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CONFERENCES

2003 PARTICLE ACCELERATOR CONFERENCE

May 12-16 Portland Oregon

The 2003 Particle Accelerator Conference (PAC2003) will take place on May 12-16, 2003, at the Hilton Portland in Portland, Oregon. The conference will cover new developments in all aspects of the science, technology, and the use of accelerators. It will also provide a communication channel for accelerator scientists and engineers and for those interested in the applications of accelerators. The conference is open to the public and all individuals with an interest in particle accelerators are invited to register and attend.

This is the 20th biennial conference in the series and is organized under the joint auspices of the Institute of Electrical and Electronic Engineers (IEEE) through its Nuclear and Plasma Science Society (NPSS) and the American Physical Society (APS) through its Division of Physics of Beams (DPB). The conference also serves as the annual meeting of the DPB. The hosting institutions are Stanford Linear Accelerator Center (SLAC) and Lawrence Berkeley National Laboratory (LBNL). The conference is supported in part by the U.S. Department of Energy, the National Science Foundation and the Office of Naval Research. Industrial sponsors include Bergoz Instrumentation, Danfysik, GMW Associates, and Wah Chang, an Allegheny Technologies Company.

The Conference Chairman is Robert. H. Siemann of SLAC. The PAC2003 Program Committee, chaired by Ed Lee of LBNL, has already structured the conference program. Program, publication instructions and all other relevant information is available on the conference website at http://www-conf.slac.stanford.edu/PAC03/. Additional information can be obtained from the Conference Coordinator:

Robert H. Siemann
Conference Chairman

Ed Lee
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The deadline for abstract submission has passed. The Proceedings, which are being edited by Joe Chew, will be published as an IEEE Conference Record and will be available in hardcopy or as a CD. All abstract and paper submission should be through the Web upload system, however, authors are also required to bring a hardcopy to the conference.

To register for PAC2003, please complete the online registration form at the website. The registration fee of U.S. $450.00 ($350.00 for those who register and pay before April 10, 2003) supports the conference almost entirely. This fee covers participation in the conference sessions, the welcome reception, the awards ceremony and coffee breaks. It also includes a copy of the Proceedings of the conference in CD form. Student and retiree registration is $100. The registration fee does not cover the banquet. Companion tours will be available; a companion-tour registration form can be obtained from the web site.

Technical Program

The organization of the technical program is similar to previous conferences in this series with plenary

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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 April 25, 2003.

CONTRIBUTED ARTICLES
News articles are actively solicited from contributing editors, particularly related to important R&D activities, significant industrial applications, early reports on technical break-throughs, 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.

Committee Chairpersons, Liaison Representatives, and other Ad Com members are particularly reminded that reports, award announcements, or observations on society interests are needed and should be submitted where possible before the copy deadline of April 25, 2003.

sessions on Monday morning and Friday afternoon. The opening plenary session will feature talks by **S. Mishra**, FNAL on High Luminosity Operation of the Tevatron, **P.W. Schmor**, TRIUMF on Recently Commissioned and Future Radioactive Ion Beam Facilities, **N. Holtkamp**, ORNL on Status of the Spallation Neutron Source and **G. Dugan**, Cornell on Technology Options for Linear Colliders. The closing plenary session talks will include **R. Orbach**, DOE on Prospects for a Physical Science Renaissance, **D. Prosnitz**, LLNL on Roles for Accelerator Technology in Homeland Security, **C.V. Shank**, LBNL on Opportunities for Accelerators in Nanoscience and **Y. Petroff**, ESRF on Evolution of Light Sources.

During the five-day period there will be 21 oral sessions with 81 invited speakers and selected contributed papers. Eight poster sessions sized to accommodate more than 1000 posters are scheduled. Accelerator systems are categorized by sessions on Low & Medium Energy Accelerators, Hadron Accelerators and Colliders, Lepton Accelerators and Colliders, Linear Colliders, Light Sources, FELs and ERLs, Secondary Beam Factories, Advanced Concepts and Extreme Beams. Sessions on Single Particle Beam Dynamics and Optics, Multi-Particle Beam Dynamics, Two-Stream Interactions and Collective Processes, and Instabilities and Feedback have been assigned. In addition there are specific sessions on Sources and Injectors, Magnets, Controls and Computing, Instrumentation, Radio Frequency Systems, Accelerator Technology, Pulsed Power and High Intensity Beams, and the Applications of Accelerators.

Industrial Exhibition

An industrial exhibition of about 40 booths, situated adjacent to the poster area, where companies can advertise their products and expertise, will be open from noon to 5:00 p.m. on Monday and 9:00 a.m. to 5:00 p.m. on Tuesday and Wednesday. The cost of a 10 foot by 10 foot booth is $2000.00 (U.S.). This fee includes one full conference registration, a CD copy of the proceedings and attendance at the reception. An online registration form is available on the conference website. Sponsorship opportunities for the reception, refreshments and supplies are also available to organizations. These are listed on the website and will be fully acknowledged at the conference and in the conference program. Further information on exhibiting or sponsorship can be obtained by contacting Adrienne Higashi at ahigashi@SLAC.Stanford.edu

Accommodations

Approximately 1200 participants have attended the last few meetings in the series and similar numbers are anticipated for PAC2003 in Portland. A block of rooms at the Portland Hilton has been reserved at the conference rate of $139.00/night, single or double occupancy. Due to the limited availability of rooms, attendees are strongly urged to reserve early, directly with the hotel. When making reservations, be sure to indicate attendance at PAC2003 in order to receive the conference room rate.

Companion Program

The conference has arranged a companion program. This begins on Monday morning with a Companion Get Acquainted Reception at the Portland Hilton that will include a continental breakfast. Prearranged tours depart Monday through Saturday mornings, returning late afternoon, and include specially selected lunch stops. They are being offered through "RAZ", a private company. In daily order, the six tours and their costs are: Portland City Tour ($59.00), Columbia Gorge Tour ($55.00), Oregon Garden and Aurora ($55.00), North Coast Tour ($60.00), Woodburn Shopping Tour ($33.00), Columbia Gorge Tour ($55.00). If planning on joining any of these tours, please print and complete the PAC03 Companion Tour Registration Form and submit directly to RAZ before the April 28, 2003 deadline.

Other Information

The conference banquet will be held at 7 PM on Thursday, May 15, 2003. Banquet tickets will cost $70.00 and reservations are required since seating is limited.

The Awards Reception and Ceremony will be held on Wednesday, May 14 at 4 PM to present the following 2003 awards and prizes:

Quark-like

The chains of habit are too weak to be felt until they are too strong to be broken.

Samuel Johnson

No sale

Wisdom is like gold; it is useless if no one will accept it from you.

Geoffrey Pyke

Cause and effect
In general a man owes his success to his first wife, and his second wife to his success.

Unnamed CEO

APS Robert R. Wilson Prize
APS Award for Outstanding Doctoral Thesis Research in Beam Physics
Student Travel Awards Honoring Lou Costrell and Mel Month
Particle Accelerator Science & Technology Awards
U.S. Particle Accelerator School Prize for Achievement in Accelerator Physics & Technology
Newly Elected Fellows of the APS
Newly Elected Fellows of the IEEE

Conference attendees will have access to Internet-connected computers and printers plus network connections for laptop computers. This facility allows uploading and management of manuscripts as well as reading and sending of e-mail and other miscellaneous personal computing tasks. Ethernet is also available in guest rooms at the Hilton Portland.

Historical weather data show that in Portland in mid-May we can expect lows in the mid 40s and highs in the mid 60s F (8-18 C) with a chance for rain. See for instance www.pova.com/visitors/weather.html

We look forward to seeing you in Portland in May!

INVITATION TO ICOPS 2003

June 2-5 Jeju Island, Korea

Kyu-Sun Chung
ICOPS 2003 Chairman

The 30th IEEE International Conference on Plasma Science (ICOPS 2003) will be held during June 2-5, 2003 on Jeju Island ("Hawaii of Asia") in Korea. It is sponsored by IEEE NPSS Plasma Science and Applications Committee.

ICOPS conferences have been challenging and nourishing events for the advancement of Plasma Science and Technology for the past 30 years. For the first time in its history, ICOPS is going to be held in Korea outside North America (USA & Canada). Although it happens to be hosted by Korea, other Asian countries, especially Japan and China, will take advantage of the opportunity to show Western countries the strength of their research activities in the areas of Plasma Science and Technology. Two major plasma societies, one from Korea (Korea Accelerator and Plasma Research Association) and the other from Japan (Japan Society of Plasma Science and Nuclear Fusion Research) are co-sponsoring this conference along with other institutions such as Hanyang University and Korea Vacuum Society. Historically, the Korean peninsula has been a strategic place linking the Asian continent (China, Russia, etc) to the Pacific Ocean countries (Japan, USA, etc). This time Korea will be a nourishing place where the Western and Eastern plasma scientists and engineers can have real communication and collaboration in the area of Plasma Science and Technology. ICOPS 2003 will also be a constructive and amusing scientific fellowship on an exotic island!

ICOPS 2003 will emphasize both the traditional fields of plasma science and the emerging fields through plenary talks and the regular conference program. Reports on the current state of fusion and flat panel display will also be presented. This conference will cover the following areas:

- Basic Processes in Fully and Partially Ionized Plasmas
- Microwave Generation and Microwave Plasma Interaction
- Charged Particle Beams and Sources
- High Energy Density Plasmas and Their Applications
- Commercial/Industrial Applications of Plasmas
- Fusion
- Pulsed Power.

A special mini-course on Plasma Diagnostics will be offered June 5-6. Abstracts of all papers will appear in the Conference Record. Plenary and invited papers will be published in the February 2004 special issue of the *Transactions on Plasma Science*. Selected oral contributions will be considered for publication in an additional special issue of the *Transactions on Plasma Science* scheduled for April 2004.

Jeju Island is one of the most fantastic resorts in Korea and it is one hour's flight south of Seoul. The 649 sq. mile island has many extinct volcanoes, sparkling beaches and fishing villages. It is located in a semi-tropical belt. There 1700 different kinds of plants, from semi-tropical to frigid zone species, flourish in nature with a temperature range from 22° to 26° Celsius (72° to 80° Fahrenheit). There are many sights and activities that will interest and

entertain people of all ages. An official excursion is planned for Tuesday afternoon.

You can get more information about this Conference at http://www.ieee.org/icops2003 or at http://ahpe.hanyang.ac.kr/~icops2003. General inquiries regarding ICOPS 2003 can be sent to the Conference Coordinator, Ms. Hye-Jeong Kim at icops2003@ahpe. hanyang. ac.kr, or the Conference Chair, Professor Kyu-Sun Chung at kschung@hanyang. ac.kr.

2003 NSREC IN MONTEREY, CALIFORNIA

The 2003 IEEE Nuclear and Space Radiation Effects Conference will be held July 21-25, 2003 in Monterey, California at the Doubletree Hotel. The conference features a Technical Program consisting of ten sessions of contributed papers that describe the latest observations and research results in radiation effects, a Short Course focusing on how device scaling impacts radiation effects in space that will be presented on July 21, a Radiation Effects Data Workshop, and an Industrial Exhibit. The Technical Program includes oral and poster sessions. There will also be special events for companions in a parallel social program.

This is the 40th year in which the NSREC has been held. A special publication will be made available to attendees that describes the major technical accomplishments associated with work presented at the Conference over its forty-year history.

Supporters of the conference include the Defense Threat Reduction Agency, Sandia National Laboratories, Air Force Research Laboratory, and the NASA Electronic Parts and Packaging Program.

TECHNICAL PROGRAM

Papers to be presented at this meeting will describe the effects of space or nuclear radiation on electronic or photonic devices, circuits, sensors, materials and systems, as well as semiconductor processing technology and techniques for producing radiation-tolerant devices and integrated circuits. A new session has been added this year on terrestrial radiation effects that is becoming an important problem for semiconductor manufacturers for highly scaled devices. The conference will be attended by engineers, scientists and managers who are concerned with radiation effects. International participation in the conference is strongly encouraged.

Specific topics for technical papers that will be presented at this conference include the following:

Basic Mechanisms of Radiation Effects in Electronic Materials and Devices

- Ionizing radiation effects
- Displacement damage effects
- Radiation effects on materials
- Single-event charge collection phenomena and mechanisms
- Processing-induced radiation effects
- Radiation transport, energy deposition and dosimetry

Radiation Effects on Electronic and Photonic Devices and Circuits

- MOS, bipolar and advanced technologies
- SOI and SOS technologies
- Optoelectronic and optical devices, and optical systems
- Novel devices structures, such as MEMS
- Single-event effects
- Modeling of devices, circuits and systems
- Methods for hardened design and manufacturing
- Radiation effects at cryogenic temperatures
- Particle detectors and associated electronics at high-energy accelerators

Space, Atmospheric and Terrestrial Radiation Effects

- Characterization and modeling of radiation environments
- Space weather effects
- Spacecraft charging

Hardness Assurance Technology and Radiation Testing

- Testing techniques and guidelines
- Hardness assurance methodology

Radiation Effects on Commercial Space Systems

New Developments of Interest to the Radiation Effects Community

RADIATION EFFECTS DATA WORKSHOP

The Radiation Effects Data Workshop is a forum for papers on radiation effects data on

Moveable assets

The only way I know to transfer technology is with people.

Chuck Geschke

Waves of romance

If it is love that makes the world go round, it is self-induction that makes electromagnetic waves go round the world.

Oliver Heaviside

Consistency

Fault has been found with these articles that they are hard to read. They were, perhaps, hard to write.

Oliver Heaviside

electronic devices and systems. Workshop papers are intended to provide radiation response data to scientists and engineers who use electronic devices in a radiation environment, and for designers of radiation-hardened or radiation-tolerant systems. Papers describing new simulation facilities are also welcomed.

PAPER SUBMITTAL

Information on the submission of summaries to the 2003 NSREC for either the Technical Sessions or the Data Workshop can be found at www. nsrec.com. The deadline for submitting summaries was February 7, 2003, and final selection of papers will be made in March. A limited number of late-news papers will be considered for the conference, but must be submitted by May 30. Late-news papers must clearly show why they are newsworthy, as well as technically significant.

Papers accepted for the conference are eligible for publication in the December issue of the IEEE Transactions on Nuclear Science, subject to an additional review cycle after the conference. Papers presented at the Workshop will be published in a special IEEE publication following the conference that is not subject to an additional peer review.

SHORT COURSE

Attendees will have the opportunity to participate in a one-day Short Course on Monday, July 21. The short course will focus on how scaling and technical advances in microelectronics affect their use in space. It will consist of four tutorial presentations that begin with basic material and develop a thorough understanding of how advanced microelectronics are affected by space radiation, as well as ways to select advanced microelectronics for space applications.

The first session of the 2003 Short Course will be presented by Dr. Ron LaCoe, Aerospace Corporation. It will discuss device scaling and design principles for CMOS technology. It will also include a discussion of hardened-by-design methodologies, as well as radiation effects in advanced isolation structures, such as shallow trench isolation.

The second session, presented by Dr. Alessandro Paccangella of the Universita di Padova, will discuss radiation effects on thin oxides. The session will begin with a discussion of trends and design requirements for oxides in advanced CMOS devices. Radiation effects will include leakage current from ionizing radiation, and microdose damage from protons and heavy ions, which is an important problem for advanced memory devices.

Session three will concentrate on the way in which device scaling affects single-event upset sensitivity. It will be presented by Dr. Timothy Oldham, NASA GSFC. This is one of the most important topics for advanced devices because the critical charge required for single-event upset continues to decrease as devices evolve. New results for silicon-on-insulator technology will be included as part of this session.

The fourth session will be presented by Dr. John Cressler, Georgia Tech University. He will discuss radiation effects in advanced bipolar devices, including those made with silicon-germanium technology. Advanced bipolar devices are fabricated very differently from conventional transistors, using heterojunctions to increase performance and allow device dimensions to be reduced to the submicron level.

