The 47th annual IEEE International Nuclear and Space Radiation Effects Conference (NSREC) will be held July 19th-23rd, 2010, in Denver, Colorado, at the Sheraton Denver Downtown Hotel. We will continue the tradition of previous NSRE Conferences by offering an outstanding Technical Program, a one-day Short Course, a Radiation Effects Data Workshop, and a sold-out Industrial Exhibit. Engineers, scientists and managers from around the world who are interested in radiation effects will attend. Joseph Benedetto, Radiation Assured Devices, is the chairman.

A complete technical and social program is being planned to maximize opportunities for information exchange and networking in the area of radiation effects on microelectronic and photonic devices, circuits, and systems. Supporters of the conference include the Defense Threat Reduction Agency, Sandia National Laboratories, Air Force Research Laboratory, the Jet Propulsion Laboratory, BAE Systems, Boeing, Intersil, Honeywell, Northrop Grumman, and Aeroflex Colorado Springs. Additional information on the conference is available on the Web at http://www.nsrec.com.

TECHNICAL PROGRAM

The Technical Program Chairman, Jeffery Black, Vanderbilt University, and his committee, have assembled an outstanding set of contributed papers that are arranged into nine sessions of oral and poster papers and a Radiation Effects
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IEEE MAGAZINES and NEWSLETTERS:
Publicity releases for forthcoming meetings, items of interest from local chapters, committee reports, announcements, awards, or other materials requiring society publicity or relevant to NPSS should be submitted to the Newsletter Editor by July 9, 2010 for publication in the September 2010 Newsletter.

CONTRIBUTED ARTICLES
News articles are actively solicited from contributing editors, particularly related to important R&D activities, significant industrial applications, early reports on technical breakthroughs, accomplishments at the big laboratories and similar subjects. The various Transactions, of course, deal with formal treatment in depth of technical subjects. News articles should have an element of general interest or contribute to a general understanding of technical problems or fields of technical interest or could be assessments of important ongoing technical endeavors.
Advice on possible authors or offers of such articles are invited by the editor.
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Data Workshop. The Workshop consists of papers emphasizing radiation effects data on electronic devices and systems and descriptions of new simulation techniques and radiation test facilities. In addition, there are three invited talks of general interest to both conference attendees and their companions, see below.

Ron Lacoe has organized this year’s Short Course with a theme of “Custom Integrated Circuits and Memories: Basic Mechanisms, Design and Qualification,” which will be held Monday, July 19th. This Short Course is an excellent learning opportunity for those who are new to the radiation effects community and need a quick introduction to the field, as well as those who want to stay abreast of current issues. The Short Course is organized into four sessions starting with a course on developing radiation-hardened system-on-chip ASICs in advanced commercial CMOS technologies. The second session focuses on microprocessors and static memories for space, while the third session focuses on nonvolatile memories for space. The last session discusses the assurance of reliability and qualification of CMOS components fabricated at commercial CMOS foundries.

Each attendee will receive a complimentary CD-ROM that contains an archive of IEEE Nuclear and Space Radiation Effects Conference (NSREC) Short Course Notebooks (1980-2010). This collection covers 31 years of the one-day tutorial courses presented yearly at NSREC. It serves as a valuable reference for students, engineers, and scientists.

INDUSTRIAL EXHIBITS
This year’s Industrial Exhibits, organized by Kirby Kruckmeyer from National Semiconductor, will permit one-on-one discussions between conference attendees and exhibitors on the latest developments in radiation-hardened and radiation-tolerant electronics, engineering services, facilities, and equipment.

On Tuesday evening, attendees and their companions are invited to a reception that showcases the Industrial Exhibit. If you need more information on the exhibit, please visit http://www.nsrec.com. The exhibitors are as follows:

- 3D Plus-USA
- Actel Corporation
- Aeroflex Colorado Springs
- AFRL/VSSE
- ASIC Advantage
- Atmel
- BAE Systems
- Boeing
- C-MAC MicroTechnology
- CORWIL Technology Corporation
- COSMIAC
- Crane Aerospace & Electronics
- Cyclotron Institute, Texas A & M University
- Defense Microelectronics Activity (DMEA)
- Honeywell
- International Rectifier
- Intersil Corporation
- J. L. Shepherd & Associates
- Lawrence Berkeley
- Maxwell Technologies
- Micro-RDC
- Micropac Industries
- Modular Devices Inc.
- M.S. Kennedy Corporation
- NASA NEPP
- National Semiconductor

(continued on page 4)
Life after death

*It was too bad an idea to be allowed to die.*

Robert L. Park

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**SOCIAL EVENTS**

Social events have been planned to give conference attendees and their guests many opportunities to discuss business informally and to become better acquainted. Local Arrangements Chairman, Hugh Barnaby, Arizona State University, assisted by Cat Brant of LASP, have planned an enjoyable and memorable social program. The main conference social on Wednesday night will be a “Night at the Museum.” Additional excursions during the week include tours of Boulder, Colorado, and a Georgetown Loop Railroad Tour.

**DENVER, COLORADO**

The Sheraton Denver Downtown, located on the 16th Street Pedestrian Mall, offers its guests access to the best of Denver’s local attractions. The 16th Street Mall is Denver’s hub of shopping, dining and entertainment that stretches for 16 blocks through the heart of downtown. An environmentally friendly free shuttle service stops at every intersection to transport shoppers to more than a mile of Denver’s best restaurants and shops. The hotel is also within walking distance of the Denver Art Museum, the United States Mint, and just minutes from Coors Field and historic LoDo (Lower Downtown Denver). Kids and adults alike may also enjoy visiting Elitch Gardens, Denver’s famed amusement park, and the Downtown Aquarium.

**INVITED SPEAKERS**

NSREC has three exciting speakers. First on Wednesday is **Denver: Ups & Downs of a Mining Town** by Thomas J. Noel, Professor of History, University of Colorado, Denver. Thursday will feature **High Power Microwave Sources – Present Status and Future Trends** by Edl Schamiloglu, University of New Mexico, and Friday lead off with **Reflections on 47-Plus Years of NSREC History** by Edward E. Conrad.

**ADDITIONAL INFORMATION**

For the latest NSREC information (technical program, conference and social registration forms, hotel and travel information, etc.) please visit our website at http://www.nsrec.com.

You may contact the General Chair, Joseph Benedetto, Radiation Assured Devices, at (719) 266-0943 or E-mail: jlbenedetto@radiationassureddevices.com.

Or you can contact the Publicity Chairwoman, Teresa Farris, Aeroflex, at (719) 594-8035; E-mail: teresa.farris@aeroflex.com.
The 2010 IEEE Nuclear Science Symposium (NSS) and Medical Imaging Conference (MIC) and 17th International Workshop on Room Temperature Semiconductor X-ray and Gamma-ray Detectors (RTSD) will be held in Knoxville, Tennessee, 30 October to 6 November 2010, at the Knoxville Convention Center. The Convention Center opened in 2002 on the west side of the city center, adjacent to the site of the successful 1982 World’s Fair. The joint meetings offer a great opportunity to exchange knowledge and ideas in nuclear science, detectors, and medical imaging with friends and colleagues from around the world. We are planning a strong program of relevant short courses, an integrated program of workshops, special sessions on Women in Engineering (WIE) and Graduates of the Last Decade (GOLD), an Industrial Program (Exhibits), and an exciting and unique Companion Program.

The abstract submission closed on 10 May. You are encouraged to make hotel reservations now. Registration for the conference, workshops, short courses, and tours will be open in early July.

TECHNICAL PROGRAM

The NSS Program chairs, John Valentine (SAIC) and Tim DeVol (Clemson University), have done an outstanding job in assembling an exciting program of invited speakers, oral sessions, and poster sessions. The plenary session will feature three outstanding speakers: Peter Michelson of Stanford University talking on the Fermi Gamma-ray Telescope (formerly known as GLAST); Thom Mason, ORNL Director, talking on ORNL Strategies and Capabilities; and a report on LHC/CMS first data (speaker TBD).

Three workshops on important and timely topics are planned: Neutron Detection, organized by Ralf Engels and Dick Kouzes; Homogeneous Hadron Calorimeter - HHCAL, organized by Paul Lecoq, Steve Derenzo, and Marv Weber; Intellectual Property and Technology Transfer, organized by Hartmut Hillemanns and Christoph Ilgner.

Special attention has been given to the organization of the poster sessions in relation to the oral sessions so that the topics in the sessions will not overlap, thus enabling presenters to attend the oral sessions specifically related to the topic of their poster. The poster room has been expanded and smaller poster sessions will be held in parallel with oral sessions to allow more and better interactions in the poster sessions.

Joint NSS/MIC/RTSD sessions provide a way to cover topics that bridge the traditional disciplines, to increase

(continued on page 6)
Academic distinction

* A university is a place where men of principle outnumber men of honour.
* Ernest May

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**CONFERENCE**

(continued from page 5)

Collaboration, and to increase new thoughts and concepts. Joint NSS/MIC sessions will be held on Tuesday (Nov 2), before the main part of the MIC program.

The MIC Program Chairs, David Townsend (National University of Singapore) and Charles Watson (Siemens Medical), have also done an outstanding job in assembling the program. The main MIC program will begin on Wednesday and continue through Saturday. We expect to have two parallel oral session tracks to make more presentations accessible to attendees. In addition, three poster sessions are planned.

