International Frequency Control Symposium
Seattle, Washington

For information contact:
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(801) 266-7985 (FAX)
Future UFFC-S Symposia cont.

2002 IEEE International Frequency Control Symposium
Venue To Be Determined

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1020 West Atherton Drive
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Salt Lake City, Utah 84123 USA
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FERROELECTRICS SYMPOSIA
2000 IEEE International Symposium on Applications of Ferroelectrics
Honolulu, Hawaii

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viehlandd@npt.nuwc.navy.mil (e-mail)

Editor's Note:

There are a lot of wonderful things happening in the UFFC Society these days. The very active UFFC-S Tokyo Chapter sponsored the 28th Symposium on Electro-Mechanical Functional Devices and invited Dr. Fred Hickernell to give a tutorial on his work and his perspectives on thin films. There was a joint Korea-US Workshop on Nondestructive held at Pusan National University. There was April in Besancon for his year's International Frequency Control symposium which was held jointly with the 13th European Frequency and Time Forum. As the frequent flier miles pile up we get ready to descend upon Lake Tahoe, Nevada, for the last International Ultrasonics Symposium of the millennium while General Program Chair, Pierre Khuri-Yakub sets the stage. Meanwhile, the AdCom voted at its Chicago meeting in June to create the UFFC Digital Archive which will give all who buy it web and CD ROM access to the scholarly products of our society. When you use the UFFC Digital Archive in the future, keep in mind that this project would not have been completed without the forethought and persistence of our exiting president, John Vig. We all owe him a debt of thanks in seeing this done. As Fred Hickernell gets ready to take over as president this fall, we wish him all the best for a productive, landmark administration.

William Hunt
Editor