INDUSTRIAL EXHIBIT

An Industrial Exhibit will be included as part of the Conference. The exhibit will be held on Tuesday and Wednesday. It will include exhibits from 35-40 exhibitors who represent companies or agencies involved in manufacturing electronic devices or systems for applications in space or nuclear environments, modeling and analysis of radiation effects at the device and system level, and radiation testing.

LOCAL ARRANGEMENTS

The main social event for the Conference will be a banquet, scheduled for Wednesday evening at the Monterey Aquarium. It will be open to attendees and their immediate families. The aquarium will be reserved exclusively for the conference during the evening, allowing attendees and family members the opportunity to see this world-famous facility in a relaxed atmosphere.

Companion events will include a luncheon/shopping trip to nearby Carmel on Tuesday, and a tour of a local winery and luncheon in a nearby restaurant on Thursday.

MONTEREY

The picturesque city of Monterey is located on Monterey Bay, approximately 120 miles south of San Francisco. It is the site of the renowned Monterey Aquarium as well as the location of Cannery Row, made famous by the novelist

John Steinbeck. The nearby 17-mile drive contains some of the most beautiful scenery in the United States and was photographed by Ansel Adams during the 1940s. Sea lions, seals and otters abound in Monterey Bay. Beaches, hiking, historical sites, kayaking, sailing, golf, and nearby wineries in the Carmel Valley are among the many attractions in this unique site.

CONFERENCE COMMITTEE

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Plans Announced for the 20th Symposium on Fusion Engineering (SOFE)

Richard Callis, Chairman of the 20th SOFE, released a Pre-announcement of the Symposium in an e-mail to prospective attendees on January 8. The Symposium is a biennial event dedicated to the scientific, technological and engineering issues of fusion energy research and is a mixture of oral presentations and poster sessions. It will be held in San Diego, California at the Bahia Resort Hotel in Mission Bay from October 14-17, 2003. Abstracts are requested by April 30. Abstract submittal instructions and general information can be found at the Symposium's web site: http://d3dnff.gat.com/sofe03/. The 20th SOFE is sponsored by IEEE/NPSS and is supported by the DIII-D National Fusion facility and General Atomics.

2003 Symposium on Nuclear Power Systems (SNPS) Call for Papers

Portland, Oregon, October 21–23, 2003

The 2003 Symposium on Nuclear Power Systems (SNPS) will again be held in conjunction with the Nuclear Science Symposium and Medical Imaging Conference. The Technical paper sessions on nuclear power systems cover subjects currently of major interest to the operation of nuclear power stations and supporting services and suppliers, including:

- Upgrading digital technology for reactor protection, I&C, and other systems
- Reliability-based maintenance and plant modernization
- New aspects on equipment qualifications
- A special annual overview report of major importance to nuclear power utilities
- A panel session of major importance to operating NPGS
- And more

Please send an abstract (11.5 x 10 cm block) and a summary of maximum two pages by May 15, 2003 to Jay Forster, SNPS Program Chairman,GE Nuclear Energy, M/C 334, 175 Curtner Ave., San Jose, CA 95125: Phone: +1 408 925-5090; Fax: +1 408 925-2923; E-mail jay.forster@gene.ge.com

Protocol
It is not enough to be wrong, one must also be polite.

Niels Bohr

Too, too right!
I have not been afraid of excess: excess on occasion is exhilarating. It prevents moderation from acquiring the deadening effect of habit.

W. Somerset Maugham

CONFERENCE SUMMARY

Report on the 2002 IEEE Nuclear Science Symposium and Medical Imaging Conference

Joel Karp
General Chairman, 2002 NSS/MIC

The 2002 IEEE NSS/MIC was held in Norfolk, Virginia at the Marriott Waterside Convention Center from Sunday, November 10 to Saturday, November 16. As with prior years, the NSS/MIC meeting was complimented by a Short Course program from November 10-12 and the Symposium on Nuclear Power Systems (SNPS) from November 12-13. In addition, we helped organize an outreach program for science teachers at Jefferson Laboratory on November 11, and helped to coordinate a workshop on Nuclear Radiology of Breast Cancer immediately following MIC, on November 16 & 17.

By all measures the meeting was a success. The NSS/MIC conference is one of the most productive international scientific meetings in the fields of nuclear and particle physics, and the physics of nuclear medicine. It is particularly successful, and unique in the manner in which it combines these areas of research, due to the synergism between applied nuclear physics and medical imaging. This year's success can certainly be attributed to the excellent organization and hard work by the scientific chairs, including Nigel Lockyer and Rick Van Berg for NSS, Paul Kinahan and Robert Miyaoka for MIC, and Jay Forster for SNPS. Approximately 850 scientists registered for the meeting, of which 20% were students. There were 525 presentations during the meeting, including those at NSS, MIC, and SNPS, and including the invited presentations at the plenary sessions. There was an increased emphasis on poster presentations, in fact, 365 of the presentations were posters, which were available from Tuesday afternoon through Saturday morning. This format permitted more time for the posters to be displayed, and encouraged cross-fertilization between NSS and MIC. We also held joint oral NSS/MIC sessions on both Tuesday and Wednesday. The joint session on Wednesday included invited talks on proton therapy and imaging and was particularly well received. It was run immediately following the plenary MIC session, with no competing parallel sessions so as to encourage participation from all NSS and MIC attendees. The Short Course Program had close to 350 participants, with especially high attendance by students and post-docs. The high attendance is partly due to the discounts that were offered to these young scientists, and certainly due to the excellent organization by Gary Alley who has served as Short Course chair since 1994. The exhibitor program ran from November 12-14 and was successful with 43 companies exhibiting their products. Several non-profit organizations also exhibited.

We should congratulate the more than 30 students who received awards of up to $500 to help defray the cost of the meeting and encourage their participation. These awards were made possible by the generous support of several companies, as well as the conference itself. The companies who helped to sponsor these awards included Concorde Microsystems, CPS Innovations, CTI Molecular Imaging, GE Medical Systems, Hamamatsu Corporation, Marubeni Specialty Chemicals and Hitachi Chemical Co., ORTEC, Philips Medical Systems, Saint-Gobain Crystals and Detectors, and Siemens Medical Solutions USA. In addition, I'd like to acknowledge the additional support from ORTEC and Philips Medical Systems who together funded the padfolio bags that contained the scientific program and abstract books.

We should also congratulate the following scientists who received these prestigious awards at the meeting: Mu Chen received the NPSS Graduate Scholarship Award and a NPSS Paul Phelps Continuing Education Grant; Edward Hoffman received the Medical Imaging Scientist Award; Jan Iwanczyk received the NPSS Merit Award; and Ralph James, was recently elected IEEE Fellow.

As general chair, I'd like to thank all of the members of the program committee who volunteered their time and energy to the organization and running of the conference. In addition to the scientific chairs, I am especially grateful to Timothy DeVol, Karyn Gerecitano, Margaret Daube-Witherspoon, Richard Freifelder, Janet Saffer, Scott Metzler, Bo Yu, Tony Maeda, and the group from TDMG who took care of registration. And of course, I thank all of the participants who make this conference very special, year after year. I hope to see you next year in Portland.

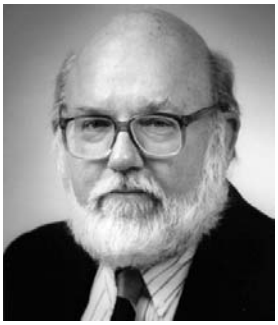
Joel Karp, the 2002 NSS/MIC General Chair, can be reached at the University of Pennsylvania, Department of Radio Nuclear Medicine, 3400 Spruce street, Philadelphia, PA 19104; Phone: +1 215 662-3073; Fax: +1 215 573-3380; E-mail: karp@rad.upenn.edu.

Rational explanation

It is often stated that of all the theories proposed in this century, the silliest is quantum theory. In fact, some say that the only thing quantum theory has going for it is that it is unquestionably correct.

Michlo Kaku

PRESIDENT'S REPORT



Edward J. Hoffman
NPSS President

One of the great strengths of the Nuclear and Plasma Sciences Society is that it is a volunteer society. However, this can also be one of its greatest weaknesses. If you look at the back cover of this Newsletter or on the inside cover of the Transactions, you will see lists of people filling various positions. Except for the administrative staff at Piscataway, NJ, these are all unpaid volunteers. The primary functions of this Society are to hold scientific conferences and symposia and to publish scientific journals. Up to the point of printing the journal or auditing the books on the conferences, essentially all the work and planning is done by volunteers.

We are one the smallest of the IEEE societies with about 3000 in a 400,000 member IEEE. We consist of 8 separate interest groups that deal with some aspect of Nuclear or Plasma Sciences. This means even the largest of these interest groups has less than 1000 participants. The groups are small enough that an individual's opinion can be heard and make a difference. As I mentioned above, a great weakness our society is that it is a volunteer society, and if the quality and quantity of volunteers is poor the result can be disastrous.

Since you are bothering to read this article, you probably have some concern about the quality of our society. If you are not involved the activities of the NPSS, I would encourage you to get involved at some level. You can start by simply being active in presenting papers at conferences. You can volunteer to review abstracts for conferences and the Transactions. We are always looking for more reviewers. Volunteer to help organize and run a conference or short course. The volunteers are the people who get to chair sessions. Four of our interest groups have Steering Committees or Councils that are responsible for running conferences and overseeing the publication of parts of the Transactions. Each of these groups has about 16 elected seats, and a current elected member of these groups cannot succeed himself. So there is a continuous need for new blood. The AdCom, of which I am the current president, is effectively a steering committee for all of NPSS, where the representatives of the various groups meet to deal with the operation and problems of the society. We also act as the liaison to IEEE and are represented in its steering committee. The members of the AdCom almost always come from the individual councils or steering committees.

I have had the privilege of seeing the strength of the volunteer system at work in the NPSS. When I first attended an AdCom meeting as an appointed chair for the Nuclear Medical Sciences group, I had heard that it was totally a political body in the worst sense of the word. Instead I found a group of people working very hard to make sure that the NPSS worked. Rather than simply representing his own constituency, each member of the AdCom supported actions to help other groups to achieve their goals even when there were negative financial consequences. We are considered to be one the best run societies in the IEEE (At least through 2002!) and to maintain this level of quality we need you to get involved.

Get in touch with Ed Hoffman at the UCLA School of Medicine, 10833 Le Conte Avenue, B2-096 CHS, Los Angeles, CA 90095-6948; Phone: +1 310-825-8851; Fax: +1 310 825-4517; E-mail: EHoffman@mednet.ucla.edu.

Utility

A mathematician usually means that a theory is directly useful if it can be used in theoretical physics ... after which he still has to say that insight in theoretical physics itself is only useful if it is useful in experimental physics. After which you must say that a concept in experimental physics is, by ordinary criteria, useful if it is useful in engineering...

John Von Neumann

SECRETARY'S REPORT

IEEE NPSS AdCom Meeting
9 November 2002

Alberta Dawson Larsen
NPSS Secretary

Proustian advantage
But Proust avoided Wilde's greatest tactical error, which was to put his genius into his life, leaving only his talent for his works.

Peter Conrad

The IEEE NPSS Administrative Committee held its Annual Meeting on November 9, 2002 at the Sheraton Waterside, Norfolk, VA just before the opening of the NSS/MIC meeting. Traditionally, this meeting is held at the end of NSS/MIC, but the TAB and the Board of Directors' meeting series interfered.

Ed Lampo, our treasurer, emphasized the importance of closing conferences on time. At the moment four conferences are delinquent and we have been paying fines for the late closings. While the Society is solvent, our reserves continue to dwindle due to IEEE taxes. We can expect a hit of ~$250k by IEEE this year. At times it is hard to remember, to quote Pogo, that "us is them." On an editorial note, it is very frustrating to see NPSS's careful fiscal prudence paying for the butterflies.

Peter Winokur, seemingly cheerfully chairing his last meeting as president, thanked many people graciously for their service. Four people deserve particular mention: Ed Lampo, our stalwart treasurer; Gary Alley, who has managed the NSS/MIC short courses for many years now and whose absence will definitely be visible; Vernon Price for his continuing outstanding job on membership and chapter development; and Peter Clout for his and the Communications Committee work in developing our handsome brochure and portable exhibition, and working to migrate and update our web site. Dick Kouzes and Ken Connor continue to keep it up to date.

Thanks were also given to retiring AdCom members Alan Todd and Chuck Britton. Peter's own term and that of Ed Hoffman end at the end of the year, but they continue as Past-President and President respectively.

Technical Committee Reports

CANPS, under Christian Boulin, continues in its excellent preparation for the 2003 Real Time Conference to be held in Montreal in May under the chairmanship of Jean-Pierre Martin, with assistance from a broadly based international committee, and especially CEA-Saclay who host the web and prepared and mailed the posters. There will be two short courses offered, both of which look exciting. The University of Montreal is handling conference logistics and IEEE is managing finances and registration Check out their web site!

Christian is working, too, to expand the Technical Committee membership. Perhaps some of the ICALEPCS leadership will be asked to participate. Interest continues in holding discussions with ICALEPCS about some kind of common future. He is also working hard to ensure that the RT award is given in 2003. It was not presented in 2001.

The 2001 RT Conference, whose books were managed by the University of Valencia, has not closed. Ed Lampo and Christian are looking for ways to spur them to complete this task.

Fusion Technology chairman, Phil Heitzenroeder, reported that at the last gasp LLNL had to relinquish chairmanship of the 2003 SFE. Rich Callis and the generous people at General Atomics have agreed to host the conference in September/October 2003. Hotel options are being evaluated and a conference team being put in place. Rich will once again be the general chairman. Phil noted that the 19th SFE had closed well in the black, and that the books were in audit.

The SFE has dropped in attendance from a high of 900 in 1979 to about 140 in 2002. The community is spread very thin, the budget situation is poor, and it is hard to find people who can take on the conference organization. Phil has started to look at collocation or merger options with other conferences. A member of the standing committee will, in fact, attend the PSAC ExCom meeting to discuss future options with ICOPS.

Mike Unterweger reported for NIDCom that the germanium X-ray detector standard has been issued. The wide-band gap detector standard has been withdrawn from IEEE and published by ANSI. While NIDCom acted without appropriate AdCom approval, the level of frustration with IEEE was clearly evident. AdCom decided to support Standards Society membership for the appropriate NIDCom members so that being allowed to vote on one's own standards is no longer an is-

sue. The RISC and NIDCom chairs will decide jointly who is eligible for membership in the Standards Association. Further discussion of Standards and Standards Association membership will occur at the March 1 AdCom meeting.

We were delighted to hear the announcement by Ron Jaszczak, chair of the NMIS Committee, that Ed Hoffman is the recipient of the 2002 Medical Imaging Award. Grant Gullberg is the newly elected member of AdCom from this community. The NMIS constitution and bylaws are undergoing their 5-year review, a process led by Bill Moses. The NSMIC will review the proposed changes and they will be presented to AdCom in time for a vote at the March meeting. Max Vergiever will take over from Mike Vannier as the editor in chief of Transactions on Medical Imaging. There will be a TMI Board meeting in Rosemont, Illinois before the Radiology Society meeting. The 2005 site selection committee for NSS/MIC has selected San Juan, PR as their venue. Tom Lewellen will be the general chair with Simon Cherry as MIC chair and Dick Lanza as NSS chair.

Anatoly Rosenfeld has approached both NMIS and RISC with a proposal for a Melbourne, Australia meeting some time in the future. Perhaps there will be further word later in the year.

Joel Karp reported that the 2002 NSS/MIC, which was just getting underway, had 290 people registered for the short courses and 720 preregistered for the conferences. The exhibit area of over 50 booths was sold out and there were some generous corporate gifts that helped pay for the attractive padfolios distributed to attendees.