Our initial MIC plenary session will include two exciting invited speakers: Professor Gregory Sorensen of Harvard Medical School/Massachusetts General Hospital, a leader in MR/PET related research, will give us a clinical perspective on MR/PET applications, and Professor Anthony Campbell, Department of Infection, Immunity and Biochemistry, Cardiff University, a widely known expert on bioluminescence, will speak on “life that sparkles.” Professor Campbell, who is also a Director of the Darwin Centre in Wales, will give a presentation on the inspiration of Charles Darwin at the MIC banquet on Friday.

A second plenary session will be devoted to honoring our Hoffman Medical Imaging Scientist and Hasegawa Young Investigator award winners. Please send in your nominations of deserving colleagues by July 15. Links to applications and submission contact information can be found on the main conference website listed above. Also take note of the student paper award opportunities described there.

A workshop on MR/PET is being planned, possibly to be held on Monday afternoon and evening (Nov 1). Topics may include image reconstruction, attenuation/scatter correction, MR compatible readout, and system design. Look for additional information on the conference website.

The RTSD Program Co-Chairs, Ralph James (BNL) and Michael Fiederle (University of Freiburg), are working on the 17th International Workshop on Room-Temperature Semiconductor X-ray and Gamma-ray Detectors (RTSD). The RTSD is the largest forum for scientists and engineers developing new solid-state radiation detectors and imaging arrays to meet and discuss their work. Room-temperature semiconductor radiation detectors are finding increasing applications in such diverse fields as medicine, homeland security, astrophysics and environmental remediation.

The objective of this workshop is to provide opportunity for discussion of the state-of-the-art of materials development, characterization, device technology, electronics and applications. To provide a comprehensive review, oral and poster presentations representing a broad spectrum of research activities emphasizing understanding of devices and materials will be offered.

Topics include:

- Semiconductor Materials for Radiation Detection
- Crystal Growth, Materials and Defects Characterization
- Strip, Pixel and Discrete Semiconductor Detectors
- Properties of Electrical Contacts and Device Technology
- Radiation Damage, Long-Term Stability and Environmental Effects
- Scintillator/Semiconductor Array Hybrids
- Semiconductor Neutron Detectors
- Detector/ASIC Hybridization, Interconnects and Electronics

---

Anthony Campbell
MIC Plenary Speaker
CONFERENCES

• Spectrometer Systems for Homeland Security, Nuclear Inspections Safeguards and Portal Monitoring
• Imaging Systems for Medical, Astrophysics, Nondestructive Testing and Cargo Monitoring Applications

For further information contact the Co-Chairs.

SHORT COURSE PROGRAM
The Short Course Co-Chairs, Steve Derenzo (LBL) and Jennifer Huber (LBL) have developed an excellent short course program covering a wide range of nuclear and medical technology topics:

NSS Short Courses
• Integrated Circuit Front-Ends for Nuclear Pulse Processing (1 day), Paul O’Connor
• Radiation Detection and Measurement (2 days), Glenn Knoll

Joint NSS–MIC Short Course
• Advanced Photodetectors (1 day), Kanai Shah

MIC Short Courses
• Image Quality in Adaptive and Multimodality Imaging (1 day), Lars Furenlid and Matthew Kupinski
• Medical Image Reconstruction (1 day), Paul Kinahan
• Molecular Imaging (1 day), TBD

All courses include refreshments, lunch, lecture notes, and a certificate of completion as part of the short course registration fee.

Phelps grants are available to help support students and young researchers to take short courses. Visit the website for information on how to apply.

For additional and up-to-date information, please visit our website and feel free to contact the Short-Course Co-Chairs.

The popular refresher courses will be offered again this year on Tuesday, Wednesday, and Thursday. These will provide a quick overview of the fundamentals associated with particular topics so that someone new to the field or returning to it can get “warmed up” prior to the state-of-the-art technical sessions to follow. These short seminars are a good way to learn about a subject or to refresh your memory. Visit the website to find the subjects, schedule, and rooms.

INDUSTRIAL PROGRAM
The Industrial Program Chairman, Jean-François Pratte (Université de Sherbrooke), has organized an exhibition by commercial companies and an integrated program of technical seminars where the exhibiting companies can describe their new products. The exhibition is always an important part of the conference. An exhibition area central to conference activities will display the latest in products and innovations. The exhibits are near the poster sessions and open all day. The exhibit reception on Tuesday is an excellent time to visit the exhibits in a relaxed atmosphere.

Interested vendors should contact the Industrial Program Chair.

TOURS & COMPANION PROGRAM
The Companion Program Chair, Merry Keyser, has created an exciting Companion Tour Program to highlight the wonderful features of East Tennessee, including a preconference fly-fishing class on one of the rivers in the Smoky Mountains. Complete details can be downloaded from our website or feel free to contact the Companion Program Chair.

ACCOMMODATIONS
The last few years have seen about 1800 participants and similar numbers are anticipated for IEEE NSS/MIC/RTSD in Knoxville. Rooms at several downtown Knoxville hotels have been reserved.

Let me think about that
’Tis is a singularly ill-conceived world, but not so ill-conceived as that.

Arthur Balfour

(continued on page 8)
This is now the second issue of our Newsletter in our newly redesigned format, and I hope you find it to your liking. Needless to say, like any changes, it required getting over a few hurdles in the beginning, but it now seems to be up and running smoothly. You can see that it follows the same style as our also newly redesigned website. I can assure you that this took a great deal of effort by a large number of people, but I would especially like to thank Peter Clout, who worked with the graphic design company Cisneros Design and coordinated the entire effort, along with our Society Secretary and Newsletter Editor, Albe Larsen, who pushed through the new format for the Newsletter, and Dick Kouzes, our Webmaster, who did such a fine job of reassembling all of our Society information under the new framework. We are extremely pleased with the new look and style of both the Newsletter and the website, and we hope that you like them as well.

Some important developments took place at the TAB meeting last February. At that meeting, a proposal was announced that would restructure the IEEE Board of Directors from its current composition of 31 voting members to a new, smaller Board consisting of only 9 voting members. The present board includes 10 Region Directors, 10 Division Directors, the current President, Most Recent Past President, and President Elect of IEEE, six current Vice Presidents, and the Secretary and Treasurer of IEEE. As such, the Board has a broad mix of directly elected members (the three Presidents, the 20 Region/Division directors, the VP TAB and VP Standards are elected by the membership or constituencies of the membership). These members represent all 10 geographical regions of IEEE from around the world, as well as each of its major organizational units. An elected Board member therefore represents his or her own constituency, while at the same time looking at the broader view of what it best for all of IEEE and its entire membership. The remainder of the Board is elected by the Assembly, comprising the three Presidents and the 20 Directors. The new board would consist of 9 Directors elected by the general membership.
but without any particular regional or technical affiliation requirements, along with 3 Directors elected by the IEEE Assembly from a slate of candidates provided by the Board of Directors themselves, along with the current President, Most Recent Past President and President Elect. There would be a much less constituency-based form of representation on the Board, and would rely mainly on the IEEE Nominations and Awards Committee to select a list of candidates. This proposal came as a surprise to many of the Society Presidents, as most of us had not heard anything about it before the last TAB meeting. It is a rather sweeping change to the way the Board of Directors is chosen and how it functions, and there are many arguments, both pro and con, as to whether such a change would be truly beneficial or not. Either way, it would be a major change, and requires a clear understanding of all of its implications. There was insufficient time for a full discussion of the proposal at the TAB meeting, and it was not accepted at the Board of Directors meeting which immediately followed. However, the proposal is still being discussed and may be brought forth again at the next Meeting Series in June. Ultimately, you, the general membership, will be required to approve the final proposal, as it requires a change in the IEEE Constitution and Bylaws. If it should come to this, we would like you to make an informed decision and be fully aware of all of the implications of such a change. We will therefore try to keep you well informed of any new developments as this moves forward.

I should also mention that at the February TAB, Bill Moses was selected as one of the two candidates for the position of IEEE Conference Committee Chair. This is a very important position within IEEE, and we are happy that one of our own NPSS members was selected as one of the final two candidates. The final decision on the winner will be made at the IEEE Board of Directors meeting in June, and we wish Bill the best of luck in that election.

On March 5th we held our annual AdCom Retreat, which is the AdCom meeting where we devote additional time for strategic planning and looking at broader issues pertaining to our Society. This year, we spent considerable time discussing our membership, which as you know from previous Newsletter articles grew in record numbers last year. This growth was in no small part due to our active recruitment program at our conferences, but we also learned that many of our newly recruited members do not renew their membership after their first year. Our Society actually does better than most other IEEE Societies in this respect, but we still do not want to see new members leave (or any members for that matter). We discussed new ways to provide additional benefits to our members, such as sponsoring special members-only events at our conferences, encouraging members to submit articles of interest to our Newsletter, and involving more members in our Society’s activities. We also agreed to keep our Society’s membership dues at the same level as last year in spite of rising costs.

In other general news, I’m sure many of you have seen that IEEE has also unveiled a new website. The revamped website not only has a new look and feel, but has many added features, such as improved search capabilities, bookmarks, and additional content. If you have not already done so, please check it out, and also feel free to provide feedback through the link provided in order to pass along any suggestions or comments you may have. In addition, a new web-based search engine called the Technology Navigator will soon be released that will allow one to search an extensive database of

_Compleat diplomat_

_He is the only bull I know who carries around his own china shop._

_Winston Churchill_  
_(paraphrase of a comment on John Foster Dulles)_

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(continued from page 9)

information about IEEE, locate technical information using various keywords, and make links and associations between the interests and activities of all Societies within IEEE. It’s hoped that this new tool will be available for general use later this year, and we encourage you to use it to explore and learn more about IEEE when it becomes available.