Bruce Brown reported on the activities of the Particle Accelerator Science and Technology Committee. In particular, Bruce stressed the effort we need to make to reclaim this community more positively for NPSS. This is our largest and often most profitable conference, and is *THE* conference for particle accelerators. Let's not abandon it, but we do need to assess the value of our input to PAC, which has been different from other NPSS conferences. Your secretary thinks that we are essentially making up for a good many years of neglect and our own lack of participation that must be reversed by the engineering community. You can't build those big machines without the engineers after all!

Future PAC conferences have been scheduled for Knoxville, TN in 2005 with Norbert Holtkamp of SNS as chair and 2007 in Albuquerque with Stan Schriber of LANL as chair. Look for a PAST web site, which should be coming soon. The 2003 conference web site has long been active.

Since Bob Parker was on his way to the PSAC Executive Committee meeting, Edl Schamiloglu reported for him. The 2003 ICOPS is now settled on Jeju Island, Korea and the committee is in place and moving forward with its plans. The venue is a good one, at least from the brochures, but much less expensive than downtown Seoul.

Plans for 2004 are moving ahead and there will be a new short course on the application of plasmas and pulsed fields to biological materials. Stay tuned for more.

In 2007 the ICOPS and Pulsed Power conferences will once more join, this time under the chairmanship of Edl Schamiloglu, and will meet as PPPS in Albuquerque in the week contiguous to the PAC07 meeting. It is hoped that this contiguity will help to expand the exhibits at both meetings, as well as bring some double attendance. Bob Reinovsky, chair of the Pulsed Power TC, noted that the 2007 PPPS would be more streamlined with a simplified registration fee structure. The 2003 Pulsed Power conference, chaired by Mike Giesselmann of Texas Tech, is receiving abstracts now. The 2005 meeting will be collocated with ICOPS, but will not be a joint meeting.

Dennis Brown reported on Radiation Effects for Dale Platteter. The 2002 conference in Phoenix had a 12% increase in attendance over 2001 as well as a 10% increase in international attendance. Sixty percent of attendees were IEEE members. Good going! The 2003 conference will be in Monterey. Check out their web site.

Ron Keyser reported on RISC activities. The 2003 NSS/MIC will be held in Portland, Oregon at the Hayden Island resort, with Ralph James as general chair. The 13th International Conference on Room Temperature Semiconductors is expected to collocate with this meeting. Leadership is in place and conference plans are moving along. However, Gary Alley has resigned as Short Course chair. Gary has given NSS/MIC outstanding service over many years; he will be missed AND hard to replace. An update on the 2000 NSS/MIC held in Lyon indicate that changes in tax regu-

Law of diminishing returns

The researches of many commentators have already thrown much darkness on this subject, and it is probable that, if they continue, we shall soon know nothing about it.

Mark Twain

Forsooth!
Nothing the wise men promised has happened and everything the damned fools said would happen has come to pass.

Lord Melbourne

On doing research
You make mistakes as fast as possible buy try not to make the same mistake twice.

Robert Wentorf Jr.

lations caused part of the problem in closing this conference. Ed Lampo and Hal Flescher are working closely with the organization for the 2004 conference in Rome to try to circumvent similar problems.

Erik Heijne reported that he is working toward a Transnational Committee membership of 20 that will represent all geographic areas as well as all NPSS disciplines. The committee's goal is to encourage membership growth and development of new chapters. Several issues brought to the committee need attention, including the long lead times necessary to get visas, and the need for the hosts in the US to get letters of invitation out early. Of course, potential attendees could also help by making their expected attendance known early and requesting an invitation! The committee is concerned that paper copies of proceedings are no longer being offered in many cases. It was, however, pointed out that these are available from IEEE to IEEE members at nominal cost. Another issue is the expense of electronic access to journals and the myriad problems with firewalls in accessing them, if one can afford the charges. This committee regards itself principally as a channel to AdCom. It also expects that it will disband once AdCom has technical area representatives who also represent the geographic areas in a more balanced way.

Functional Committees and Liaisons

Ron Jaszczak, chair of the Awards committee announced that Peter Clout was the winner of the Shea Award. Having worked with Peter in various capacities through my entire tenure with NPSS, your secretary can vouch that this was a well-deserved award. Congratulations, Peter! The Merit and Early Achievement award winners are also selected by the Awards Committee, and the Phelps grants are managed by them, although these are awarded by the individual conferences that offer short courses, with the amount available based on the number of short course attendees. Note: May 15 is the deadline for nominations for the 2003 awards. Contact Igor Alexeff (i.alexeff@ieee.org) and also check the NPSS web site for nomination forms. It is also time to start thinking about Fellow candidates. Contact Osamu Ishihara at oishihara@ynu.ac.jp for further information.

Vernon Price reported that a new chapter, with considerable support from people at Brookhaven National Lab, has been formed on Long Island. The San Diego chapter has recently become more active as well. In addition, we have retained more members than in years past, so the society is growing.

As usual, our stalwart Newsletter editor requests that conference chairs send him articles announcing their conferences well ahead of time, and a follow-on article after the conference is over is also welcome. Let us all know how things went – what was exciting and new. And TC chairs, you, too, should be sending updates on activities in your field at least once a year, and if there's some really hot news, there's always room to add a note. Contact Ken at k.dawson@ieee.org or kend@triumf.ca for Newsletter deadlines. Also note that Ken has been awarded the IEEE's Emberson Award for outstanding service. See the article about Ken elsewhere in this Newsletter. Congratulations!

Our TPS and TNS editors both talked about publication delays, which seem to be getting worse, rather than improving. There are also problems with the quality of images in the electronically posted journals, and this is critical for NMIS papers. In general there is very little follow-up by IEEE with editors and authors, and the Publications Department does not seem to use good business practices and has very tight staffing, which exacerbates an already bad situation. However, there is also a problem with authors and editors being late and not adhering to the stated timelines, which then bumps the publication to the back of the queue. Both editors are now using Manuscript Central to process papers.

Look forward to a new NPSS brochure in 2003. Peter Clout and the Communications Committee are working on it. We also expect to see our booth at most NPSS conferences, so come by and say hello. The Committee is also working on a PAC-specific flyer. Let's work to make NPSS more visible at PAC. This was our conference for 30 years before the physicists horned in! It is really time for a better balance and our accelerator engineers need to make an effort to participate more fully in the planning and organization. Come on, folks; if this is your area, take part!

Jay Forster noted that there was very little PACE activity in 2002. There will, however, be a PACE workshop this March. NPSS is very active in providing short courses, which is part of PACE oversight.

Peter Winokur reported that the president finally (after our meeting) signed a bill autho-

rizing the doubling of NSF's budget over time, but other agencies supporting the physical sciences (DOE being the largest) have seen little in the way of funding increases, and so far the FY2003 budgets have not been passed, leaving many of us in murky waters.

Ron Jaszczak reported that the TAB Awards and Recognition Committee has made some minor word changes to their information, but nothing that impacts us. We could work to establish a Technical Field Award (TFA) since none of the existing TFAs embrace the areas covered by NPSS. The TFAs need to be fairly broad and are often sponsored by more than one society or by corporations.

Our liaison to the Coalition for Plasma Science, Gerry Rogoff, announced that a proposal is in the works to get a history of the plasma sciences into the IEEE virtual museum. CPS will also resume its luncheons with congressmen and congressional staffers.

Erik Heijne, our liaison to the Sensors Council, noted that the Sensors Journal has about 1200 subscribers and the first Sensors conference, held in Florida in June, had about 450 papers given, out of 650 abstracts submitted. The next conference, to be held in Toronto in October, is in direct conflict with NSS/MIC. Erik was unable to attend the June meeting and has been unsuccessful in getting feedback from the council despite a number of attempts.

Hal Flescher noted that Philippe Calvel of Alcatel is the new president of RADECS and that the first major RADECS conference to be held outside France will occur this year near Amsterdam.

Actions Taken by AdCom

A motion was presented that the funding for NPSS recruiting be paid for by AdCom rather than by the conferences. This will be investigated further, but it is up to each conference chair and technical committee to decide whether they want to support this effort.

It was clarified that AdCom does pay for its activities held in conjunction with a conference, but also gives the conference extra room nights and meal functions to help meet its contractual obligations. This is a win-win situation since AdCom does not need to establish a separate master account with a hotel, and the conference gets credit for what AdCom uses.

It was moved, seconded and passed that IEEE NPSS be in technical cooperation with ICALEPCS, which we have supported since its inception. Several NPSS members are on the management committee and are involved with the program.

It has been suggested that NIDCom become a functional committee. A proposal on how to accomplish this will be presented at the March meeting. If NIDCom does become a functional committee, the size of AdCom or the distribution of seats will be reevaluated. AdCom may decrease in size or seats may be redistributed based on a new field of interest survey of the NPSS membership.

Ed Hoffman was elected President of NPSS by acclamation. Mark Rader and Bill Moses stood for the office of Vice President/President elect. We congratulate Bill Moses on his election and thank Mark for his willingness to serve.

It was moved, seconded and passed that a new brochure be developed and printed. A cap of $12,000 was set for the cost.

It was moved, seconded and passed that a new flyer focusing on PAC be developed that would serve for PAC2003 and PAC2005. A cap of $3000 was set for production and distribution costs.

It was moved, seconded and passed unanimously that the wording of both the Merit and Shea award statements be changed to allow each award to be presented at the conference of the recipient's choice.

Ed Hoffman presented Peter Winokur with a past president's pin and Peter was given a round of applause and warm thanks for his service as president.

The next meeting of AdCom will be held on Saturday, March 1, 2003 at the Hyatt Union Station, St. Louis, MO.

Albe Larsen, the NPSS secretary, can be reached at the Stanford Linear Accelerator Center, P.O. Box 4939, Stanford, CA 94039; Phone: +1 650 926-2748; Fax: +1 650 926-5124; E-mail: amlarsen@slac.stanford.ca.

I see!
You can observe a lot by watching.
Yogi Berra

Today's problem
The trouble ..... was that the truth was rarely clear-cut and almost never politically correct.
Thomas Dormandy

CLASS OF 2006
The Newly Elected Ad Com Members

Joseph M. Benedetto
Elected Ad Com Member 2003-2006

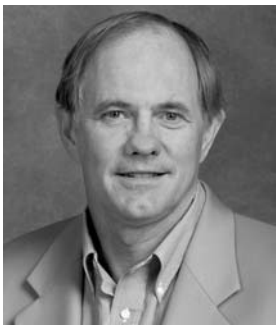
Joseph M. Benedetto

Joseph M. Benedetto received his B.S. in Physics from the State University of New York and his M.S.E.E. and Ph.D. degrees from the University of Maryland. Dr. Benedetto began his career in radiation effects over 20 years ago as a Graduate Research Fellow at the National Bureau of Standards. From 1983 to 1995 he performed basic and applied research for the Army Research Laboratory. Since 1995, Dr. Benedetto has been with Aeroflex UTMC, most recently serving as Standard Product Technology Manager.

Dr. Benedetto has been very active in the radiation effects community, publishing over 75 articles in a wide variety of publications, including IEEE Spectrum, IEEE Transactions on Nuclear Science and the Journal of Applied Physics. To date he has been awarded 2 US Patents and has several more patents pending related to hardening spacecraft electronics. He has also been actively involved with the IEEE Nuclear and Space Radiation Effects Conference (NSREC), presenting technical papers at the conference almost every year since 1984. He was nominated for outstanding conference paper in 1987 and 1995. He has also served as NSREC Session Chairman (1990 & 1999), Finance Chairman (1997), Local Arrangements Chairman (2001), and will serve as Short Course Chairman at next year's conference in Monterey.

Dr. Benedetto is a Senior Member of the IEEE, Member of the IEEE Nuclear and Plasma Sciences Society and of Sigma Pi Sigma.

Joe Benedetto can be reached at Aeroflex UTMC, MS 1004, 4350 Centennial Boulevard, Colorado Springs, CO 80907-3701; Phone: +1 719 594-8415; Fax: +1 719 594-8468; E-mail: Joe.Benedetto@Aeroflex.com.



Grant T. Gullberg
Elected Ad Com Member 2003-2006

Grant T. Gullberg

Grant T. Gullberg received his B.S. degree in mathematics from Seattle Pacific University in 1966, M.S. degree in mathematics from the University of Washington in 1971, and Ph.D. degree in biophysics from the University of California, Berkeley in 1979. He worked as an Engineer at the Boeing Company from 1967 to 1971, as a Scientist at the Lawrence Berkeley Laboratory from 1972 to 1980, as a Senior Physicist at GE Medical Systems from 1980 to 1985, and as an Assistant, an Associate, and a Professor of Radiology at the University of Utah from 1985 to 2002. He is currently a Senior Staff Scientist at the E. O. Lawrence Berkeley National Laboratory.

His research interests involve the study of inverse problems with application to medicine and biology that involve the use of positron and single photon emission computed tomography, magnetic resonance imaging, acoustic imaging, and magnetocardiography. Currently he is involved in the the development of more accurate solutions for the emission tomographic problem by improving models of the image detection process, the solution of tensor tomography problems in acoustic elasticity imaging and in magnetic resonance diffusion tensor imaging, the development of physiological kinetic models for dynamic SPECT applications, the study of the relationship between cardiac function and cardiac deformation using gated SPECT and cine MRI, and the solution of electromagnetic inverse problems from MCG data.

He is a Senior Member of the IEEE and has served on the NPSS Nuclear Medical Sciences Technical Committee, as an Associate Editor of IEEE Transactions on Medical Imaging, and as Program Chairman for the 1999 IEEE Medical Imaging Conference.

Grant Gullberg can be reached at the E.O. Lawrence Berkeley National Laboratory, Mailstop 55R0121, One Cyclotron Road, Berkeley, CA 94720; Phone: +1 510 486-7483; Fax: +1 510 486-4768; E-mail: gtgullberg@lbl.gov.

Glenn F. Knoll

Glenn F. Knoll is Professor Emeritus of Nuclear Engineering and Radiological Sciences at The University of Michigan, and remains active on a part-time research appointment in the same department. Following his undergraduate education at Case Institute of Technology, he earned a Master's degree from Stanford University and a doctorate in Nuclear Engineering from the University of Michigan. He joined the Michigan faculty in 1962, and served as Chairman of the Department of Nuclear Engineering from 1979 to 1990, and as Interim Dean of the College of Engineering in 1995-96. His research interests have centered on radiation measurements, nuclear instrumentation, and radiation imaging. He is author or co-author of over 200 technical publications, 7 patents, and 2 textbooks.

He has been elected a Fellow of the American Nuclear Society (ANS), the Institute of Electrical and Electronics Engineers (IEEE), and the American Institute for Medical and Biological Engineering. He has been chosen to receive three national awards given annually by professional societies: the 1979 Glenn Murphy Award of the American Society for Engineering Education, the 1991 Arthur Holly Compton Award of ANS, and the 1996 Annual Merit Award of the Nuclear and Plasma Sciences Society (NPSS) of IEEE. He a receiving editor of Nuclear Instruments and Methods in Physics Research, Part A, and past member of the editorial boards for Nuclear Science and Engineering and IEEE Transactions on Medical Imaging. In 1999 he was inducted to membership in the National Academy of Engineering. In 2000 he received the highest annual faculty recognition from the College of Engineering of the University of Michigan, the Stephen E. Attwood Award. He has served as consultant to 25 industrial and governmental organizations in technical areas related to radiation measurements, and is a Registered Professional Engineer in the State of Michigan.

His prior services to IEEE/NPSS have included Chair of the Technical Committee on Nuclear Medical Science (in its early days), Steering Committee representative to Transactions on Medical Imaging (as this publication was first being established), Guest Editor of the NSS issue of Transactions on Nuclear Science, NPSS Editor-in-Chief, and Chair of the Radiation Instrumentation Technical Committee.

Glenn Knoll can be reached at the NERS Department, University of Michigan, 2355 Bonisteel Blvd., Ann Arbor, MI 48109-2104; Phone: +1 734 936-0121; Fax: +1 734 763-4540; E-mail: gknoll@umich.edu.

Glenn F. Knoll
Elected Ad Com Member 2003-2006

Patrick G. O'Shea

Patrick G. O'Shea is Director of the Institute for Research in Electronics and Applied Physics at the University of Maryland, and a faculty member in the Department of Electrical and Computer Engineering. He received his Ph.D. in physics from the University of Maryland in 1986. His early research was at Los Alamos National Laboratory (1986-94) on particle accelerator projects: the Beam Experiment Aboard Rocket Project (launched first RF accelerator into space); and later as the Project Leader of the APEX Free-Electron Laser Project where he lead the construction of the first photoinjector driven ultraviolet FEL. Later he worked at the Duke University (1994-98), where he supervised the construction of the 300-MeV linac at the Duke FEL Laboratory. Prof. O'Shea's current research is in the area of space charge dominated beam physics, FELs and applications.

He is a Fellow of the American Physical Society and a Senior member of the IEEE.

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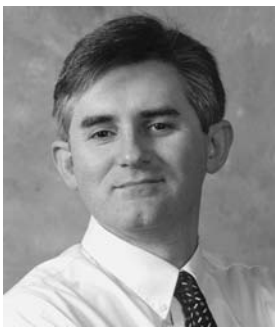

Patrick G. O'Shea
Elected Ad Com Member 2003-2006

DIVISION IV REPORT

DIVISION IV DIRECTOR'S REPORT: ♪SWAN SONG♪

Peter Staecker
Outgoing Division IV Director

Trompe de something
But they did deceive - and for the most ancient reasons. They were so absurd that they had to be true.

Thomas Dormandy

The June-September swoon in the stock market sharpened the focus on investments at the November BoD series. Will the October-November market rise continue through the end of the year? You will probably know the answer by the time you read this, but it will not minimize the concentration on the IEEE portfolio in the months to come. In retrospect, one of the smartest financial reporting changes implanted 2 years ago was the separation of operations from investments. Operations have been under intense scrutiny, and will continue to be. The results are positive and noticeable. Now it's time for investment policy to have its turn in the spotlight.

But there are more, larger issues. Our accounting consultants reported their thoughts on IEEE's Corporate Infrastructure (CI) at the November BoD Series, which is of strategic importance to the Institute. It's at the end of this article. First, an update of recent financial issues.

Infrastructure Expenses

Direct infrastructure expenses have been identified and a distribution algorithm was passed in February. Now that we know what they are, we can work on cutting them. It is beginning to happen. In November, TAB passed the motion from TAB FinCom to distribute 2002 indirect costs in TAB according to the default methodology, excluding co sponsored publications, for 2003 and going forward. This methodology prescribes a distribution in proportion to ASPP and Book Broker revenue shares, and an additional component proportional to Society year-end reserves.

The important issue here is NOT the algorithm, since others give pretty much the same share, but the amount of the distribution. In 2002, the combined direct/indirect infrastructure amounted to 21.5M. These are scheduled to be reduced to 18.7M in 2003, through work on cost-cutting and business rule simplification. In case you have not skipped to the CI section yet, the consultants want to transfer as many indirect functions as possible to direct charges. Easier to identify and validate as either necessary or unnecessary.

Business Rule Simplification

In November 2001, the BoD charged RAB and TAB with identifying business rule changes to realize a possible $3M annual savings in infrastructure charges associated with membership services. RAB and TAB Business Rule Simplification teams have been working the details since February 02. TAB committee discussions have focused on simplifying the options available for Society membership, and the subscription process for members regarding optional Society publications.

In June, TAB endorsed the concept that, in general, member fees and prices should at least cover the relevant variable costs. In November, the Cost-of-Membership task force reported back on three metrics to measure membership costs; these metrics will be made available to each Society for their use in running their membership "business", starting with the 2003 budget cycle. Further details can be found in TAB Caucus Treasurer's Report (link below). This same group has also been looking at business rule simplifications, and at their suggestion, also in November, TAB passed a motion which will consolidate student, retired, minimum income, and unemployed member categories for the purpose of providing a single discount to Society membership dues and Society optional publications. Details of this and other business rules simplification efforts in the membership area are in TAB agenda item V.C. Both actions are located in http://www/ieee/org/organizations/tab/tco_tabagendas.html. Three items remain on the membership business rules table. The first is how to simplify the offerings of Society optional publications. The second is simplifying the Technical Interest Profile selection procedure. The holy grail of membership business rules simplification is web renewal, because this would take away the need for the print membership brochures and costly reminder mailings. Web renewal is just about at the 50% mark, and Regions 7-10 are leading the adoption of this

service. When fully adopted, electronic renewal can save over $1M annually. This committee and IEEE staff will continue to work on these issues. You can do your part by renewing electronically.

In case you have not skipped to the CI section yet, the consultants are fully behind this and other simplification efforts. Cut the complications, save money.

2002 Forecast (Update): Focus on Investments

As the year winds down, operations for the S/Cs are very close to break-even. The infrastructure cuts made early in the year have relaxed pressures on the Societies to deliver revenues in a down economy.

Unfortunately, 2002 so far has not been favorable to our investment portfolio, and while October and November were strong months, equity indices are down for the year, and it does not look likely that they will recover to parity with January 02 by year-end. It is clear that efforts by staff and volunteers to normalize operations over the past 2 years have paid off. Now the elements of our investment portfolio strategy have come under scrutiny as the market continues to droop. Specific questions have been asked, all of which have a strategic nature. What is our investment policy and how do we benchmark it? How do we define and measure risk tolerance? How do we convert risk tolerance to asset allocation? What strategic elements of our policies offer guidance for transitioning to different asset mixes or risk tolerances? Accordingly, a TAB Adhoc Investment Advisory Committee will be formed to provide a direct path of communication between the IEEE Investment Committee and TAB.

The consultants agree that balanced budgets are great, and support a complete and clear investment strategy and policy.

2003 Society Budget Highlights

While the bottom line for the Societies was marginally positive at the 2003 November view, 9 Societies have negative nets for 2003, and 6 of those 9 have had negative budgets for the past two years. These 9 Societies appeared at the TAB FinCom meeting in Chicago to present their plans for recovery. Four of the 9 participants will return in February for an update.

Corporate Infrastructure Study

Finally, the CI section! Since the June BoD Series, an independent accounting consultant has been studying the corporate infrastructure of the Institute. Their findings, presented at the November BoD series, are in 4 main categories: Governance, Simplification, Strategy, and Trust. Here's my take on their report.

Governance: IEEE is a membership-led organization. Membership-led organizations move more slowly than management-led organizations, and are effective only to the extent that the Members have a view for the entire organization. With 1-2 year S/C leadership terms, and 2 year BoD terms, our governance knowledge gets cycled off far too quickly. Result? Learning cycles that consume much of the term of service. During the learning cycle, without a view for the organization, votes are cast with/for the constituency, the only point-of-view available to new leadership. As a further consequence, the member-governors learn by managing, or micro-managing. Staff does our bidding, and the daily work gets done, albeit very inefficiently. Unfortunately, there is little time for working strategic issues (see below). Recipe for improvement—set longer terms for our leadership (S/C Presidents, Board Members). Reduce the size of governing boards, whose members are selected at-large on the basis of skills, not quotas. Let the leadership lead (i.e., set strategy), and allow the staff manage to the scorecard set by the strategy.

Simplification: IEEE's corporate infrastructure (CI) is far too complex, a result of the rules we set to serve our constituents. The CI should be diminished and its role should be defined. Our cost allocation model is complex and complicated. To the extent we do not understand it, we waste money and time. Our budget process needs an overhaul. Thirteen months is too long. Simplification of Business Rules will save millions.

Strategy: Get one. Define and benchmark big picture issues in publishing, membership, governance, and fiscal policy.

Trust: This topic is an overarching one, and is probably the most important to changing our situation. We need to empower a small team and let it be the agent for changes noted above. The problem with associations is that they are democratic.

Bottom line: We need a more nimble governance structure and a long term strategy. Simplification should be on every scorecard, and change will only happen with trust.

Clear view

If you are not confused you are not informed.

Unnamed urologist on the benefits of testosterone replacement therapy.

Hi Ho!

Nothing is really work unless you would rather be doing something else.

James Matthew Barrie

So, why try?
It is impossible to make anything foolproof because fools are so ingenious.

Old saw

That, in a nutshell, is the word from our infrastructure consultants… strong medicine. Does this have a familiar ring to it? Resuming an effort begun in 1992 (!), a Presidential Blue Ribbon Committee, reestablished in 2000, presented governance proposals in July and November 2001(http://ewh.ieee.org/reg/6/Docs/pbrc_nov01_final.htm) with striking similarities to the Consultants' suggestions. At that time, the medicine was too strong. Principles were approved, but change agents were not empowered to implement the tough issues, such as dissolution of committees, and creating a smaller BoD with longer term limits. Now we have essentially the same message from outsiders.

Discussion

By the time you read this (written in December 2002) my term as your Division Director will be history. It has been a pleasure, I assure you, to meet so many energized volunteers. I'm not going away just yet, but will stick around as TAB Treasurer, and look forward to further discussions on finance as well as the other issues on the CI agenda. Hal Flescher (h.flescher@ ieee.org) is your new man. Ask him what his views are on the consultants' report. Let's get going!

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TECHNICAL COMMITTEES

NUCLEAR MEDICAL AND IMAGING SCIENCES TECHNICAL COMMITTEE (NMISTC)

Ronald Jaszczak
Chair, NMISTC

The Nuclear Medical and Imaging Sciences Technical Committee (NMISTC) includes NPSS members who are interested in scientific and educational activities that promote the fields of nuclear medical and imaging sciences. The activities of the NMISTC are managed by the Nuclear and Medical Imaging Sciences Council (NMISC), consisting of 15 elected members-at-large who serve for three years. Five new Council members are elected each year. The NMISC organizes and manages the Medical Imaging Conference component of the annual IEEE Nuclear Science Symposium and Medical Imaging Conference (NSS/MIC), and acts as a liaison with three other IEEE societies in co-sponsoring the publication IEEE Transactions on Medical Imaging. There are two NMISC awards available: the Medical Imaging Scientist Award, made in even numbered years, and the Young Investigator Medical Imaging Science Award, made in odd numbered years. Information about these awards can be obtained from the NPSS Web site at ewh.ieee.org/soc/nps/awards.htm, or by contacting the NMISC Awards Chair, Margaret Daube-Witherspoon (daubew@bellatlantic.net).

The NMISC held its Annual Meeting on November 15, 2002 at the Waterside Marriott Hotel in Norfolk, VA. Members and newly elected members present included: John Aarsvold (new), Craig Levin, Magnus Dahlbom, Margaret Daube-Witherspoon, John Engdahl, Lars Eriksson, Eric Frey, Marijana Ivanovic, Ronald Jaszczak, Steven Meikle, William Moses, Bradley Patt, Charles Stearns, Christopher Thompson (new), Ben Tsui (new), Larry Zeng, and George Zubal. The other newly elected members for 2003 are Tom Lewellen and Ronald Huesman. Additional attendees at the meeting included: Simon Cherry, Alberto Del Guerra, Edward Hoffman, Joel Karp, Ron Keyser, Michael King, Tony Lavietes, Robert Miyaoka, and Graham Smith.

Ben Tsui (2001 MIC Program Chair) presented an updated report on the 2001 IEEE MIC meeting that was held in San Diego. There were 338 submitted abstracts. Of this total number, 37 were rejected, 77 were assigned to oral sessions, and 216 were assigned to poster sessions. There were 68 reviewers of abstracts for that meeting. There were 20 student travel grants awarded.

Joel Karp (2002 NSS/MIC General Chair) reported on some of the key statistics of the 2002 NSS/MIC meeting that was held in Norfolk. There was a total of 826 registrants, of which approximately two-thirds signed up for MIC. This marked the first time in NSS/MIC

history that the MIC registrants surpassed the NSS registrants. For this meeting, the NSS and MIC posters were together, and all posters were kept up for the duration of the conference. There were more posters and reduced oral presentations compared to the previous year. Ed Hoffman was presented with the prestigious Medical Imaging Scientist Award at the MIC Banquet. The general consensus was that the Norfolk meeting was a great success. The 2003 NSS/MIC meeting will be held in Portland. Mike King is the MIC Program Chair.

Alberto Del Guerra (2004 NSS/MIC General Chair) reported on the plans for the 2004 Rome NSS/MIC meeting. The conference committee is set, as is the budget. The hotel is just outside of Rome and has 900 rooms. There will be enormous floor space for posters. Special events are planned for every night. The goal is to have more than 1200 attendees.

Simon Cherry (2005 MIC Chair) reported on the status of the site selection for the 2005 NSS/MIC meeting that will be held in Puerto Rico. Five properties were reviewed. The first choice selected was the El Conquistador Resort, for which low room rates have been negotiated. Mid-day breaks in the conference sessions are expected. Tom Lewellen will be the general Chair. There will be a lot of poster sessions, just like last year. Many more student travel grants are expected to be made.

For 2006, a proposal was made and passed to return to the Town and Country Hotel in San Diego. Graham Smith has agreed to be the General Chair for the 2006 NSS/MIC meeting.

Steve Meikle reported on the concept of an Australian site for a future NSS/MIC meeting. Some of the drawbacks that were mentioned included: possible lower attendance, too expensive for students, and foreign travel restrictions for attendees from certain national laboratories. In spite of these perceived drawbacks, there was a motion that was passed to continue investigating the feasibility of holding a future NSS/MIC meeting in either Australia or elsewhere in the Pacific Basin and Rim regions (for example, Hawaii, Japan, or Korea).

The Annual Meeting concluded with the announcement that Magnus Dahlbom was elected as the new NMISC Vice-Chair and Chair-elect.

Excerpted from the Minutes of the Annual Meeting submitted by Craig Levin, Secretary, NMISC, who can be reached at the Nuclear Medicine Division, School of Medicine, University of California/VA Medical Centers, San Diego, CA 92161; Phone: +1 858 552-7511; Fax: +1 858 552-4387; E-mail: clevin@ucsd.edu. Ronald Jaszczak, Chair, NMISC, can be reached at the Department of Radiology, DUMC-3949, Duke University Medical Center, Durham, NC 27710; Phone: +1 919 684-7685; Fax: +1 919 684-7122; E-mail: rjj@dec3.mc.duke.edu.

CALL FOR NOMINATIONS FOR NEW MEMBERS OF THE IEEE NPSS NUCLEAR AND MEDICAL IMAGING SCIENCES COUNCIL (NMISC).

It is time again to nominate candidates for election into the NMISC. The council governs activities and issues relevant to the IEEE NPSS medical imaging community. Candidates must be official members of the IEEE NPSS. Self nominations are encouraged.

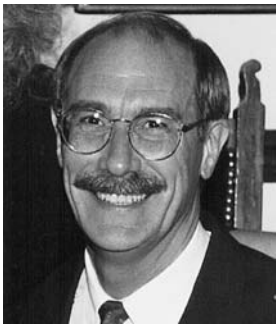
Please send all nominations by June 1, 2003 to Craig Levin, NMISC Secretary and Nominations Committee chair who can be reached at clevin@ucsd.edu.

Where the money isn't

Oddly enough, it is precisely because of the harmlessness of such research [on trilobites] that it is more difficult to fund: the only science that never has to fight for funding is that with military or medical significance.

Richard Fortey

INSIDE THE RADIATION EFFECTS STEERING GROUP



Dale Platteter
REC Chalrman

I know...
Knowledge is not knowing any different until we know different.

L. Barton

The IEEE Radiation Effects Steering Group (RESG) held its annual fall business meeting in Monterey, California, at the site of our upcoming 2003 Nuclear and Space Radiation Effects Conference (NSREC).

Yes, this year NSREC will celebrate its 40th anniversary conference in Monterey on July 21-25, 2003. The RESG chose Monterey because of its excellent location and outstanding technical facilities. We found the "environment" at this conference location to be very peaceful and relaxing, a good choice for NSREC.