Craig Woody. IEEE NPSS President, can be reached at Brookhaven National Laboratory, Physics Department Building 510C, Upton, NY 11973; Phone +1 631 344-2752; Fax:+1 631 344-3253; E-mail: woody@bnl.gov.

Secretary’s Report

AdCom met in Monterey, California on Friday, March 5th and Saturday March 6th for a one-day retreat followed by our regular first AdCom meeting of the year. We welcomed new board members Christian Bohm, Gerald Cooperstein, Paul Dodd, Robert Miyaoka, John Verboncouer, Dennis Youchison, introduced to you in the March Newsletter and have started work to make sure that members from all communities get to know each other. As Craig mentioned in the President’s report, much time was spent discussing membership growth, how to obtain members who will stay and become involved, and how to achieve that. As one AdCom member said, “We want quality members. Quantity isn’t so important.” And there is some truth in that—we want and need members who will be active and contribute into the future. Memberships actually cost the society money—our dues don’t cover the cost of membership, so members who are contributing to their conferences and to the Newsletter are making up some of that deficit in kind.

Other issues discussed at the retreat included budget planning, the proposed restructuring of the IEEE Board of Directors, our possible role in nuclear power, development of the Technology Navigator, and we had an introduction to ICALEPCS management committee members, a conference we have long technically cosponsored. We also discussed our experiences with IEEE Meetings and Conference Management group whom we have engaged to help our conferences with site-selection issues.

At our regular AdCom meeting on Saturday Ed Lampo reported that our finances are in good shape and that conferences are doing better at closing on time. We have had a loss for the 2009 PAC that will be split with APS. Some conferences have been slow in submitting preliminary budgets. We will also see some good investment income this year. IEEE policy now allows us to spend up to 50% of our operational surplus. The Network Shop is being looked at by IEEE. They have spent more than they’ve earned. Their equipment needs to be on an amortization schedule and funds set aside for replacement.

Craig Woody announced that Jane Lehr has taken over from Peter Winokur as chair of the Fellows Evaluation Committee. Ron Keyser has been appointed Assistant Treasurer and will take over as Treasurer as Ed moves on to become RISC Chair. Tony Lavietes continues as Conferences Treasurer. Bill Moses is a candidate for chair of the IEEE Conference Committee and the finalist will be selected by TAB at the June meetings in Montreal.

IEEE has retired its conference management software and is updating it in a 5-year development plan. It should incorporate all the conference software we use now and go beyond it.

Damp squib

The trouble with the Foreign Secretary is that you can load him but he doesn’t fire.

William Tyrrell

Albe Larsen
NPSS Secretary and Newsletter Editor
Technology Navigator also needs more input. NPSS hasn't done as well as it might in capturing relevant tags. A new chapter in Richland, WA was approved last October. There are now 18 chapters.

TECHNICAL COMMITTEES

The CANPS Committee that sponsors the Real Time Conference is now chaired by Stefan Ritt, who thanked Jean-Pierre Martin for his dedicated service and for getting the CANPS committee back on a sound footing. The 2009 Real Time conference in Beijing was a great success and selected papers will appear in TNS in a special issue. The 2010 Real Time Conference will be over by the time you read this, but it will have been held in Lisbon, Portugal and chaired by Dr. Carlos Varandas. This is the first time the chair has come from the fusion community, so this is an exciting broadening of the conference content. The 2012 conference will be held in the United States, probably in Berkeley, and the 2014 conference will again be held in Asia.

Dennis Youchison, the new Fusion TC chair, announced a number of changes in the Standing Committee membership. Mark Tillack remains and the international membership is being expanded. A special issue of TNS in March 2010 will contain 39 papers selected from the conference and 7 other papers will appear in later issues. This is the first time papers from SOFE have been selected and submitted for full peer review and Transactions publication. SOFE will be held in Chicago in 2011, collocated with ICOPS. Charles Neumeyer of Princeton Plasma Physics Laboratory is the General Chair and Brad Nelson is the Program Chair. The 2013 conference may be contiguous to the PPPS conference in San Francisco. It is hoped that there will be strong National Ignition Facility (LLNL) participation.

Robert Miyaoka is the new chair of NMISC. He, Chuck Melcher, and Ron Keyser, the General Chair, provided an update on the 2010 NSS/MIC conference that will be held in Knoxville, TN the first week in November. Plans are well in place. Considerable space has been added for posters. There will be student support from DOE, Siemens and others to aid student travel. The Companion program had to be reformulated, but is fine now with IEEE help. The Call for Papers mailing was slow, even with first-class postage. Dick Lanza gave a final report on the 2009 conference in Orlando. By all metrics the conference was a great success. The 2011 conference will be held in Valencia, Spain with David Townsend as General Chair, 2012 will be in Anaheim with Tom Lewellen as General Chair and 2013 will be in Seoul, Korea. Sites for 2014 are under investigation.

Both the NMISC and RISC have newly elected committee members. Alberto Del Guerra will be MIC Program Chair in Valencia.

The Particle Accelerator Science and Technology Committee is chaired by Stan Schriber, with Ilan Ben-Zvi as Fellows and Awards chair, Bruce Brown as web master and information chair and Sandra Biedron, with Thomas Roser as subchair, responsible for nominations, education and outreach. This year there will be an election for a new PAST delegate to AdCom. PAC 2009 was a great technical success and PAC 2011 is being planned for March in New York City with Thomas Roser as General Chair. PAC will start short courses and will also incorporate the US Particle Accelerator School. The 2012 IPAC, the first US-held IPAC, will be in New Orleans and will be cosponsored by IEEE and APS. The European and Asian IPAC conferences will be sponsored by regional societies, not by IEEE/APS.

Plasma Sciences and Applications has 6 new TC members, elected this past fall. They have good European membership.

(continued on page 12)
Phrenological diagnosis

Lord Birkenhead’s brains appear to have gone to his head.

Margot Asquith

SOCIETY GENERAL BUSINESS

(continued from page 11)

Their June conference will be held in Norfolk, VA with Mounir Laroussi as General Chair. The 2011 conference will be collocated in Chicago with SOFE and contiguous with Pulsed Power. There will be a joint short course on the weekend between the conferences. The 2012 conference will be in Edinburgh, 2013 in San Francisco as a PPST conference with Pulsed Power, and 2014 in Washington, DC. Manfred Thumm is the recipient of the 2010 PSAC award.

The DVD of the 2009 Pulsed Power proceedings has been released, and a special issue of reviewed and enhanced papers will appear in TPS in October 2010. Randy Curry will be General Chair of the 2011 conference in Chicago, and was a guest at this AdCom meeting. Bryan Oliver will be Program Chair in 2011 and will chair the 2013 conference in San Francisco. The Chicago venue is quite isolated so efforts are being made to control hotel prices and to provide transportation to areas with restaurants and so on.

The 2009 Radiation Effects conference is closed and was successful in every regard. The 2010 conference will be at the Downtown Sheraton in Denver, 2011 will be in Las Vegas, 2012 in Miami and 2013 will be in San Francisco.

FUNCTIONAL COMMITTEES AND LIAISONS

Bill Moses announced that the original pilot program with IEEE Meeting Planning Services (MPS) was over and was quite successful. Conferences will fund the services they want, and NPSS will continue to provide long-range site selection and contract negotiation assistance. There is a data base of conference history under development. The NPSS budgeting tool will capture conference budget history.

The IEEE MOU for technically cosponsored conferences is being streamlined. The current version is too detailed and has no provision for multiple year technical cosponsorships. Actions are being evaluated in regards to the cost of technical cosponsorships. At present COMSOC charges technically cosponsored conferences a percentage of the registration fees to defray costs to the society.

This is the first year of candidate nominations for the Curie Award. As of the January 31 application deadline there were 9 highly qualified candidates. There were good candidates for the NPSS awards, but only one good graduate scholarship candidate. More effort is needed here. The awards website has also been revamped and there are now two trifold flyers about our awards.

As mentioned by Craig Woody, the membership committee now has to focus on member retention. Several mechanisms are being tested, and some understanding gained of why new members don’t renew or old members drop out.

Chapters are slowly growing in number. Three have received support. Each chapter is required to hold a minimum of two meetings a year.

There is a pool of 20 Distinguished Lecturers available to present lectures to chapters, sections and student sections. Some funding is available to help support these lectures. See the article on page 28 and contact Steve Gold if you are interested.

The Fellow Candidate Evaluation committee, now chaired by Jane Lehr, will receive candidate nominations from IEEE shortly and will begin the rank ordering process. IEEE has revised the scoring sheet. The endorsements will now be available to the committee. Heretofore they were only available to the IEEE Fellows Committee.

Our journals are doing well, coming out in a timely way, and their impact factors are solid.
SOCIETY GENERAL BUSINESS

Communications has produced the Awards trifold flyers mentioned as well as a new Women in Engineering trifold flyer. The production of the 2011 brochure will start earlier than usual because PAC2011 is quite early. New photos are always needed. Send your appropriate high-resolution photo candidates to Peter Clout (clout@vistacomp.com) for consideration. Also check out the newly designed website. If you need to use IEEE or NPSS logos, check for the proper usage. The logos cannot be modified, nor can they be used without appropriate consent.