The DoubleTree hotel, located on Fisherman's Warf in Monterey Bay, is the site of this year's conference. The hotel is surrounded by a historic old-town area, which includes many outstanding restaurants, gardens, and tiny shops. In fact, a small microbrewery is located next to the hotel. Need I say any more? And this year, bring a sweater, as Monterey's average daily maximum temperature is 68F in July. The Wednesday evening social will be held at the Monterey Aquarium, so bring the family.

Allan Johnston from Jet Propulsion Laboratory and his 2003 conference committee are planning to observe the 40th anniversary of the NSREC with a special June issue of the Transactions on Nuclear Science (TNS). The special issue will include about 20 invited papers, summarizing the significant technical findings of the radiation effects community over the past 40 years. If all goes according to schedule, the June 2003 issue of TNS will be available for NSREC attendees in July.

And speaking of the TNS, did anyone notice that the December issue **arrived in December** this year? That may not sound like a significant event, but it is. Congratulations to the authors, reviewers, guest editors, and IEEE publications for making this happen. We are starting a new tradition.

As far as future NSRECs are concerned, the 2004 conference is scheduled for July 19-23, 2004 at the Renaissance/Waverly hotel in Atlanta Georgia. Dan Fleetwood of Vanderbilt University, Conference General Chairman, has been working for over a year on the details of this meeting.

Last year, Fred Sexton of Sandia National Laboratories was appointed as 2005 Conference General Chairman. Fred visited several potential sites this fall. At this point, we are giving serious consideration to Seattle, Washington.

It takes more than three years to plan those details for each NSREC. Janet Barth of NASA Goddard Space Flight Center was recently appointed as 2006 Conference General Chair. Janet is excited about serving NSREC in this capacity and has started to look for prime locations to host her conference.

During the fall RESG meeting in Monterey, Professor John Cressler (IEEE Fellow) from Georgia Institute of Technology was selected as Associate Guest Editor for the December issue of the Transactions on Nuclear Science (TNS). The editor's job has a 3-year term. John will support Guest Editor Jim Kinnison from John Hopkins Applied Physics Laboratory and Assistant Editor Lew Cohn from Defense Threat Reduction Agency in the huge task of organizing our peer review of the upcoming December issue. John is well suited for his position, having been an integral part of both the IEEE NPSS and IEEE Electron Devices communities for many years. And since our guest editors have now started this new "tradition" of on-time publication, we expect the best in 2003.

RESG, with the help of Dr. Tim Holman from Vanderbilt University, recently published a video of the 2002 Radiation Effects Short Course on CDROM. We did this as a promotional tool to attract new members to NPSS and our annual rad-effects short course. Apple's "Quick Time" video format was used, which allows the CD to be played on a standard PC (or Mac) computer. NPSS members, who attended the 2002 short course, received a complimentary copy of this CD. Extra copies are available to NPSS members to use as a promotional tool. If you would like a copy of this CDROM, please contact me. Of course, you will be asked to show this video to your non-NPSS colleagues at work, and tell them why YOU are an NPSS member. We are banking on the fact that it's "your word-of-mouth" that attracts 99% of our new members.

Keep visiting our web site at www.nsrec.com for author information, paper submission tips, vendor links, on-line registration, and the latest NSREC information.

Dale Platteter serves as Chairman of the Radiation Effects Steering Group, which oversees the NSREC Conference. He is technical chair of the NPSS Radiation Effects Committee. Dale can be reached at NAVSEA Crane, Code 605, Building 3334, Crane, IN 47522; Phone: +1 812854-1206; Fax: +1 812-854-1751, E-mail: platt@ieee.org

NEW RESG MEMBER-AT-LARGE

Gary Lum was elected Junior Member-at-Large, Radiation Effects Steering Group (RESG) during the annual Open Meeting at the 2002 Nuclear and Space Radiation Effects Conference (NSREC)

Gary earned his B.A. in Physics at the University of California, Berkeley, California and his M.S and Ph.D. in Physics at the University of Oregon, Eugene, Oregon. He received a postdoctoral fellowship from the University of California, San Francisco Medical Center to improve the detection efficiency of gamma rays in a nuclear imaging positron tomography camera for locating cancer tumors.

After joining Lockheed Missiles System Division in 1980, Gary headed the radiation effects analysis group. He joined Intel Corporation in 1984 to work as a device physicist on the modeling and CMOS process of nonvolatile memories, 64 kbit and 256 kbit electrically erasable PROMs. Shortly after 1986, he returned to Lockheed to support a number of Department of Defense programs. From 1987 to 1990 Gary headed a project to study the effects of neutral particle beams on electronics and the effect of the space environment on military systems. In 1988 he received the AIAA award for Best Design Engineer and in 1989 he was a finalist in the prestigious Lockheed Corporate Robert E. Gross technical achievement award.

Gary has published over 20 technical papers in two refereed journals, the IEEE Transactions of Nuclear Science and the Journal of Radiation Effects Engineering and Technology. He has served for NSREC and HEART Conferences in the capacity of Invited Short Course speaker, Best Paper Awards Chair, Session Chair for SEE, Devices and ICs, Local Arrangement Chair, Member at Large and Technical Program Chair. For over 15 years he has been invited to be a summary and final technical paper reviewer for both conferences.

Gary Lum can be reached at Lockheed Martin, Orgn. L4-01, Bldg 157, 1111 Lockheed Martin Way, Sunnyvale, CA 94088; Phone +1 408 756-0120; Fax: +1 408 756-0120; E-mail: gary.lum@lmco.com

Gary Lum
RESG Junior Member-at-Large

2002 IEEE NUCLEAR AND SPACE RADIATION EFFECTS CONFERENCE OUTSTANDING CONFERENCE PAPER AWARDS

The 2002 NSREC Outstanding Conference paper is the *"Impact of Passivation Layers on Enhanced Low-Dose-Rate Sensitivity and Preirradiation Elevated Temperature Stress Effects in Bipolar Linear ICs"* by M. R. Shaneyfelt, J. R. Schwank, G. L. Hash, P. E. Dodd, C. A. Reber, S. C. Witczak, L. C. Riewe, H. P. Hjalmarson, J. C. Banks, B. L. Doyle and J. A. Knapp, Sandia National Laboratories, R. L. Pease, RLP Research, M.C. Maher, National Semiconductor Corporation, D. M. Fleetwood, Vanderbilt University.

The three chosen meritorious papers are:

"Charge Collection in SOI Capacitors and Circuits and Its Effect on SEU Hardness," by J. R. Schwank, P. E. Dodd, M. R. Shaneyfelt, G. Vizkelethy, B. L. Draper, T. A. Hill, D. S. Walsh, G. L. Hash, B. L. Doyle, and F. D. McDaniel, Sandia National Laboratories.

"Unified Model of Hole Trapping, 1/f Noise, and Thermally Stimulated Current in MOS Devices" by D. M. Fleetwood, H. D. Xiong, Z. Y. Lu, C. J. Nicklaw, J. A. Felix, R. D. Schrimpf and S. T. Pantelides, Vanderbilt University.

"Physical Model for Enhanced Interface-Trap Formation at Low Dose Rates" by S.N. Rashkeev,

Don't ask me!
If nobody asks me, I know what time is, but if I am asked then I am at a loss what to say.

St. Augustine

Not quite
The [Mars] rovers will be exact duplicates, but that's where the similarities end.

NASA Press Release

C.R. Cirba, D.M. Fleetwood, R.D. Schrimpf, and S.T. Pantelides, Vanderbilt University, S.C. Witczak, Sandia National Laboratories, A. Michez, Centre d'Electronique et de Microelectronique de Montpellier.

The two Outstanding Radiation Effects Data Workshop papers are:

"Radiation Effects Predicted, Observed, and Compared for Spacecraft Systems" by Bruce E. Pritchard, Gary M. Swift and Allan H. Johnston, Jet Propulsion Laboratory, California Institute of Technology.

"Current Single Event Effects and Radiation Damage Results for Candidate Spacecraft Electronics" by Martha V. O'Bryan, Christina M. Seidleck, and Martin A. Carts, Raytheon Information Technology & Scientific Services, Kenneth A. LaBel, Donald K. Hawkins, Anthony B. Sanders, Robert Reed, Cheryl J. Marshall, and Stephen Cox, NASA Goddard Space Flight Center, Ray L. Ladbury, Scott D. Kniffin, Michael Jones, Christopher D. Palor, and James A. Sciarini, Orbital Sciences Corporation, Christian Poivey, Stinger Ghaffarian Technologies, Inc., James W. Howard Jr., Hak Kim, and James Forney, Jackson & Tull Chartered Engineers, Stephen P. Buchner, Timothy L. Irwin, and Zoran A. Kahric, QSS Group, Inc., John P. Bings, Jeff L. Titus, Steven D. Clark, and Thomas L. Turflinger, NAVSEA Crane - Surface Warfare Center Division, and Paul W. Marshall, Consultant.

RADIATION EFFECTS AWARD

Nominations are currently being accepted for the 2003 IEEE Nuclear and Plasma Sciences Society (NPSS) Radiation Effects Award. The purpose of the award is to recognize individuals who have had a sustained history of outstanding and innovative technical and/or leadership contributions to the radiation effects community. The $2000 cash award and plaque will be presented at the IEEE NSREC in Monterey, California, July 21-25, 2003.

Nomination forms are available electronically at *www.nsrec.com/nominate.htm*. Nominations must be submitted by March 21, 2003.

Additional information can be obtained from Dave Hiemstra, Senior Member-at-Large for the Radiation Effects Steering Group. Dave Hiemstra can be reached at +1 905790-2800 x4733.

This and the preceding two articles were prepared by Teresa Farris, the RESG Publicity Vice-Chairperson. She can be reached at Aeroflex UTMC, 4350 Centennial Blvd., Colordo Springs, CO 80907-3486; Phone: +1 719 594-8035; Fax: +1 719 594-8468; E-mail: teresa.farris@ aeroflex.com

RITC REPORT
Spring 2003

Ronald Keyser
Chair, RISC

First, I want to thank the retiring members of the RISC for their work on the committee. They are: Steve Meikle, Carel van Eijk, John Valentine, Richard Freifelder. Craig Woody remains on the committee as chair elect. The results of the election are in and the new members are: Roger Fulton, Warnick Kernan, Raulf Polichar, Anatoly Rosenfeld, and Mike Unterweger. Join me in offering congratulations to the new members. The members serve for 3 years.

David Wehe has accepted the position of Chairman of the RISC awards committee. The RISC makes two awards: the Outstanding Achievement Award in the odd years and the Early Career Award in the even years. The 2003 award will be the Outstanding Achievement Award. You may contact David at *dkw@umich.edu* for more information or to submit nominations. The nomination form is at *ewh.ieee.org/soc/nps/awards.htm*.

The 2002 NSS-MIC was held in Norfolk. Joel Karp, General Chairman, deserves our thanks and congratulations for his work on this successful meeting. Please see Joel's report below.

The 2003 NSS-MIC will be held from Oct 19 to Oct 26 at the Doubletree Hotels Portland - Columbia River and Jantzen Island in Portland, OR. In addition to the NSS and MIC meetings, the Room Temperature Semiconductor Detector Workshop and the Symposium on Nuclear Power Systems will be held at the same time and place. The NSS-MIC Gen-

eral Chair is Ralph James; the RTSD General Co-Chairs are Ralph James and Paul Siffert; the SNPS Program Chair is Jay Forster.

Abstract Deadlines

- NSS May 16, 2003
- MIC May 16, 2003
- SNPS June 1, 2003
- RTSD June 27, 2003

You need to be submitting abstracts soon. It's never too early to start writing.

For more information on the meeting times, hotels and any other details, see the website at *www.nss-mic.org*.

An important part of the meeting are the short courses offered before and after the main sessions. As Short Course Chairman, Gary Alley has done an outstanding job over the many years in organizing these very useful sessions. As he steps down, Gary deserves our heartfelt thanks for his many hours of work to make these as successful as possible. The new Short Course Chairman is Dr. Stephen Derenzo. If you have any suggestions for short courses, send them to *sderenzo@lbl.gov.* When the schedule is complete, it will be posted on the website.

The General Chairs, dates and places for the future NSS-MIC meetings are:

- 2004 Oct 16 to 23, Rome, Italy *General Chair:* Alberto Del Guerra
- 2005 Oct 22 to 29, San Juan, PR *General Chair:* Tom Lewellen
- 2006 Oct 28 to Nov 4, San Diego, CA *General Chair:* Graham Smith

Call for Volunteers

Let me end with an invitation to all of you with interests in radiation instrumentation to become involved in IEEE/NPSS activities. One of the ways open is to step forward as a candidate for election to the Radiation Instrumentation Steering Committee (RISC). This committee includes 15 elected members serving 3-year terms that are chosen in an annual ballot by those members of our society who are identified as part of the Radiation Instrumentation Technical Committee (RITC). You are automatically a member of RITC if you are a member in good standing of both IEEE and NPSS and subscribe to the IEEE Transactions on Nuclear Science. RISC has the task of acting on behalf of the full RITC membership in organizational matters, the most important of which is planning for future Nuclear Science Symposia (NSS). Meetings of RISC are scheduled annually at the time of the NSS, with most other business conducted via email.If you meet the criteria for RITC membership and have an interest in becoming a candidate for election to RISC, please let me know.

Ron Keyser, the Chair of the RISC, can be reached at ORTEC, 801 South Illinois Avenue, Oak Ridge, TN 37831; Phone: +1 865 483-2146; Fax: +1 865 481-2438; E-mail: RonKeyser@ieee.org

We call this progress?

The picture that we are seeing is that as soon as economies begin to improve or Westernise then non-communicable diseases increase at an alarming rate.

George Alberti (President of the Royal College of Surgeons

FUNCTIONAL COMMITTEES

REPORT FROM THE COMMUNICATIONS COMMITTEE

We presently have an excellent and versatile membership booth with graphics to use at Conferences. Vern Price and others work the booth, answer questions and sign up members to both IEEE and NPSS very successfully. We look after the booth at my company and arrange the shipping etc.

To help promote NPSS, the brochure was prepared and printed in 2001 and a new one will be printed shortly to be used this year and next. In addition, we produced a single-page leaflet last year for membership promotion. The new brochure and the leaflet are mailed to members and possible NPSS members in the IEEE at membership renewal time. The function of this promotion is to both seek new NPSS members and to ensure that current members are aware of all aspects of our Society. Possible as a result of this, our membership is growing at the second fastest rate of any IEEE Technical Society.

As a new initiative this year, we will be producing a leaflet focussing on engineers and scientists in Particle Accelerator Science and Technology. This will be used at the PAC this year to help recruiting in the field where there are relatively few NPSS members but very high meeting attendance.

Peter Clout
Chair, NPSS Communications Committee

Lease on life
What ages in us is the dwelling. The tenant doesn't.

Charles Gounod

The web site has been updated as previously reported and we are seeking input to expand the content. There are many possibilities for adding useful information aimed at engineers as well as students and members of the public. As many of us work on Government projects or in Universities, I believe that it is appropriate that we describe our fields and their relevance.

My thanks go to all the members of the Committee and especially Dick Kouzes and Ken Connor who maintain the web site and Vern Price who works so hard on the membership booth at meetings and steers the resulting membership forms through the IEEE.

Peter Clout, Chair of the NPSS Communications Committee, can be reached at Vista Control Systems, Inc., 176 Central Park Square, Los Alamos, NM 87544-4031; Phone +1 505 662-2484; Fax: +1 505 662-3956; E-mail: clout@vista-control.com

ANNUAL REVIEW OF THE TNS EDITORIAL PROCESS

Paul Dressendorfer
Editor TNS

This article provides an annual review of the editorial process for the Transactions on Nuclear Science regular contributed papers (those not associated with conferences or with our new section on nuclear medical and imaging sciences). This material also appeared as an Editorial in the February, 2003, issue of TNS, so anyone who read that note can skip this one and move on to other things.