The Germanium 325 standard has been finished, and the Baseline Operations Procedures has been updated and submitted for review.

The 16-member GOLD committee is working toward GOLD events at more of our conferences. These should be separate from both member-only and new member events, although in Anaheim there was a new member event piggybacked onto a planned GOLD event. The committee now has a broad regional and topical membership.

ADCOM ACTIONS

• AdCom confirmed the vote held between regular meetings to approve technical cosponsorship of the American Nuclear Society International Topical Meeting on Nuclear Plant Instrumentation and Human-Machine Interface Technology.

• AdCom confirmed the vote held between regular meetings to support the implementation of automatic submission of NIH-funded papers published in IEEE journals to NIH’s PubMed Central.

• It was moved, seconded and passed that the NPSS technically cosponsor the 2010 IEEE International Conference on Technologies for Homeland Security.

• It was moved, seconded and passed that NPSS provide up to $50,000 to digitize the Proceedings of the High-Power Particle Beams (BEAMS) conferences held between 1975 and 2008. These proceedings will be made available to the community through IEEE Xplore.

• It was moved, seconded and passed that NPSS technically cosponsor the BEAMS/Eurasian Pulsed Power Conference to be held in Jeju, Korea. IEEE will not publish the proceedings.

• It was moved, seconded and passed that NPSS technically cosponsor the second ANIMMA conference to be held in Belgium in 2011.

• It was moved, seconded and passed that 2011 NPSS membership dues be set at $35 for the year.

• It was moved, seconded and passed that the IEEE member general interest subscription rate for paper copies of TNS and TPS be set at $160 for 2011. The NPSS member rate will be $120 and the NPSS student rate will be 50% of the NPSS member rate.

• It was moved, seconded and passed that $20,000 be transferred from NPSS general funds to the Network Shop as previously authorized.

• It was moved, seconded and passed that another $25,000 be budgeted for completion of the conference budgeting software tool. Increases in cost are due, in part, to IEEE HQ changes. IEEE HQ will maintain this tool once development is complete.

• It was moved, seconded and passed that the stipend for the TPS Editor-in-Chief be increased.

• It was moved, seconded and passed that $10,000 be budgeted for IEEE Meeting Planning Services to assist conferences with long-range tasks. Other MPS services will be included in conference budgets.

Albe Larsen, NPSS Secretary and Newsletter Editor, can be reached at amlarsen@slac.stanford.edu; Phone +1 650 888-8897; Fax: +1 650 726-0368.

Sigh...

The great tragedy of science: the slaying of a beautiful hypothesis by an ugly fact.

Thomas Huxley

Mum’s the word

A man is known by the silence he keeps.

Oliver Herford
NUCLEAR AND MEDICAL IMAGING SCIENCES NEWS

Greetings! If you have not visited the NMISC webpage recently I invite you to do so (http://ewh.ieee.org/soc/nps/nmisc/). The site has been redesigned to match the format of our parent NPSS website and while you are there please take a tour. Of special interest are the pages for the NMISTC Awards and the Nomination for New Members. Each year the NMISTC presents two awards to its membership: the Edward J Hoffman Medical Imaging Scientist Award and the Bruce Hasegawa Young Investigator Medical Imaging Science Award. The deadline for nominations for these awards is July 15th. If you can think of deserving candidates please consider nominating them. Instructions and nomination forms are available on the website. Nominations should be sent to Anna Celler, Chair of the IEEE NMISC Awards/Fellows Subcommittee.

In addition to nominating individuals for awards, we also need five new individuals each year to serve as NMISC committee members. Each member serves a three-year term. Self-nomination is accepted and encouraged. If you are interested in serving on the NMISC please contact George Kontaxakis, NMISC Secretary and Chair of the Nominations Subcommittee. In additional news, efforts have continued to get the IEEE Publication Services and Products Board (PSPB) to implement automatic submission of IEEE Transactions on Nuclear Science (TNS) and Transactions on Medical Imaging (TMI) manuscripts to PubMed Central. The motivation to have IEEE PSPB automatically submit articles from these journals is that the NIH now requires all papers resulting from NIH-funded research be submitted to PubMed Central within one year of their publication. While many journals perform this submission automatically for authors, IEEE journals currently do not.

Since many of our constituents receive NIH funding, this service would continue to promote the submission of their high quality work to IEEE TNS and TMI. This measure was supported by NPSS AdCom and in a report by Bill Moses, who attended the TAB meeting, things look very promising for the proposal that IEEE Publications Group automatically forward manuscripts to PubMed Central. While there is no official timetable, it is possible that this could happen within a year. Thanks to Charles Watson, Craig Woody, Bill Moses and others who helped move this action forward.

Now on to news on upcoming MIC meetings: This year’s meeting (2010) will be held in Knoxville, Tennessee. Ron Keyser is the General Chair and David Townsend will serve as the MIC Chair and Charles Watson as the MIC Deputy Chair. The meeting will be held in the Knoxville Convention Center with housing shared among several downtown hotels.

Plans for the 2010 MIC are progressing well. As you read this, the organizing committee will be finalizing the program. Joint NSS/MIC sessions will be held on Tuesday November 2, and the main MIC program will extend from Wednesday through Saturday. It is tentatively planned to have two parallel oral session tracks, similar to the 2007 MIC in Hawaii, in order to make more presentations accessible to attendees. Three poster sessions and two plenary sessions are planned. The first plenary session will feature Professor Gregory Sorensen of Harvard Medical School/Massachusetts General Hospital, a leader in MR/PET related research. He will give us a clinical perspective on MR/PET applications. The second speaker will be Professor Anthony Campbell, Department of Infection, Immunity and Biochemistry, Cardiff University, a widely known expert on bioluminescence. He will speak on...
“life that sparkles.” Professor Campbell is also a Director of the Darwin Centre in Wales and will give a presentation on the inspiration of Charles Darwin at the MIC dinner banquet on Friday. The second plenary session will be devoted to honoring our Hoffman Medical Imaging Scientist and Hasegawa Young Investigator award winners. Please consider nominating deserving colleagues by July 15. Links to applications and submission contact information can be found on the main conference website (http://www.nss-mic.org/2010/). Also take note of the student paper award opportunities described there.

A workshop on MR/PET has been proposed, possibly to be held on Monday (Nov 1) afternoon and evening. Topics may include image reconstruction, attenuation/scatter correction, MR compatible readout, system design, etc. Look for additional information on the conference website (http://www.nss-mic.org/2010/). The 2010 MIC is shaping up to be an exciting and productive meeting. Please plan on attending.

In 2011, the meeting will be heading back to Europe, to Valencia, Spain. David Townsend is the General Chair, Alberto Del Guerra will serve as MIC Chair and Juan Jose Vaquero will serve as MIC Deputy Chair. Valencia is Spain’s third largest city, situated on the eastern Mediterranean coast, with many cultural and recreational attractions. The meeting will be held in the Valencia Conference Center and the neighboring Sorollo and Hilton Hotels.

Tom Lewellen, Chair of the NSS/MIC Oversight Subcommittee, had the opportunity to attend a 2011 committee meeting in Valencia, Spain in February of this year. He reports the following. During the meeting, the budget and space allocations were reviewed. After touring the space, the committee decided to reallocate some of the original room assignments to ensure that there was adequate space for posters and to be able to support a meeting of up to 2000 if required. The various contracts were also reviewed and clarified. The current hotel room allocations were also reviewed and the committee was happy with their status. There are two hotels adjacent to the conference center and both have reasonable rates. Lower cost hotels are close by and it is a short walk to the metro for transport to central Valencia and other lodging options. A detailed plan of action with timelines was presented and approved by the committee. The 2011 conference planning is clearly well advanced and on track for a successful conference.

In 2012, the IEEE NSS/MIC meeting will be held in Anaheim, California. Tom Lewellen is the General Chair, Vesna Sossi will serve as MIC Chair and Alex Converse will serve as MIC Deputy Chair. The meeting will be held at the Disneyland Hotel. Tom Lewellen and I (2012 Local Arrangements Chair) visited the site in November of 2009. Along with having excellent facilities to host the meeting, the Disneyland Hotel will be undergoing a major renovation that will be completed in time for the 2012 meeting. In 2013, the IEEE NSS/MIC meeting will be held in Asia for the first time. Seoul, Korea will be host city for the meeting which will be held at the Coex Convention Center within the Coex Mall. This site will provide us with plenty of space to host the meeting as well as offering many tourism opportunities. The General Chair for the meeting will be Hee-Joung Kim and the MIC Chair will be Jae Sung Lee.

Robert Miyaoka can be reached at the University of Washington, Department of Radiology, Box 357987, Seattle, WA, 98195-7987 USA; Phone: +1 206 543-2084; Fax: +1 206 543-8356; E-mail: rmiyaoka@u.washington.edu.

Reflected glory

Women don’t look for handsome men. They look for men with beautiful women.

Milan Kundra

Paradox

I’m convinced that the vast majority of wrong-thinking people are right.

Monty Python
The Pulsed Power Science and Technology Technical Committee meeting took place in conjunction with the IEEE International Power Modulator and High Voltage Conference in Atlanta, GA, May 23-27, 2010.

In this issue of the quarterly NPSS Newsletter I feature another one of our elected committee members, Dr. Andreas Neuber of Texas Tech University.