The data presented begins with 1994, after I had fully transitioned into the Editor's role for these Transactions. The "year" used for each data interval is from November 1 through October 31; for example, "2002" represents the twelve-month interval from November 1, 2001, through October 31, 2002.

Figure 1 shows the number of contributed papers submitted over each of the last 9 years, ranging from 67 to 113. Figure 2 shows for those manuscripts that completed the review process in a given year the percentage of manuscripts accepted for publication. As can be seen, the acceptance rate continues to remain around 50%.

Figure 3 shows the average time taken for the first review cycle for papers completing the review process in a given year. It generally takes from 6.5 to 8 weeks for the authors to be sent the comments from the reviewers of their manuscript. Although reviews are typically requested from at least three reviewers, the average number of reviews sent to authors ranges from 2.5 to 2.7 (Fig. 4); approximately 10–17% of the time a reviewer does not return comments on a manuscript, resulting in this average being less than three.

Essentially all contributed manuscripts require revision in response to the reviewers' comments. Over the last nine years, the average time for authors to submit the revised version of their manuscript after being sent the reviewers' comments ranges from seven to over fourteen weeks, as illustrated in Fig. 5. It re-

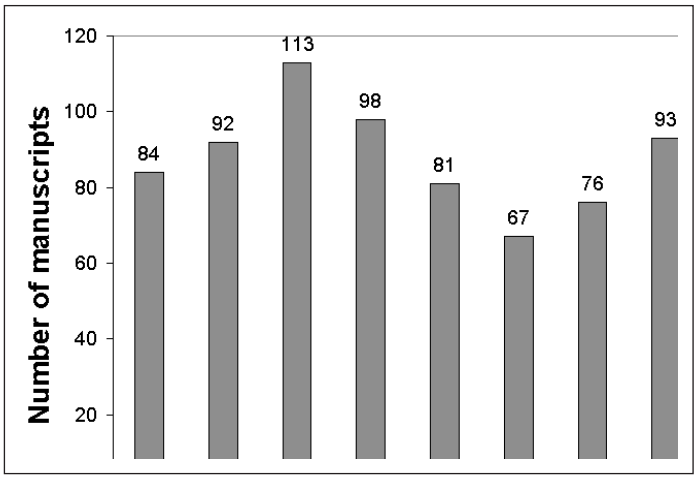


Figure 1. Number of contributed papers submitted for consideration for publication in TNS.

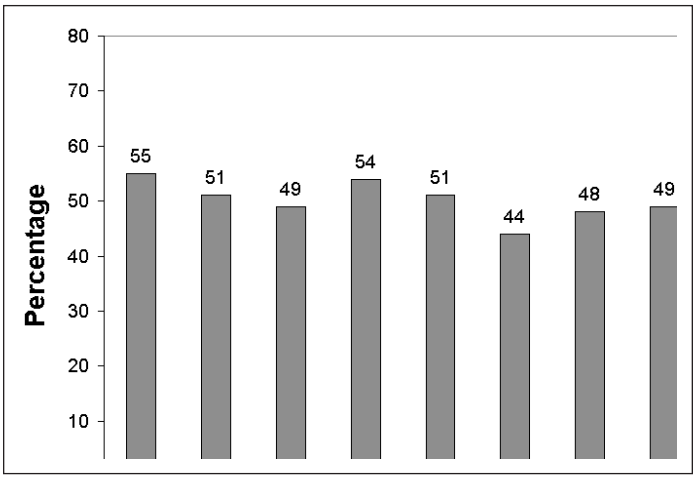


Figure 2. Percentage of contributed papers accepted for publication in TNS.

mains interesting that on average the authors seem to take longer to respond to the reviewers' comments than for the reviewers to perform their reviews.

When all the editorial work is completed, and the manuscript is either accepted or rejected for publication, the manuscript (in electronic format) and illustrations (usually in electronic format) are sent to IEEE for publication. Figure 6 shows that the average time from receipt of a manuscript by the Editor until its final disposition (acceptance for publication or rejection) has ranged from 3.2 to 4.4 months over the period 1994 through 2002. In 2002 if two papers in which the authors took >6 months to return their first revision are eliminated from this average, the average time from receipt to final disposition drops from 3.5 to 3.2 months.

There remains additional time before an accepted manuscript appears in print. Since the Transactions on Nuclear Science is published bimonthly, on average a manuscript is delayed one month waiting for the next publication issue. IEEE schedules approximately 11 weeks to format, index, paginate, typeset, and otherwise prepare for printing, print, and mail the issue.

An overview of the times in the publication process is shown in Fig. 7. For each year, the average times for first review, for the authors to respond to the comments from the first review, the delay from the fact that these Transactions are a bimonthly publication, and the time for IEEE to put together the issue is shown, along with what percentage each of these factors contribute to the overall time. This depiction is somewhat notional, since a number of manuscripts undergo a second (and sometimes a third) review cycle, and the average time for first review includes those manuscripts that are rejected (and thus do not proceed through the subsequent steps of the process). However, it does provide a good overall picture of the contributors to and the overall time for the publication process.

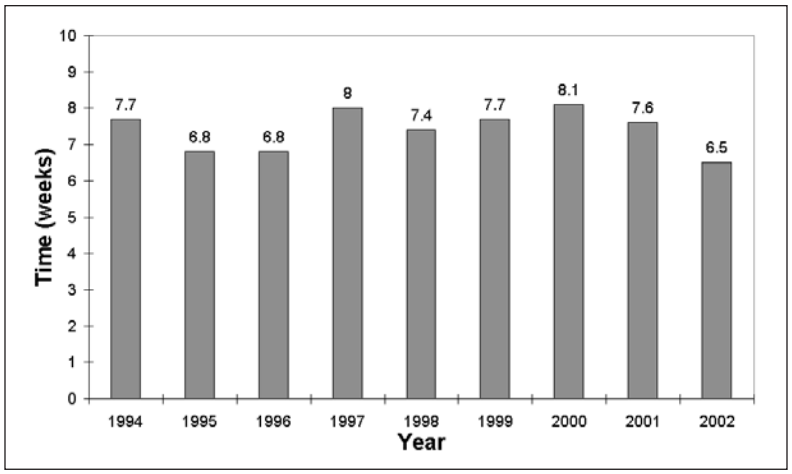


Figure 3. Average time to complete first review of papers submitted to TNS and to send authors the reviewers' comments.

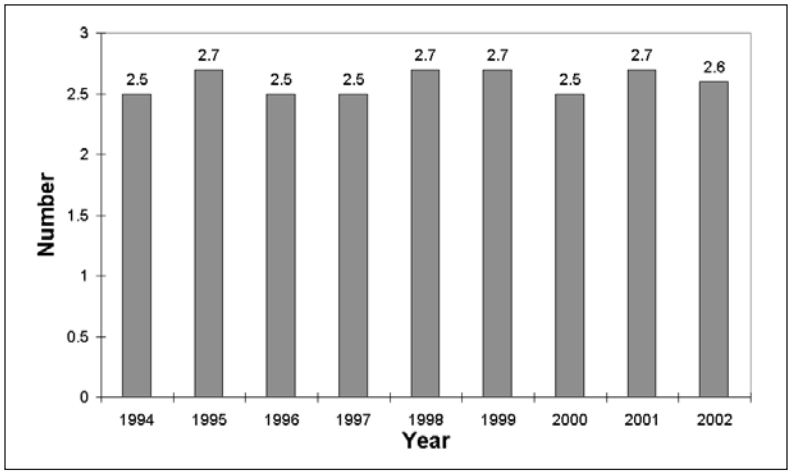


Figure 4. Average number of reviewers returning comments for each manuscript submitted to TNS

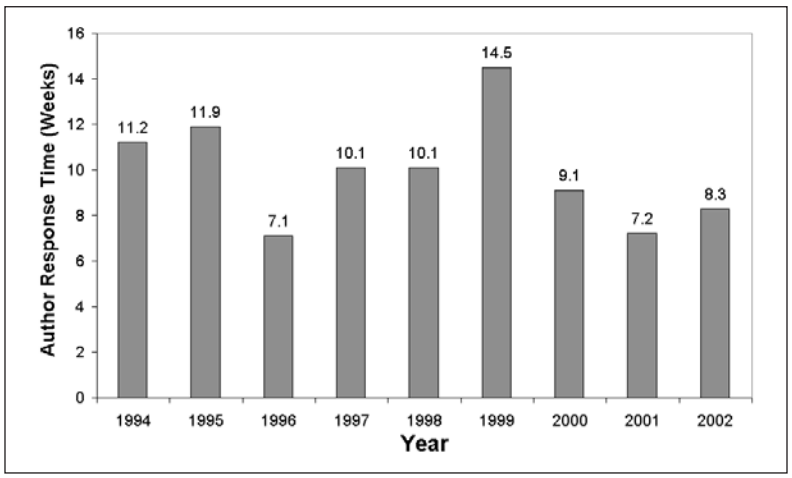


Figure 5. Average time for TNS authors to return revised versions of their manuscripts responding to comments from the first review cycle.

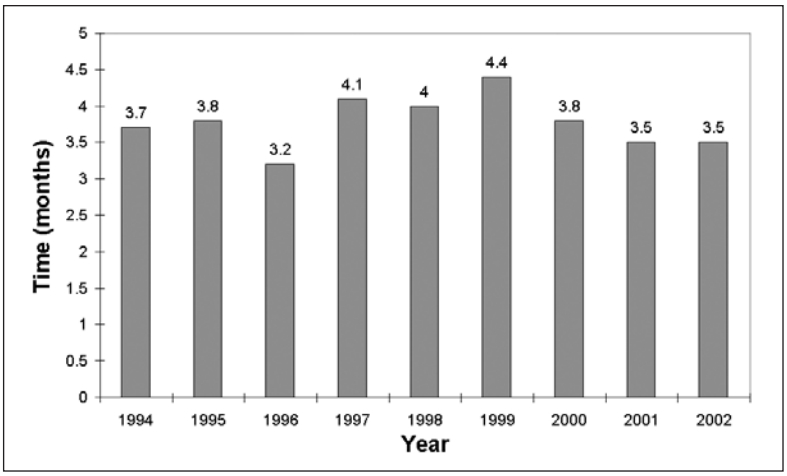


Figure 6. Average time from receipt to final dispostion (acceptance or rejection) for each manuscript submitted to TNS

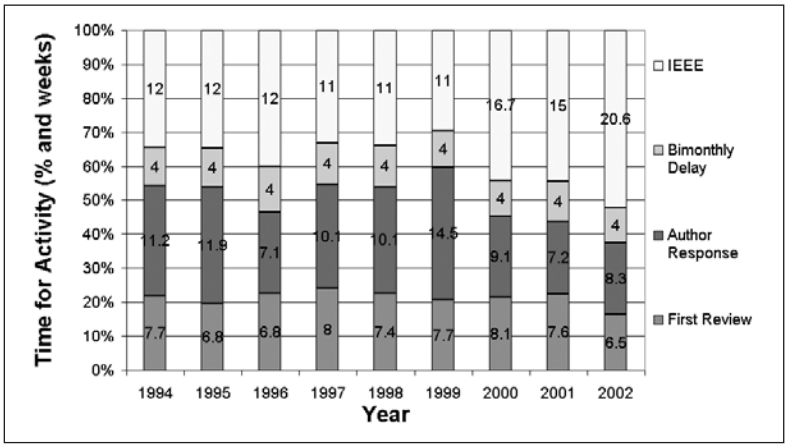


Figure 7. Average time for primary parts of publication process for each manuscript submitted to TNS.

Unfortunately in 2002 many issues of the Transactions arrived late. As shown in Fig. 7, delays at IEEE again were longer than desired this year. In 1999, the average time for IEEE preparation (excluding the 4 week bimonthly delay) was about 11 weeks; in 2000 it was 16.7 weeks, in 2001 was about 15 weeks, and in 2002 was 20.6 weeks. These delays have been a concern for IEEE and these Transactions, and a number of process changes and efforts have been undertaken to reduce the time at IEEE to its target value of 11 weeks.

The international character of the journal dominated again this year. Of the 65 papers completing the review process during this period, 16 (25%) were from the US. Asia had the most submissions, with 21 (32%); Europe had 17 papers (26%). The Middle East accounted for 2 papers, Africa had 2, the Former Soviet Union had 1, and India/Pakistan had 6.

The average number of reviewers reporting on each manuscript has been 2.7. The reviewer pool for manuscripts draws upon the expertise of the international community; from 1994 through 2001 the proportion of international reviewers (those outside the United States) has ranged from 25% to 44% of the reviews returned. In 2002 that percentage was 44%.

If any readers have other questions about the editorial process for the Transactions on Nuclear Science, or have suggestions for improvement, please do not hesitate to contact me. Also I am continually seeking additional reviewers, so if any of you are interested in participating, please send me your name, mailing address, phone and FAX numbers, email address, and areas of interest/expertise.

Paul Dressendorfer, the editor of the Transactions on Nuclear Science, can be reached at the Sandia National Laboratories, P.O. Box 5800, MS 1413, Albuquerque, NM 87185-1413; Phone +1 505 844-5373; Fax: +1 505 844-8168; E-mail: dresspv@sandia.gov

Should you care to accept...

Impossible is a word whose meaning is purely relative: every man has his own impossible according to whether he is able to do more or less. Impossibility is the phantom of the fearful and the refuge of cowards.

Napoléon

AWARDS

NPSS AWARD NOMINATIONS DUE MAY 15!

NPSS offers four Society awards: the Merit, Shea, Early Achievement and up to four Graduate Scholarship awards. In addition to these Society-wide awards there are those of our Technical Committees which are announced in their reports

The Merit Award is given for outstanding technical contributions to the fields of nuclear or plasma sciences. The award is based on individual technical achievement, first and foremost, on contributions made by a team or teams led by an individual quality and significance of publications and patents and years of contribution to the field. One award is presented annually at the conference of the award winner's choice.

The Richard F. Shea Distinguished Member Award is presented in recognition of outstanding contributions through leadership and service to the NPSS and to the fields of Nuclear and Plasma Sciences. Criteria upon which the winners are selected are leadership role and leadership quality; innovative and important contributions to Society activities; service and dedication to NPSS; and, technical achievements.

The Early Achievement Award is granted in recognition of outstanding contributions in any of the fields comprising the nuclear and plasma sciences, and is given within the first ten years of an individual's career. Three letters of recommendation, publications and patents and other documentation of outstanding contributions early in the individual's career are used as the basis for selection.

The Graduate Scholarship Awards are based on such evidence of scholarship as academic records, reports, presentations, publications, research, related projects and related work experience as well as participation in IEEE activities. They are presented at each student's institution.

To submit a nomination for any of these awards, download the appropriate Award Nomination Form from the web site (http://ewh.ieee.org/soc/nps/awards.htm) and submit it as soon as possible, but definitely **no later than May 15, 2003** to

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This web site will also provide further information on the awards and of what each prize consists. Your NPSS Yearbook and Directory provides a list of past award winners.

Our community has many talented individuals well worth recognition. Think of the individuals in your own community who might be candidates for these awards and nominate them!

Prepared by Albe Larsen, NPSS Secretary, whose contact information appears at the end of her Secretary's Report.

Budget rationale

The nation spends as recklessly on soap as it does on weapons, the object of both expenditures being the protection of the American body politic against contamination by alien substances.

Lewis H. Lapham

JAN S. IWANCZYK
2002 NPSS Merit Award

Jan S. Iwanczyk
2002 NPSS Merit Award

Fixed assets
The central fact of our epoch is that knowledge has grown; man's brain has not.