Dr. Andreas Neuber was born in Aschaffenburg, Germany, and attended the public school system in Germany for the required 13 years. (It is only now, many years later, that the German school system is reduced to the more standard 12 years.) Following high school, Dr. Neuber was immediately drafted into military service for 15 months. After three months of boot camp, he trained as a truck and tank mechanic and was assigned to a tank battalion close to the border of the then-communist eastern part of Germany.

After returning from the service, he enrolled as a physics major at the Technische Hochschule Darmstadt, now known as the Technical University Darmstadt, in Germany. His first laboratory exposure to pulsed power came as a graduate student in the Institute for Applied Physics, IAP, of the Technische Hochschule Darmstadt under the leadership of Professor W. Seelig, where he designed and built an X-ray preionized KrF* Excimer laser, as well as coauthored his first peer-reviewed journal paper.

Following his diploma in physics, he began working full time in the mechanical engineering department at the Institute for Energy and Power Plant Technology (Energie und Kraftwerkstechnik, EKT), in Darmstadt, under Professor J. Janicka. He continued working with pulsed lasers and honed his skills in time-resolved diagnostics on turbulent combustion systems utilizing Coherent Anti-Stokes Raman Spectroscopy to measure temperatures in situ with high temporal and spatial resolution.

In 1996, Dr. Neuber successfully defended his research to the doctoral committee at the Technische Hochschule Darmstadt and received the Dr.-Ing. (Engineering Doctorate) in Mechanical Engineering. A few months later, he was en route to the United States headed for Texas Tech University in Lubbock, Texas. The opportunity of temporary work at an U.S.-based university became possible through Dr. H. Krompholz, an electrical engineering faculty member at Texas Tech and also a graduate of the Technische Hochschule Darmstadt. Initially meant as a six months’ assignment, circumstances were such that Dr. Neuber soon joined the tenure-track faculty of the electrical engineering department on the teaching side while continuing his research in the Center for Pulsed Power and Power Electronics with Dr. M. Kristiansen as center director.

Fourteen years after his arrival in the U.S., Dr. Neuber has had the opportunity to attend virtually all IEEE Pulsed Power and Power Modulator conferences since 1997. He has been frequently involved in the conference organization as session organizer and session chair as well as technical program chair in 2002 and 2003. At present, he is guest editor for the IEEE Transactions on Dielectrics and Electrical Insulation for the Special Issue on Power Modulators and Repetitive Pulsed Power.

He has traveled extensively in Europe, to countries of the former Soviet Union, and the Far East to present papers at conferences or give short courses on pulsed power. Through the hospitality shown by friends and colleagues he has enjoyed culinary treats such as raw horse meat, sharing a hot pot, and many other traditional meals of the respective countries visited. During one of his more recent visits, he enjoyed the opportunity of bicycle riding with his daughter along...
the full length of the city wall in Xi’an, China.

At present Dr. Neuber advises 12 graduate students, all in related fields of pulsed power. His students conduct research on high power microwave breakdown at atmospheric pressure along dielectric surfaces, basic research on vacuum ultraviolet emission from atmospheric pulsed surface discharges contributing to streamer formation, compact Marx generator design, and explosive driven pulsed power. Based on collaboration with colleagues from the University of Loughborough, UK, Texas A&M, and the then-University Missouri-Rolla, in 2005 Dr. Neuber edited and co-authored a book titled *Explosively Driven Pulsed Power* focusing on Helical Magnetic Flux Compression Generators. Currently a professor in electrical engineering at Texas Tech University and a licensed professional engineer, Dr. Neuber has authored and co-authored 65 refereed journal articles and about 160 conference papers. Outside his professional engagements, Dr. Neuber is busy raising his four children with his wife Sybille, and he enjoys volunteering his spare time for charity fundraising.

*Edl Schamiloglu, Chair of the Pulsed Power Science and Technology Technical Committee, can be reached at the Department of Electrical Engineering and Computer Science, MSC01 11001, University of New Mexico, Phone: +1 505 277-4423; Fax: +1 505 277-1439; E-mail: edl@ece.unm.edu.*

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**Directory of Plasma Conferences**

**PLASMA SCIENCES AND APPLICATIONS**

**Brendan B. Godfrey**

Plasma science and engineering conferences around the world occur at a rate of about three per week. To help conference attendees and organizers keep track of so many meetings, the IEEE-NPSS Plasma Sciences and Applications Committee (PSAC) maintains a comprehensive Directory of Plasma Conferences, http://www.ieee.org/plasma_meetings. The PSAC Executive Committee hopes that this service will help potential attendees to learn of interesting conferences, and organizers to publicize their conferences and minimize timing conflicts.

The Directory contains an archival listing of known conferences since 1995. It is updated at least monthly, and a monthly list of newly archived conferences also is provided. A typical entry is shown below. It contains the conference name, date, location, and contact information. Web and email addresses also are included.

Organizers can contribute to the Directory’s utility by sending conference information as early as possible to brendan.godfrey@ieee.org. Submitting just the conference name and dates helps attendees make plans. Additional information can be provided as it becomes available.

In addition, we hope that organizers will include links to the Directory from their conference websites. Please send a message to brendan.godfrey@ieee.org after doing so.

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*Thirty-Seventh IEEE International Conference on Plasma Science (ICOPS2010), 20-24 June 2010, Norfolk, Virginia USA. Contact Mounir Laroussi, Old Dominion University, Norfolk, Virginia USA.*
AWARDS

The NPSS gives three different categories of awards each year—Conference (where only attendees at that conference are eligible), Technical Committee (where only members of that Technical Committee are eligible), and Society (where all NPSS members are eligible). As Chairman of the NPSS Awards Committee, I’m pleased to announce this year’s winners of the Society Awards. The winner of the Merit Award, which is for scientific and technical achievement, is André Anders of Lawrence Berkeley National Laboratory, for contributions to the science and technology of pulsed plasmas, and specifically cathodic arc and high power impulse magnetron sputtering plasmas. The winner of the Early Achievement Award which is also for scientific and technical achievement, is Evgeny Stambulchik of the Weizmann Institute, for outstanding contributions to spectral line broadening theory and modeling, including development of numerical methods, and their applications to novel approaches in plasma diagnostics. The winner of the Richard F. Shea Award, which is for service to the NPSS, is Jean-Pierre Martin of the University of Montreal. The winner of the Graduate Scholarship Award is Jouya Jadidian of the University of Tehran. More details on the awardees are given below.

More information on these and other relevant Awards, including submission information for next year, is available at http://ewh.ieee.org/soc/nps/awards.htm.

Bill Moses, Chair of the NPSS Awards Committee, can be reached at Lawrence Berkeley National Laboratory, MS 55-121, One Cyclotron Road, Berkeley, CA 94720 USA; Phone: +1 510 486-4432; Fax: +1 510 486-4768; E-mail: wwmoses@lbl.gov.

2010 AWARDS

2010 IEEE MERIT AWARD

Studying various forms of discharges in vacuum for over 25 years, André Anders has become a leading expert in a broad range of topics related to metal plasmas and surface engineering. He is a Senior Scientist at the Lawrence Berkeley National Laboratory, project leader, inventor, author, much-sought speaker, teacher, editor and consultant. He is best known for his many contributions to vacuum arc plasmas and their applications to surface modification and thin film deposition, culminating in his latest book, *Cathodic Arcs: From Fractal Spots to Energetic Condensation* (Springer, New York, 2008).

André grew up in East Germany and studied Physics at Humboldt University in East Berlin. His interest and involvement in plasma physics first started after an internship at the Academy of Sciences in (East) Berlin. He received his PhD from Humboldt University in 1987 after spending a good portion of his graduate studies at Moscow State University (1984-1986) with motivating teachers such as Anri Rukhadze, and at the Berlin Academy of Sciences with Burkhard Jüttner and Erhard Hantzsche. As a young staff scientist at the Academy of Sciences, he wrote a *Formulary for Plasma Physics* (Akademie-Verlag, Berlin, 1990). One of the earliest highlights of his career was the pioneering use of subnanosecond tunable lasers for investigation of dense, highly nonuniform and nonstationary plasmas, for which he received the Chatterton Award in 1994.

Using the new travel opportunities after German reunification, André moved to Berkeley, California, to pursue work on vacuum arcs at Lawrence Berkeley National Laboratory in Ian Brown’s Plasma Applications Group.
He became one of the early developers of the emerging technology dubbed plasma immersion ion implantation and deposition, and some years later he led the effort in terms of research and as the editor of the *Handbook of Plasma Immersion Ion Implantation and Deposition* (Wiley, New York, 2000). Following extensive measurements of vacuum arc plasma ion charge-state distributions, he developed in the mid-1990s a basic theory of the physics of charge-state evolution which was reported in *Physical Review E* (1997), a publication that has become one of the most cited papers in the field. He showed that many properties can be traced back to the dense plasma conditions and the transition to nonequilibrium as the dense plasma expands. Since then refinements have been made, both experimentally and theoretically. Some of this work was done in close collaboration with the many scientists he has hosted at Lawrence Berkeley Lab, for example with Efim Oks and Gera Yushkov of Tomsk, Russia, who co-authored many publications. André’s research is not limited to vacuum arc metal plasma, as is evident, for example, by his development of the low energy constricted arc plasma source for compound film deposition (winning an R&D 100 Award in 1997). In the field of thin and ultrathin films, André made a number of improvements in electromagnetic filter technology as used to deliver fully ionized and (almost) particle-free metal plasmas. Most notably, atomically smooth, ultrathin diamond-like carbon films can be deposited—a technology used today in the magnetic storage industry (R&D 100 Award in 2009).

In recent years, André’s interests have expanded into the field of transparent coatings, applicable to “smart windows,” and the emerging field of high power impulse magnetron sputtering, a technology that combines traditional magnetron sputtering and pulsed power. He co-developed “gasless” pulsed sputtering and demonstrated and measured the runaway effect for the case of copper and other high sputter yield materials. This work was published in *Physical Review Letters* and was much highlighted, including in the journal *Nature*. André collaborates with a number of research groups world-wide, and he is a Visiting Professor at Sheffield Hallam University in Sheffield, UK.

In addition to his impressive list of scientific accomplishments, including about 250 publications in peer-reviewed journals and many invited talks, André has demonstrated a strong commitment to the scientific community. He serves as the chairman of the Permanent International Scientific Committee of the Symposia on Electrical Discharges and Electrical Insulation in Vacuum (ISDEIV), an IEEE-cosponsored series of symposia; he was twice a Guest Editor of *IEEE Transactions on Plasma Science,* and he serves on the Advisory Boards of *Applied Physics Letters, Journal of Applied Physics,* and *Surface and Coatings Technology.* Recently, he has become an Associate Editor of the *Journal of Applied Physics.* His accomplishments have been recognized by election to Fellow of the IEEE, the American Physical Society, and the Institute of Physics (UK).

Citation: “For contributions to the science and technology of pulsed plasmas, and specifically cathodic arc and high power impulse magnetron sputtering plasmas.”

André Anders can be reached at: Lawrence Berkeley National Laboratory, 1 Cyclotron Road, MS 53, Berkeley, CA 94720; E-mail: aanders@lbl.gov.

Peril of excellence

_In most hierarchies, supercompetence is more objectionable than incompetence._

L. J. Peter & R. Hull
Jean-Pierre Martin obtained his bachelor’s diploma in physics in 1965. But he was already active in the technical fields, having developed as a physics undergraduate student the control and RF systems for a quadrupole mass spectrometer (QMS). This was still in the vacuum tube era. His master’s thesis project was the development of a direct extraction negative ion source for a Tandem Van de Graaff accelerator. He obtained his Ph.D. in nuclear physics in 1971. Again, the thesis project involved a significant technical aspect: the development of a double scattering proton polarimeter using an active element (a silicon detector) as the second scattering analyzer. This made the achievement of both high efficiency and high energy resolution possible.

During the 1970s, Jean-Pierre participated in a campaign of experiments on rare muon decays at TRIUMF (Vancouver, Canada). With the advent of mini-computers, he was active in the design of DAQ systems for physics experiments, and in developing custom CAMAC modules.

In the 1980s, he headed a group in applied physics, using accelerator beams for thin film surface analysis. On the technical side, he developed an emulator for a mainframe Control Data computer. The device was based on bit-slice ECL logic, and featured the CAMAC Branch Highway as an I/O bus. He then developed the complete DAQ and trigger system for an HpGe/BGO gamma spectrometer, called the “8π.” This instrument was located at the time at the Chalk River National Laboratory (Canada). Later on, he was involved in the DAQ system for the OPAL detector at CERN.

In the 1990s, up until the final shutdown of the LEP at CERN, he was responsible for the maintenance and upgrades of the DAQ software and hardware connected with the readout of the “Zed” drift chambers of the OPAL detector.

In the years since 2000, as head of an instrumentation group based at the University of Montreal, he has been active in designing and fabricating custom instruments for many Canadian, U.S. and European universities and National Laboratories, as well as for industrial partners. He is now associate director of the R.J.A. Levesque Laboratory at the University of Montreal.

As far as his involvement with the IEEE is concerned, he became a member of IEEE in the early 1970s. In 2003, he was chair of the IEEE Real Time Conference in Montreal. This was a challenging conference to organize, as the SARs virus scare began about one month before this conference. Although this abruptly decreased the attendance by 50%, Jean-Pierre adroitly managed the conference to be both a technical and a financial success.

From 2005 till 2009, he served as chair of the Computer Applications in Nuclear and Plasma Sciences (CANPS) technical committee of NPSS, responsible for the RT conferences of 2005 in Stockholm, 2007 at Fermilab, and 2009 in Beijing. During his term, he completely remodeled and totally reorganized the CANPS committee, which is the part of NPSS responsible for the long-range planning for the Real Time Conference. At the time he became CANPS Chairman, the CANPS committee was quite loosely organized, without a formal process for selecting the conference site, general chairman, etc. In the space of a few years, Jean-Pierre turned the CANPS committee into a powerful, efficient and active international body acting as the main consultative and scientific board for the management of the Real Time Conferences in Europe (Stockholm 2005), North America (FNAL 2007) and Asia (Beijing 2009). These conferences were...
Realism too?

Every form of addiction is bad, no matter whether the narcotic be alcohol or morphine or idealism.

Carl Jung

YOUNG INVESTIGATOR AWARD

Evgeny Stambulchik is a highly accomplished scientist specializing in spectroscopic plasma diagnostics applied to plasma science, fusion plasmas, and pulsed-power plasmas. Evgeny obtained his Ph.D. degree in 2003 from the Weizmann Institute of Science (WIS) in Rehovot, Israel, where he is currently a Staff Scientist. His Ph.D. studies and the subsequent years brought him to be a leading expert in line-shape modeling in plasmas.

Plasmas that are formed in the laboratory have applications to high energy density physics driven by laser beams and pulsed power, materials processing, and fusion engineering. In order to understand the physical processes in each of these areas it is crucial to diagnose fundamental properties of the plasmas. Due to the very harsh conditions it is imperative to use nonperturbing diagnostics. Plasma spectroscopy offers the best discipline for obtaining such information.

The challenge in plasma spectroscopy is to correlate the spectroscopic measurements with appropriate models in order to infer accurate information. Dr. Stambulchik developed a comprehensive method for the calculation of spectral line broadening in plasmas which is unique in its universality and in the broad scope of effects including applicability to line-shape calculations. The method has been used for benchmarking competing

(continued on page 22)
Stark-broadening theories, analyzing the influence of the correlations effects on the line shapes in plasmas, spectroscopic analysis of radiation-heated foams, accurate atomic-data measurements, and 3D-mapping of fluctuating electric fields in pulsed plasmas.

Evgeny was a key figure in the development and implementation of a new method to determine magnetic fields in situations where the fields vary in amplitude and direction over the region viewed or over the time scale of the measurements. The method has a huge potential for measurements of magnetic fields in turbulent plasmas in a broad range of high-energy-density physics disciplines, such as z-pinches, laser-produced plasmas, and astrophysics. Recently, Evgeny suggested a simple analytical method for calculation of line shapes of highly excited (Rydberg) atoms, which are important for many topics in plasma physics and astrophysics. This work was selected for the J. Phys. B’s “2008 Highlights.”

Another area to which Evgeny has recently contributed is analysis of the inner-shell X-ray emission from warm dense matter formed in short-duration, high-power laser-matter interactions. Modeling of such spectra represents a highly challenging task. It is based on collisional-radiative calculations that comprise many different processes and effects, such as satellite formation and blending, plasma polarization, Stark broadening, quantum degeneracy effects, and self-absorption.

Evgeny’s list of publications exceeds 30 items, including a recent invited review on the subject of line-shape modeling. He is a frequent reviewer for leading journals such as Phys. Rev. Lett., Phys. Rev. E, J. Phys. B, High Energy Density Phys., and Plasma Sources Sci. Technol., and is regularly invited to give presentations at various internationally acclaimed conferences.

In his spare time, Evgeny maintains and develops the Grace package (http://plasma-gate.weizmann.ac.il/Grace/), an open-source high-quality plotting tool used by thousands of scientists around the world for preparation of graphs for their manuscripts. For several years Evgeny has been contributing to the Wikipedia project (http://www.wikipedia.org), the world’s largest Free Encyclopedia, by authoring and co-editing numerous articles, mostly related to the field of atomic and plasma physics.

**Citation:** for outstanding contributions to spectral line broadening theory and modeling, including development of numerical methods, and their applications to novel approaches in plasma diagnostics.

Evgeny Stambulchik can be reached at the Department of Particle Physics and Astrophysics, Faculty of Physics, Weizmann Institute of Science, Rehovot 76100, Israel; Phone: +972 8 9343610; E-mail: evgeny.stambulchik@weizmann.ac.il

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*Sage advice*

*Be wiser than other people if you can, but do not tell them so.*

*Chesterfield*
Jouya has won numerous prizes and honors: the best young researcher award for his contributions from his M.Sc. thesis research, the highest accumulated GPA among all ECE graduate students and the Elites National Organization scholarship for pursuing graduate studies (M.Sc.) in Iran. He also was recipient of student attendance grants from the International Conference on Plasma Science (ICOPS) 2008, the International Congress on Plasma Physics 2008 and ICOPS 2009. He has been assigned to be the reviewer for some respected journals such as the IEEE Transactions on Plasma Science (TPS) for two submitted special issue papers (selected papers from SOFE 2009) and one regular paper.

He is the author or coauthor of over 40 technical papers in journals and international conference proceedings mostly in IEEE TPS and ICOPS. His current research interests include vacuum arcs, high voltage/current systems and intense electromagnetic field interactions with materials and plasmas.