Geoffrey Pyke

The 2002 Merit Award of the Nuclear and Plasma Sciences Society was presented to Jan S. Iwanczyk, Ph.D., on November 14 at the IEEE Nuclear Science Symposium held in Norfolk, Virginia. Joel Karp, the NSS/MIC General Chair presented Dr. Iwanczyk with the award, and in his speech, Prof. Marek Moszynski of The Soltan Institute summarized Dr. Iwanczyk's main achievements. The citation of the Merit Award reads: *"For outstanding contributions to development of compound semiconductor detectors, silicon detectors, imaging systems, and their applications in physics experiments, medicine and other fields of use".*

Dr. Iwanczyk received his M.S. degree in Electronics from the Technical University in Warsaw in 1970, and his Ph.D. degree in Physics from the Institute of Nuclear Research (INR), Swierk-Warsaw in 1977. During this time, in his doctoral thesis, he pioneered development of CdTe X-ray detectors working together with Dr. Andrzej Dabrowski of INR, Dr. Robert Triboulet of Laboratoire de Physique des Solides, France and Dr. Abdurakhman Khusainov of Ioffe Institute, Russia. For these early achievements, he was awarded the Polish National Award for Research on Cadmium Telluride Nuclear Radiation Detectors in1976.

In 1979, Dr. Iwanczyk joined the University of Southern California (USC) initially as a Research Scholar, and later as a senior Faculty Member. During this time he also worked as a consultant to several detector companies. In 1989, Dr. Iwanczyk left academia, moving into private industry working in research companies: Advanced Photonix, Inc., Xsirus, Inc. and finally the Photon Imaging group of companies.

In the early 1980s, working together with Dr. Dabrowski, Dr. Iwanczyk developed HgI2 detector technology and associated low noise preamplification electronics for use in high-resolution X-ray spectroscopy systems. He achieved record results regarding energy resolution (FWHM <200 eV at 5.9 keV) for compound semiconductor detectors operating at or near room temperature, and he proved long term stability of the performance of the detectors. As a result of this effort, for the last 15 years, TN Technology, Inc., (A Thermo Instruments Company) Round Rock, TX has produced and marketed HgI2 detector based instruments such as "The Metallurgist" – a hand-held XRF (X-Ray Fluorescence) alloy metal analyzer, and The Spectrace9000 – a field portable XRF system for the analysis of soils, thin films and lead in paint.

Between 1986 and 1995, working together with Dr. Bradley Patt and collaborating with Prof. Keith Hodgson and Prof. Britt Hedman (both of Stanford University) he provided leadership to a team of scientists to develop a 100-element HgI_2 detector system for synchrotron radiation applications such as x-ray absorption spectroscopy (XAS). XAS studies provide direct information about both the electronic and metrical structure of a selected absorbing atom in a complex biomolecule solution. The HgI_2 system composed of the 100-element detector, amplification and computer controlled processing electronics specifically designed for high throughput x-ray applications has been tested and installed at the Stanford Synchrotron Radiation Laboratory (SSRL). As a result, a number of scientific papers have been published.

In the late 1980s, working with Mr. Marek Szawlowski of Advanced Photonix, Dr. Iwanczyk developed large area silicon avalanche photodetector technology for detection of small light signals. The large area avalanche photodetectors (LAAPD) are flagship products for Advanced Photonix, Inc. of Camarillo, CA, which Dr. Iwanczyk helped establish in 1991.

Working together with Dr. Khusainov he developed CdTe (PIN structure) x-ray and gamma ray detector technologies, which created a base for instruments such as the LeadStar analyzer for determining lead levels in paint, produced by Xsirius. More recently he has been working with Dr. Khuasainov on advanced CdTe PIN detectors in instruments for gamma-ray spectroscopy in materials safeguards and homeland security applications. The Radiant 200 is one such instrument, which is currently marketed through an alliance between Radiant Detector Technologies, LLC and Ametek/Ortec.

Jointly with Dr. Bradley Patt he developed large area (50 mm^2) silicon drift type detectors Vortex™ for high-energy resolution (140 eV at 5.9 keV) and high-count rate (>10^6 cps) X-ray spectroscopy. These detectors may revolutionize the x-ray detector industry by replacing existing

cryogenically cooled Si[Li] systems and find new uses in x-ray instrumentation applications. Radiant Detector Technologies, LLC currently initiated marketing Vortex™ detector systems.

Dr. Iwanczyk's recent research interests are directed toward development of HgI_2 polycrystalline films for digital X-ray imagers. The ultimate goal of this research is to create a new detector technology based on HgI_2 polycrystalline films coupled to large area flat panel amorphous silicon, thin film transistor addressed readout arrays for medical diagnostic applications.

Today, Dr. Iwanczyk holds executive positions and provides leadership in three companies he co-founded with Dr. Bradley Patt: Photon Imaging, Inc., which is engaged in research and development of all sorts of radiation detection instrumentation, Gamma Medica, Inc., which is the commercial outlet for Photon's medical technologies, and Radiant Detector Technologies, LLC, which is the commercial outlet for Photon's industrial and scientific technologies.

The medical technologies brought to market by Gamma Medica, Inc., include LumaGEM™, a dedicated, high-resolution solid-state gamma camera for scintimammography which is used for localization and early detection of breast cancer. LumaGEM is an FDA approved solution, and is coupled with existing upright mammography systems allowing optimal positioning of the camera for mammoscintigraphy, as well as the use of breast compression. Usefulness of this diagnostic instrument is being proven in several hospitals and a number of scientific papers have already been published.

Another key development currently marketed by Gamma Medica is its range of MicroSPECT™ animal imaging systems, which are used for high-resolution imaging of small animals in-vivo and non-invasively. The MicroSPECT products include dual modality imaging—SPECT and X-Ray CT—allowing researchers to monitor disease processes and better understand new drug treatments. MicroSPECT can be used in evaluating new pharmaceutical products and to further understand normal and abnormal bio-systems dynamically. MicroSPECT products are in use today at many leading research universities, and pharmaceutical companies, and have been used to generate many publications. For this development, Dr. Iwanczyk together with Dr. Bradley Patt and Dr. Lawrence MacDonald was awarded R&D Magazine's R&D 100 Award for 2001, honoring the top 100 inventions of that year.

Dr. Iwanczyk has collaborated with Prof. Edward Hoffman and his group at UCLA in all medical imaging research programs since 1982, and Prof. Hoffman is a key consultant to Photon Imaging and Gamma Medica.

Dr. Iwanczyk has published over 120 papers, and several book chapters, and he holds 11 patents.

Jan S. Iwanczyk can be reached at Photon Imaging, Inc., 19355 Business Center Dr., Northridge, CA 91324; Phone: +1 818 709-2468; Fax: +1 818 709-2464; E-mail: Iwanczyk@compuserve.com.

Inaction at a distance

Teaching and learning are like making love: both parties have to be there.

Clifford Orwin

PETER N. CLOUT
2002 Richard F. Shea Award

Peter Clout, the Founder and President of Vista Control Systems, Inc. received the 2002 Richard F. Shea Distinguished Member Award of the Nuclear and Plasma Science Society. The citation for the Shea Award was *"For successful and innovative entrepreneurship in data acquisition and control, and for his long-time dedication to and effective leadership of the IEEE Nuclear and Plasma Sciences Society".*

After graduating with a Bachelor's degree in Physics from the University of London in 1965, Peter moved to York and the newly-established Physics Department to study for his D. Phil in Atomic Physics. After receiving his D. Phil in 1969, Peter stayed on as a Postdoc to build new experiments to be controlled by computer. All the hardware interfaces and the software was built and developed by Peter and in addition, to provide a virtual machine environment, he modified the computer hardware (which was possible with a wire-wrap gun then).

In 1972 Peter moved to Daresbury Laboratory near Warrington. He was responsible for data acquisition systems for Synchrotron Radiation based research. He Implemented a system based on CAMAC, Honeywell 316 computers and a fast, parallel datalink to an IBM Mainframe computer. He also acted as Deputy

Peter Clout
2002 Shea Award

Fitting comment
We fit facts to our assumptions more than we fit our assumptions to the facts.

Richard Gid Powers

Watch out!
Perhaps it is a universal truth that the loss of liberty at home is to be charged to provisions against damages, real or pretended, from abroad.

James Madison

Group Leader and assisted the Group Leader in the management of the group and especially in the development of CAMAC standards and modules, developing and writing part of the Serial LAM Grader recommendation for ESONE. He also organized exhibits of CAMAC at conferences and commercial exhibitions.

In 1977 Peter moved to Hamburg, Germany to work at the European Molecular Biology Synchrotron Radiation Outstation at DESY. There he was responsible for establishing a data acquisition system for the experiments at the outstation. The system established was very successful and continued in use for many years. It was based on CAMAC LSI-11 controllers running a real-time Basic-like language and a serial highway connection to a PDP 11/45 acting as the server and analysis computer. At this time Peter was also working on and was latterly chair of the Subroutines for CAMAC ESONE working group.

In 1980 Peter moved to Los Alamos National Laboratory where he was responsible for the hardware and software for the Proton Storage Ring project (1980-1986). This system used graphics and commercial products in an innovative way in the age before windowing graphics. In addition, the software for the project was developed with an architecture that isolated functions into processes and used this software modularity to ensure that schedules were kept. Individual modules of the software could be tested independently then integrated without a problem. This architecture was copied for a military battlefield simulation system. The PSR control system cost was 8% of the project cost, the lowest monitored in a CERN survey of the time which found a range of 8-25%. The system was on-time and first beam was on schedule. One German research laboratory, KFA, copied this control system. The system was based on CAMAC, multiple CAMAC Serial Highways for computer communication and CAMAC access with a VAX/VMS for the primary computer and RSX-11S for the CAMAC controllers.

Peter was one of the small group that recognized that the Particle Accelerator Conference did not then provide the right forum for the Accelerator Controls people to meet, present their work and discuss it. He chaired the Accelerator Controls Workshop in Los Alamos which then developed into a conference series (ICALEPCS) that has been important in developing the controls community for large experimental physics machines ever since.

In the final battle of the Cold War, SDI, Peter was responsible for the Telescope Control System of the Ground Test Accelerator project (1986-1988) This project was considerably smaller than the Proton Storage Ring and the system was developed and fielded in less than a year. However, windowing workstations and routine computer networking had become available, and so it was decided to re-design and develop anew the software of the system based on the same overall concepts of the Proton Storage Ring System. Out of this project came the basis for Vista Control Systems' products and over 20 Laboratories took copies and half of these developed systems based on the Telescope Control System. The system was based on CAMAC, a CAMAC Serial Highway and a VAXstation II/GPX running VMS. This system was also on-time and distinctly contributed to the success of the Telescope experiment.

At this time, Peter was also responsible as Project Leader for the Ground Test Accelerator Control System (1987–1989) The GTA control system was based on a modification of a commercial product used by another group and became EPICS. Peter's role here was political rather than technical.

In 1988 it was increasingly clear that the political situation in the Division where he worked in Los Alamos was untenable and, on the other hand, there was excellent acceptance of the Telescope Control System externally. From this the plans to form a company and license the software developed and in 1989 Peter founded and lead the company. He is the primary sales person for the product, Vsystem. Vista Control Systems sells a software kit for building control and SCADA systems for research, military, utilities and Industry. Plants that use Vsystem process a major fraction of the steel and aluminum made in North America, producing many tens of billions of dollars of finished product per year. In addition, research groups that use Vsystem are successful with much lower staff costs than groups using non-commercial software.

Peter has held many positions in NPSS and TAB including NPSS President. Currently he is the Chairman of the NPSS Communications Committee and also the Chairman of the TAB Society Review Committee.

Peter Clout's report on the activities of his Communications Committee appears elsewhere in this issue. There you will also find his contact information

SIMON COOKE
2002 Early Achievement Award

Simon Cooke received the B.Sc. degree in Physics from the University of Strathclyde, Glasgow, Scotland in 1988, and the D.Phil. degree from the University of Oxford, Department of Engineering Science in 1993. His doctoral research involved experimental and numerical analysis of the optical properties of monolayer organic molecular films. He rejoined the Department of Physics at the University of Strathclyde in 1992, as a Research Associate in the Relativistic Electrons, Lasers & Discharges research group. In 1996, he moved to the Vacuum Electronics Branch of the Naval Research Laboratory, Washington DC, where he has been employed under contract with the University of Maryland (1996-98) and Science Applications International Corporation (1998-present).

At the University of Strathclyde, Dr. Cooke was the lead researcher in the design and successful operation of the first second harmonic, cyclotron auto-resonance maser (CARM) experiment for high power microwave generation. In the course of this research, he developed a suite of design codes to simulate fields and relativistic beam trajectories in the electron gun, including space-charge and self-magnetic fields, and coherent interaction with the electromagnetic "Bragg" cavity. The codes remain in use in the design of new research experiments.

At NRL, Dr. Cooke's research interests lie in the development of advanced three-dimensional electromagnetic algorithms for applications in vacuum electronics. He was the author of a 3-D, frequency-domain, electromagnetics simulation code, CTLSS, among the first to efficiently compute the spectrum of eigenfrequencies for complex 3-D cavities with strongly absorbing materials. CTLSS has been used actively by the U.S. vacuum electronics industry in the design of microwave amplifiers since 1998. Dr. Cooke's recent research includes algorithms to alleviate the numerical complexity of very large 3-D simulations, subdividing the domain to derive an accurate equivalent circuit model, with the goal of simulating complete traveling wave interaction circuits in 3-D and integrating with time-domain simulations of non-linear electron beam interactions.

The award will be presented at the ICOPS conference in Jeju, Korea in June 2003. His citation reads: *"For contributions to numerical modeling of vacuum electron devices and RF components through the development of advanced algorithms for three-dimensional electromagnetic simulation."*

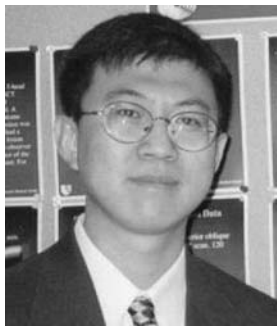
Simon Cooke has been a member of the IEEE and NPSS since 1995, and can be reached at the Naval Research Laboratory, Vacuum Electronics Branch, Code 6840, 4555 Overlook Avenue S.W., Washington DC 20375; Phone +1 202 404-4511; Fax: +1 202 767-1280; E-mail: simon.cooke@nrl.navy.mil

Simon Cooke
2002 Early Achievement Award

GRADUATE STUDENT AWARDS
Mu Chen

Mu Chen (1974) received his B.E. degree in Engineering Physics in 1997 from Tsinghua University, Beijing, China. He is completing his Ph.D. degree in Biomedical Engineering, Duke University. He works in the SPECT Research Lab under the direction of Prof. Ron Jaszczak. His thesis work is on the evaluation of myocardial perfusion imaging using SPECT (Single Photon Emission Computed Tomograhy) protocols. His research interests include Receiver Operating Characteristics (ROC) analysis, mathematical observer model, and statistical image reconstruction algorithms. Upon completion of his graduate studies, Mu will join CPS Innovations, Inc. in Knoxville and work on PET research. He hopes to complete his dissertation defense in Janaury or early Febuary 2003.

Mu Chen can be reached at CPS Innovations, Inc, 810 Innovations Dr., Knoxville, TN 37932; Phone: +1 865 218-3320; Fax: +1 865 218-3010; E-mail: mu.chen@cpspet.com. He was nominated by Professor Ronald J. Jaszczak.



Mu Chen
Graduate Student Award and Phelps Continuing Education Grant

Zhiyu Chen

Zhiyu Chen
Graduate Student Award

Zhiyu Chen (S'98) was born on May 2, 1971 in Sichuan, China. He received the B.E. degree in engineering physics in 1994 and the M.S. degree in 1997, both from Tsinghua University, Beijing, China. Currently, he is pursuing the Ph.D. degree in electrical engineering and is a Graduate Research Assistant at the University of Tennessee, (UT) Plasma Sciences Laboratory, Knoxville. His research interests include the physics and applications of the one atmosphere uniform glow discharge plasma (OAUGDP™), as well as VLSI design and microelectronics fabrication technology.