Mr. Jadidian is planning to attend one of the universities to which he has been admitted, i.e., Massachusetts Institute of Technology (MIT), University of California at Berkeley, University of Michigan at Ann Arbor, University of California at San Diego, and University of Maryland at College Park to continue pursuing his Ph.D. studies in fall 2010. All these study/research programs deal closely with electrical discharges and plasma engineering.

Jouya Jadidian can be reached by E-mail at jadidian@ieee.org.
2010 PLASMA SCIENCES AND APPLICATIONS AWARD

Professor Manfred Thumm has been selected as recipient of the 2010 IEEE Plasma Sciences and Applications Award for outstanding contributions to the development of high power microwave sources (in particular gyrotrons) for application in magnetically confined fusion plasma devices as well as for stimulating and establishing extensive international co-operations. The award will be presented at the 37th IEEE ICOPS Conference, June 20–24, 2010 in Norfolk, Virginia. Dr. Thumm, a Fellow of the IEEE (2002), is the Director of the Institute for Pulsed Power and Microwave Technology of the Karlsruhe Institute of Technology (KIT), Karlsruhe, Germany.

He was born in Magdeburg, Germany, on August 5, 1943. He received the Dipl. Phys. (MSc) and Dr. rer. nat. (PhD) degrees in Physics (both summa cum laude) from the University of Tübingen, Germany, in 1972 and 1976, respectively. At the University of Tübingen he was involved in the investigation of spin-dependent nuclear forces in inelastic scattering of polarized neutrons. From 1972 to 1975 he was Doctoral Fellow of the Studienstiftung des Deutschen Volkes.

In 1976 he joined the Institute for Plasma Research of the Electrical Engineering Department at the University of Stuttgart, Germany, where he worked as a Postdoctoral Research Associate on MHD stability, RF production, RF heating, Thomson scattering diagnostics, neutron spectroscopy and optical spectroscopy of toroidal belt pinch plasmas for thermonuclear fusion research. From 1982 to 1990 his research activities as Senior Scientist and later as Group Leader were mainly devoted to electromagnetic theory and experimental verification in the area of development of highly efficient mode converters, cross-section tapers, bends, mode filters, and antenna structures for the transmission of high power micro- and millimeter waves through oversized waveguides for Electron Cyclotron Heating and Current Drive (ECH&CD) in the stellarators Wendelstein W7-A and W7-AS at 28, 70, and 140 GHz. In 1988 the first experiments on frequency tripling of 200 kW gyrotron power at 70 GHz in n-Si obtained 100 W at 210 GHz.

In June 1990 Dr. Thumm became a Full Professor at the Institute for Microwaves and Electronics in the Electrical Engineering Department at the University of Karlsruhe, Germany, and Head of the Gyrotron Development and Microwave Technology Division in the Institute for Technical Physics at the Research Center Karlsruhe (Forschungszentrum Karlsruhe: FZK). From April 1999 to the present, he has been the Director of the Institute for Pulsed Power and Microwave Technology (IHM) at FZK. On October 1, 2009 the University of Karlsruhe and the FZK merged to form the Karlsruhe Institute of Technology (KIT).

At Karlsruhe, Dr. Thumm’s research projects include R&D in the fields of high-power mm-wave gyrotrons (1–2 MW, 105–170 GHz, up to CW) and dielectric vacuum–barrier windows for ECH&CD, and the application of micro- and millimeter waves for industrial materials processing. The milestones of these activities have been: 140 GHz/120 kW/0.5 s TE03-mode gyrotron with FC-75 cooled double-disk window in cooperation with Philips-Valvo, Hamburg (1989–1991); the first worldwide ECH experiments at 140 GHz on the stellarator W7-AS; 140 GHz/500 kW/0.5 s TE10,4-mode gyrotron with quasi-optical output mode converter and depressed collector (51% efficiency) (1992–1994); first compact 30 GHz, 10 kW, CW gyrotron installation for materials processing in Western Europe; sintering of nanostructured structural/functional ceramics and

Of course

Extremists think “communication” means agreeing with them.

Leo Rosten
In university and intellectual circles, academics can guarantee themselves popularity, or, which is just as satisfactory, unpopularity, by being opinionated rather than learned.
A. N. Wilson

since 1990, he has been teaching various Master courses at the University of Karlsruhe on RF- and Microwave Semiconductor Circuits, Microwave Measurement Techniques, High Power Microwave Engineering, Heating & Current Drive in Nuclear Fusion Plasmas and Microwave Laboratory. Since 2007 he has been conducting a Master course on Technology of RF Heating and Current Drive in Magnetically Confined Thermonuclear Fusion Plasmas at the University of Provence in Marseilles, France. He has lectured at several short courses in Spring and Summer Schools on High Power Microwave Engineering


He is a member of the IEEE NPS, ED, MTT and AP Societies, a member of the EDS Vacuum Devices Technical Committee (since 2007), a member of the Executive Committee of the NPSS Plasma Sciences and Applications Committee (since 2010), a member of the Chapter 8.6 Committee Vacuum Electronics and Displays of the Information Technical Society in the German VDE (Chairman from 1996 to 1999) and a member of the German Physical Society (DPG). In 1995 Dr. Thumm served as member of the Review Committee of the Research Institute of Electrical Communication of the Tohoku University, Sendai, Japan. Since 2004 he has been the Chairman of the Advisory Board for the Research Center for Development of Far-Infrared Region of the University of Fukui (FIR FU) in Japan and since 2007 an EU delegate in the ITER Working Group on Heating and Current Drive and a member of the Association Steering Committee European Commission—KIT. From 2007 to 2008 he was the Vice Chairman of the Scientific-Technical Council at FZK and from 2008 to 2009 the Vice Chairman of the Senate of the KIT. Since 2008 he has been Deputy Head of the Topic Fusion Technology of the KIT Energy Center and since 2009 Guest Professor of the FIR Center of the University of Fukui.

(continued on page 26)
(continued from page 25)

Dr. Thumm was the Chairman of the 8th Triennial ITG/IEEE Conference on Displays and Vacuum Electronics 1998 in Garmisch-Partenkirchen and of the Joint 29th International Conference on Infrared and Millimeter Waves and 12th International Conference on Terahertz Electronics (IRMMW-THz 2004) in Karlsruhe, Germany. He was the General Chair of the IEEE ICOPS 2008 Conference in Karlsruhe and the Honorary Chair of the 12th International Conference on Microwave and High Frequency Heating (AMPERE 2009) in Karlsruhe. From 1990 to 2008 Dr. Thumm was the German Chairman of the annual “Joint Russian–German Meeting on Electron Cyclotron Resonance Heating and Gyrotrons.” He has been a member of the International Organization and Advisory Committees of many International Conference series.

Dr. Thumm is the recipient of the Kenneth John Button Medal and Prize 2000, in recognition of outstanding contributions to research on the physics of gyrotrons and their applications. In 2002 he was awarded the title of Honorary Doctor, presented by the St. Petersburg State Technical University, St. Petersburg, Russia, for his outstanding contributions to the development and applications of vacuum electron beam devices. He is the recipient of the IEEE-EDS 2008 IVEC Award for Excellence in Vacuum Electronics for outstanding achievements in the development of gyrotron oscillators, microwave mode converters and transmission line components, and their applications in thermonuclear fusion plasma heating and materials processing. Dr. Thumm together with two of his colleagues received the 2006 Best Paper Award of the Journal of Microwave Power and Electromagnetic Energy and the 2009 CST University Publication Award.

Manfred Thumm can be reached at Manfred.thumm@ihm.fzk.de.

IEEE Medal on Innovations in Healthcare Technology

CALL FOR NOMINATIONS
Applications are now being accepted for the IEEE Medal on Innovations in Healthcare Technology. The medal will be presented annually to an individual, a team of individuals, or multiple recipients for outstanding contributions and/or innovations in engineering within the fields of medicine, biology, and healthcare technology. The areas of technology that would be eligible for recognition of this award include (but is not limited to) bio-signal processing, biomedical image and image processing (ultrasound, PET, MRI, etc), bio-instrumentation, biosensors, bio-micro/nano technologies, bio-informatics, computational biology and systems biology, cardio-vascular and respiratory systems engineering, neural and rehabilitation engineering, cellular and tissue engineering, bio-materials, bio-robotics, bio-mechanics, therapeutic and diagnostic systems, medical device design and development, healthcare information systems, telemedicine, and emerging technologies in biomedicine (e.g. biophotonics).

Recipients will receive a gold medal, bronze replica, certificate and a $20,000 honorarium. The submission deadline is July 1, 2010. For nomination forms and more information, go to the NPSS website or http://www.ieee.org/portal/pages/about/awards/noms/healthcarenom.html.
The IEEE is divided into ten geographic Regions worldwide. Within those Regions are about 330 local Sections. Members of the IEEE automatically become members of their local IEEE Section, some of which are grouped together in regional Councils. The Sections contain more than 1,700 technical Chapters that unite local members with similar technical interests, each affiliated with one or more IEEE Societies. Seventeen active Chapters are currently affiliated with the NPSS, including three joint chapters that also have an affiliation with other IEEE Societies, as shown in the Table below. The policy of the NPSS is to provide technical support for our Chapters. NPSS Chapters are eligible for up to $500 of annual Society support, provided that they submit a suitable budget and a detailed report on their prior year’s activities. In addition, they can take advantage of the NPSS Distinguished Lecturers program, which provides expert speakers for Chapter meetings at no cost to the Chapter. Additional information on NPSS chapter policy can be found at http://ewh.ieee.org/soc/nps/docs/NPSS_Chapter_Policy.pdf, and the chapter report form can be found at http://ewh.ieee.org/soc/nps/docs/NPSS_Chapter_Annual_Report_Form-2009.doc. Further information on the Distinguished Lecturers program can be found at http://ewh.ieee.org/soc/nps/lecturers.html.

For additional information, please contact Steven H. Gold at steven.gold@nrl.navy.mil.

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<tr>
<th>Chapter Name</th>
<th>Chapter Chair</th>
<th>Email Address</th>
<th>Web Address</th>
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<tbody>
<tr>
<td>Benelux Section Chapter, NPS05</td>
<td>Benoît G Brichard</td>
<td>bb <a href="mailto:richard@sckcen.be">richard@sckcen.be</a></td>
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<td>Long Island/New York Jt Sect Chapter, NPS05</td>
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<tr>
<td>Ukraine, AP/NPS/AES/ED/MTT/GRS (East)</td>
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<tr>
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**FUNCTIONAL COMMITTEES**

**DISTINGUISHED LECTURERS PROGRAM**

The NPSS Distinguished Lecturers Program provides support to NPSS chapters by providing high quality scientific and technical lectures by distinguished experts from the NPSS technical communities. These lectures are provided at no cost for NPSS chapter meetings as well as IEEE Section and Student Chapter meetings. Additionally, these speakers are available to other IEEE groups, as well as to outside organizations such as universities, at their own expense, as a means of technical outreach from the NPSS. Being appointed as a Distinguished Lecturer provides an opportunity for NPSS members to be recognized as leaders in their technical communities, while providing a valuable service to the broader educational, scientific and technical community. For 2010, the NPSS has appointed 20 Distinguished Lecturers, each nominated by the Chair of one of the NPSS Technical Committee or by the Transnational Committee, and these Lecturers are currently offering 37 different lectures (see page 29). The lecture titles and abstracts, as well as biographical information on each lecturer, can be found on the NPSS Distinguished Lecturers website, http://ewh.ieee.org/soc/nps/lecturers.html.

*Steven Gold, NPSS Chapters and Local Activities Chair and Distinguished Lecturers Coordinator, can be reached by E-mail at steven.gold@nrl.navy.mil.*

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*People working together utilizing science, expanding the industry, furthering careers*

[www.ieee-npss.org](http://www.ieee-npss.org)
## Functional Committees

### 2010 Distinguished Lecturers and Lectures Offered

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<td>Prof. Farrokh Najmabadi (UCSD) <a href="mailto:fnajmabadi@ucsd.edu">fnajmabadi@ucsd.edu</a></td>
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<td></td>
<td>Engineering Challenges for ITE</td>
<td>Brad Nelson (ORNL) <a href="mailto:nelsonbe@ornl.gov">nelsonbe@ornl.gov</a></td>
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<td>(1) Fundamentals of Nuclear Medical Imaging</td>
<td>William W. Moses (BNL) <a href="mailto:wwmoses@lbl.gov">wwmoses@lbl.gov</a></td>
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<td><strong>Plasma Science and Applications</strong></td>
<td>Ball Lightning: New Physics, New Energy Source or Just Good Entertainment?</td>
<td>J. Pace VanDevender (SNL) <a href="mailto:gpvande@sandia.gov">gpvande@sandia.gov</a></td>
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<td>(1) The Plasma Antenna: Now You See It, Now You Don’t</td>
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<td>Interaction of Cold Plasmas with Biological Cells: Can Plasmas Play a Role in Modern Medicine?</td>
<td>Mounir Laroussi (Old Dominion Univ.) <a href="mailto:mlarouss@odu.edu">mlarouss@odu.edu</a></td>
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<td>(1) The Particle in Cell (PIC) Method as a General Tool for Plasma Simulation &amp; Beyond</td>
<td>Dr. Giovanni Lapenta (Katholieke Universiteit Leuven, Belgium) <a href="mailto:giovanni.lapenta@wis.kuleuven.be">giovanni.lapenta@wis.kuleuven.be</a></td>
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<td>Dr. Peter J. Turchi (LANL) <a href="mailto:turchi@lanl.gov">turchi@lanl.gov</a></td>
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<td>Dr. John D. Cressler (Georgia Tech) <a href="mailto:john.cressler@ece.gatech.edu">john.cressler@ece.gatech.edu</a></td>
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<td>(1) Radiation Effects in Optoelectronic Devices</td>
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<td>(2) An Introduction to Space Radiation Effects in Electronics</td>
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<td>(2) Solid-State Gamma-Ray Detectors</td>
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<td>(3) Homeland Security R&amp;D at Brookhaven National Lab</td>
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<td>(1) Development of New Scintillating Crystals for High Energy Physics, Medical Imaging and Other Applications</td>
<td>Dr. Paul Lecoq (CERN) <a href="mailto:paul.lecoq@cern.ch">paul.lecoq@cern.ch</a></td>
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<td>Energy Resolution and Non-Proportionality of Scintillation Detectors</td>
<td>Dr. Marek Moszynski (Soltan Institute for Nuclear Studies, Poland) <a href="mailto:marek@ipj.gov.pl">marek@ipj.gov.pl</a></td>
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<tr>
<td><strong>Transnational Committee</strong></td>
<td>Soft Sensors and Artificial Intelligence: Exploiting Experimental Data and Human Expertise to Design Effective Tools for Modelling, Monitoring, Validation and Control</td>
<td>Dr. Alessandro Rizzo (Politecnico di Bari) <a href="mailto:rizzo@deemail.poliba.it">rizzo@deemail.poliba.it</a></td>
</tr>
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</table>
Humpty-Dumpty?

I have known many men
knock their heads against a wall,
but I never heard before of a man
collecting bricks and building a wall
for the express purpose of
knocking out his own brains against it.

Richard Sheridan

FUNCTIONAL COMMITTEES

CHANGES IN NPSS ACTIVE MEMBERSHIP OVER TIME

People enter membership into the IEEE’s Nuclear and Plasma Sciences Society randomly on most days of the year. Many of these new members remain active in NPSS for years. Some people, on the other hand, do not renew their membership and enter into the condition of being in “Arrears.” If they remain so for three years they then become “Inactive.” Others may remain active members of IEEE but drop their membership in NPSS. Some people even resign their membership in IEEE.

Regardless of which day of the year one joins or renews membership in IEEE, if they fail to renew, they lose their active status during only one day of the year, that is, on the 28 February. That day has come to be known as the “Terminator” day. Within IEEE as a whole, some 100,000 people recently failed to renew, with some 58,000 of them having been members for only one year or less. Within NPSS, the number of people terminated on 28 February was several hundred. Over the course of the year from 1 March to the end of the following February, many of the drop-outs do return to membership and are renewed while others remain outside. Several hundred people each year do join or are recruited at NPSS conferences replacing the drop-outs to maintain NPSS at an approximately constant level.

With the random nature of membership arrivals and the fixed date for departures, IEEE has adopted a plan whereby the membership year begins on 1 September and ends the following 31 August. A measure of the membership on 31 August has been set as the reference value for the year. The difference between that reference number and the number of people renewed by 28 February is viewed as the level of “Churn” in the system.

The percentage fraction of the churn to the reference datum is typically about 20–25%. Studies of NPSS churn show that this society is about average with many other IEEE societies with about 20% of churn. The churn does include people who retire out of active interest in technology, others who “pass on” and, of course, some students who may change their interests. Thus, year after year, about 80% of the NPSS membership is stable while 20% leave and are replaced.

Intensive studies of both IEEE membership and of the society memberships have been made by Dr. Elena Gerstmann* in 2004 and more recently, in November 2009 by Drs. Jamie Moesch and Kuangyunn Chiu** to find reasons for the large changes. Looking at those studies, IEEE planners are developing programs and offerings to minimize the percentage of people falling into the “At Risk” category. New programs are being offered to attract members. Other options, such as the new availability of free access to over 200 Wiley texts to members over the Web, have been created to retain those who join.

Within NPSS, several recent features have increased the attraction of new members into our society. One aspect has to do with the continuing development of attractive booth designs by Dr. Peter Clout and his publications of informative NPSS brochures. Another aspect has been the offering of the free availability of NPSS transactions via Xplore to our members on the Web. Another powerful attraction has been the availability of typically more than one person at the conference membership desk to answer recruit questions and to encourage their joining IEEE/NPSS. Dr. Christoph Ilgner in 2008 and Dr. Uwe Bratzler in 2009 and 2010 have made dramatic differences in the population of NPSS. Their results, compared to earlier practices
that were relatively constant over a decade are illustrated in the figure below:

The information shown for the years 2007-2010 mimics quite well the typical values on charts of this type over the years 1995 to 2006. It will be interesting to see if new programs will serve to retain many of our new-found members this year.

**Membership and Development: What’s to Know,** Dr. Elena Gerstmann, 5 May 2007. Refers to her work in 2004


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**Ultimate reluctance**

*Die, my dear doctor? That's the last thing I shall do!*

Lord Palmerston
CAN YOU IDENTIFY THIS?
Contact Richard Kouzes if you can.  
richard.kouzes@pn.gov