Mr. Chen is a student member of the AVS.

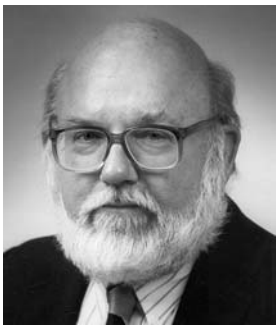
Mr. Chen developed two types of impedance matching circuitry for OAUGDP™ reactors, which cannot be matched with the existing impedance matching techniques that have been developed for radio-frequency and microwave plasma applications at low pressures. Mr. Chen also developed a comprehensive circuit model for OAUGDP™, and used PSpice™, a widely-used circuit simulation software, to simulate OAUGDP™ reactor systems, which has not been seen in the existing literature. His simulation results agree well with experimental data.

Mr. Chen is currently concentrating on his Ph.D. dissertation research topic—developing an OAUGDP™ plasma chemical vapor deposition (PCVD) thin film coater, which will be used to deposit silicon oxide barrier coatings and other functional thin films at atmospheric pressure. This work will break new ground in PCVD applications.

Mr. Chen has co-authored 10 archival papers in journals and conference proceedings and more than 25 poster papers, and he is the sole author of two journal papers.

Zhiyu Chen can be reached at the Plasma Sciences Laboratory, Electrical and Computer Engineering Department, University of Tennessee, Knoxville, TN 37996-2100; Phone +1 865 974-9699; E-mail zychen@utk.edu. He was nominated by Professor J. Reece Roth.

EDWARD J. HOFFMAN
2002 Medical Imaging Scientist Award



Edward J. Hoffman
2002 Medical Imaging Scientist Award

Edward J. Hoffman is a Professor of Pharmacology and Radiological Sciences at the University of California, Los Angeles (UCLA), where he is Director of the Biomedical Physics Graduate Program in the School of Medicine. He received his Ph.D. in Nuclear Chemistry from Washington University, St. Louis, in 1971. Following two years as a Postdoctoral Fellow in nuclear physics, he received an NIH Fellowship to refocus his research efforts on the field of medical physics. During this period, with Drs. Phelps, Mullani and Ter-Pogossian, he developed the first imaging system designed specifically for Positron Emission Tomography (PET), which was the prototype for the first commercial PET system.

In 1976, Dr. Hoffman moved to UCLA, where his primary research interest was in the instrumentation and physics of PET. His current expanded research includes NIH and DOE funded endeavors in the development of miniature imaging probes and compact cameras useful in animal research and in the identification of human disease. Many portions of his research efforts have resulted in inception of and improvements to commercial/clinical versions of the devices developed in his lab. He has had a significant impact in the primary training and education of more than 20 graduate students and post-docs who have come through his lab, and on the many students enrolled in the Graduate Program he directs, acting as mentor and friend. In addition to the serious objectives of education, he actively organizes and hosts holiday, beach and other parties and events for the students and faculty.

He has been actively involved in the IEEE NPSS since 1977, and he currently edits the IEEE Medical Imaging Conference (MIC) issues of the IEEE Transactions on Nuclear Science. Professor Hoffman is a Fellow of the IEEE, and is the current President of the IEEE Nuclear and Plasma Sciences Society.

The citation was "For important and sustained contributions to the development of positron emission tomography and for dedication to graduate level education in the nuclear medical imaging sciences."

Dr. Hoffman was nominated by Simon Cherry of UC-Davis (srcherry@ucdavis) and Martin Tornai (martin.tornai@duke.edu) of Duke University who also provided this article.

W.K. DAWSON
2003 IEEE Richard M. Emberson Award

W.K. (Ken) Dawson, longtime editor of the NPSS Newsletter and a former Society President and IEEE Board of Directors member, has been honored with the 2003 Richard M. Emberson Award. The citation reads, *"For leadership in influencing and motivating actions leading to significant improvements in the Institute's Information Technology System and the interaction between technical and publication activities,"* work that was accomplished during Ken's service on the IEEE Board of Directors. He was the first non-US Division Director. His term as Director was followed by two terms as VP for Publication Activities, overseeing the heart of IEEE's business operations. The award will be presented at the IEEE Honors Ceremony this June in Nashville.

The Emberson Award was established in 1986 in honor of Dr. Richard Emberson's manifold contributions to IEEE Technical Activities as both a volunteer and a staff member. Ken meets the spirit of the Emberson Award with an impressive IEEE service resumé including: Awards Board, Information Systems Advisory Committee, Implementation Committee for Structural Reorganization, By-Laws Task Force (Chair), Best Business Practices Task Force, TAB Periodicals Council, RAB/TAB Transnational Committee, and The Institute Editorial Advisory Board, to name but a few! Ken was chair of the 1998 TAB Periodical Committee when he was forced to curtail committee activities for health reasons. One of his legacy accomplishments was to pioneer the inclusion of young members on an IEEE Board which served as a precursor to the addition of GOLD members (Graduates of the Last Decade) to Board of Directors Committees, which has since become a BoD requirement.

In real life Ken has had a distinguished career in the field of particle accelerator control systems and operations at the Tri-University Meson Facility (TRIUMF) in Vancouver, as a Professor at the University of Alberta Physics Department, and as one of the pioneers in advancing instrumentation systems for accelerators and experiments through standards work of the NPSS headed by another true pioneer, Louis Costrell of the National Institute of Standards and Technology (NIST). These standards, known by their abbreviations as NIM, CAMAC and FASTBUS, set the stage for systems that have served research laboratories as well as specialized industries for over three decades, and TRIUMF under Ken's leadership has been on the cutting edge of implementation. Lou recalls some memories from his long association with Ken in this work:

"In late January of 1969 I received a telephone call from a professor of physics at the University of Alberta. He said that he had heard that the NIM Committee was working with European colleagues on a computer- oriented data acquisition system and he wondered if it would be suitable for the control system of the negative ion cyclotron being constructed at the University of British Columbia in Vancouver. My response was that in a few weeks (February 4 and 5) we were meeting in New York City with colleagues from Harwell, Saclay, CERN and the Hahn Meitner Institute to discuss the system (since designated as CAMAC), so why not join us …. He did just that–and that was how Ken Dawson first became involved with the NIM Committee, NPSS, and the IEEE.

"And, happy days, he has been with us ever since.

" If you ever take a walk with Ken, be it in Geneva or Paris or Toronto or San Francisco or Santa Fe or New York or Boulder or in any of many other cities, you will not pass a single bookstore–you will enter it. And Ken will browse through the shelves and will leave with at least one book under his arm. Since Ken is a prolific reader and collector of books, the basement of his house is lined with shelves filled with thousands of books. Fortunately they are on a lower level or the floor would surely collapse…

"As a Publications Editor and Protector of the Queen's English, Ken is very particular. He and I differ on the use of commas–he feels I use too many and I feel he uses too few. Attempting to induce him to be more kindly disposed to their use, I regularly send him a batch. And at one point in a report where I had used a number of commas, I inserted a footnote as follows:

W. Kenneth Dawson
2003 IEEE Richard M. Emberson Award

I know some who succeeded Frederick William II .... was a vague, well-meaning man who tried hard to refrain from thinking.

Olivier Bernier

The disappearing majority

Predominant opinions are generally the opinions of the generation that is vanishing.

Benjamin Disraeli

Art of the possible

No more good must be attempted than the country can bear.

Thomas Jefferson

A comma here, a comma there
The two of them comprise a pair
But we can make it three or four
And in some cases even more
And that of course Ken will deplore
Beyond his reach the numbers soar
He certainly cannot ignore
What seems to be an endless store
OF THOSE DAMN COMMAS
- Lou

After obtaining his Bachelor's Degree at Université Laval (1951) and Master's and PhD Degrees in Nuclear Physics at Queens University (1951-55), Ken began his professional career with the Defence Research Board (DRB) of Canada at a weapons research laboratory at Suffield, Alberta in 1955. Ken recalls those early days fondly:

"In 1954-55 a group of us, most fresh PhDs, was hired by DRB to work on instrumentation for the British weapons tests in Australia. While working on this during the day three of us ran a basic research program nights and weekends using fast neutron time-of-flight techniques as all the equipment we needed was either there or we could build it. The moratorium on open air testing was called several years later so our research program quickly expanded into the day time hours too. About a year or so after the moratorium some administrator in Ottawa finally realized we were still there ordering stuff and getting paid. This problem was solved by closing our part of the station. Upon our request we were told that DRB would sell all our equipment, including a small Van De Graaff generator for the proverbial $1.00 to any university that would have us and properly house our equipment. After much looking around (have Van De Graaff, will travel!) we found one on our doorstep. The University of Alberta was in the process of building up its Physics Department. During the previous two years it had formed strong groups in theory, geophysics and solid state. They were looking to do the same in nuclear physics. We had the answer for them! An agreement was quickly reached and in less than a year all three of us, plus three of our best technicians were U of A employees housed in a new building and the grants started flowing in. This was the start of the U of A Nuclear Research Centre now called the Centre for Subatomic Research. Our other colleagues went off to DRB posts in Ottawa and Halifax. Those were the days!"

Ken's distinguished career at the University of Alberta that started in 1959 eventually led him into key positions at the new TRIUMF laboratory, from 1982 to the present, where though now retired he maintains an office for his myriad advisory and volunteer activities. From 1982 until his retirement and receipt of the rank Professor Emeritus in 1993 he served as a Division Head and Special Advisor to the Director. His technical and scientific responsibilities at TRIUMF involved electronics, computing and controls for medium and large scale physics applications.

Although the Emberson Award is a highly significant honor, Ken's contributions to the technical and administrative work of IEEE through the NPSS AdCom over many more years are equally deserving of mention. Ken was first elected to the NPSS AdCom in 1984-87, became Secretary in 1985-86 and President in 1987-88. He was honored with election to IEEE Fellow in 1991 for his work in standards, data acquisition and control systems; and with the Society's Richard F. Shea Award in 1994 for Society leadership as President, Editor-in Chief and countless contributions and leadership to committees, organizing of conferences, publications and standards. Continuing working with the Society as Past President, he successfully contended for Division IV Director in 93-94 and then served subsequently as VP Publication Activities as described above.

For NPSS, Ken single-handedly created the current NPSS Yearbook and Directory, which required a huge effort to research and document a complete history of volunteer contributions to that body, as well as to format its entire contents describing the Society's technical committees, areas of interest, administrative and liaison committees, in addition to the complete member directory. He continues to be the spirit and driving force behind one of the best Newsletters of any IEEE Society, routinely spicing technical news and reports with quotes and witticisms gleaned no doubt from historical biographies filling the W.K. Dawson Library.

Congratulations to Ken for the recognition from IEEE of what we in NPSS have already known, that he is an outstanding citizen of the IEEE, the NPSS, the University Physics Research Community and his profession as a whole. The Emberson is the latest award in a series of highly deserved honors given to Ken in appreciation for his insightful, creative, unselfish, humorous, enthusiastic and dedicated efforts in our behalf over more than three decades.

This unanticipated article was prepared by Ray Larsen who can be reached at SLAC, MS 66, Stanford University, P.O. Box 4349, Stanford, CA 94309; Phone: +1 650 926-4907; Fax: +1 650 926-5124; E-mail: larsen@ slac.stanford.edu.
Editor's note: *The article appears because the editor works on the premise that all NPSS members in good standing, such as Ray, should have access to the pages of their newsletter for potentially relevant material. This even if the editor finds that material somewhat embarrassing. He also appreciates Lou Costrell's contribution and would like to point out that, thank you, quite a few commas still remain from the last shipment.*

LIAISON

IEEE-USA ENERGY POLICY COMMITTEE

Ned Sauthoff
NPSS Liaison to the IEEE-USA Energy Policy Committee

Energy is an important strategic issue at this time. The IEEE-USA Energy Policy Committee has increased its activity on energy infrastructure issues in its providing technical information to governmental decision-makers and in its development and dissemination of energy policy positions. In the recent past, the Energy Policy Committee has focused on the future of the electrical power transmission grid, issues of the electric marketplace structure, and aspects of national security such as vulnerabilities of gas pipelines and implications for electric reliability. The committee is now also addressing expected implications of the change of leadership of the Senate, especially the evolution of the Energy Policy Act (H.R.4), which incorporated IEEE-USA-recommended aspects on enforcement of reliability standards and interconnection standards for distributed generation.

On a longer time scale, the Energy Policy Committee is developing policy position papers on a range of relevant topics: Reliability, Need for a National Power Study, Electric Power Transmission Policy, Nuclear Power for Today, Electric and Hybrid Vehicles, and Advanced Nuclear Power Research and Development. Many of these policy areas have aspects in the purview of NPSS. The Committee will likely also be updating the Fusion Power statement to address the recent recommendations from the Fusion Energy Sciences Advisory Committee on the US strategy for burning plasma studies and the ongoing FESAC study of fusion development paths.

Please contact me with suggestions and expressions of interest in getting involved in these activities, since member- and society-involvement are key to IEEE-USA's government relations program.

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ARTICLES

THE SENATE ENERGY BILL CIRCA 2002

Peter S. Winokur
IEEE-USA Congressional Fellow

As calendar year 2002 winds down, I'm finishing my second year in the U.S. Senate. I work for Senator Harry Reid, the Majority Whip, and soon to be Minority Whip – but still the number two democrat in the Senate. In my first year on the Hill, I learned the legislative process. This year, I got to put that knowledge into action. I staffed Senator Reid on the Energy Bill, which was on the floor of the U.S. Senate from March 5 to April 25, 2002, one of the longest debates in Senate history. In a sense, the energy bill was largely rewritten on the floor of the Senate because it wasn't reported out of committee. It was placed on the Senate calendar under Rule XIV. But I'm getting ahead of myself, so let me begin by discussing the need for energy legislation and the legislative history of the Senate energy bill circa 2002.

Electricity generation, transmission and distribution in the U.S. is largely governed by the Public Power Act of 1935 and the Public Utilities Regulatory Policies Act of 1978. The last comprehensive energy bill signed into law was

Saving grace
Truth is the most valuable thing we have. Let us economise it.

Mark Twain

No endorsements either
Amateurs would make the best musicians. If only they could play.

Alexander Glazunov

the Energy Policy Act of 1992 (EPACT). Since the passage of EPACT, the business of supplying electricity had dramatically changed with a desire by many to deregulate the market, much like telecommunications. The California energy crisis was the straw that broke the camel's back and cried out for legal and regulatory reform that (1) more closely reflected the realities of the electricity market and (2) ensured that these markets function properly. Congress had a clear duty to address this situation as part of comprehensive energy legislation. To leave electricity legislation for another day would be to ensure that the problems faced now in the West might be replicated across the country. As always, Congress needed to provide a legislative solution that didn't interfere unduly in the markets.

Throughout the 107th Congress that covered calendar years 2001 and 2002, many bills dealing with energy were introduced in the Senate or received from the House. Typically, these bills are referred to the committee of jurisdiction before they are placed directly on the Senate calendar to be debated, amended, and passed. For an energy bill, the relevant committee is Energy and Natural Resources, which was chaired by Senator Bingaman. Amazingly, any Senator can object to a bill being referred to committee and can place it directly on the legislative calender under Senate Rule XIV. Such was the case for the Senate energy bill. Senators do not use this procedure very often, in large part out because of respect that they have for their committee system and for the contribution that committees make in screening and evaluating the measures that are refereed to them. A measure directly placed on the calender under Rule XIV is not guaranteed floor consideration.

To first order, action on a bill can only proceed at the discretion of the Majority Leader. Although the Majority Leader decides when to bring legislation to the floor, world events often dictate the schedule. The Congress crafted a Homeland Security bill, which was debated in the Senate from September to November. This legislation took center stage for obvious reasons. Recently enacted legislation on Corporate Accountability languished in committee and never would have made it to the floor, except for all the corporate scandals on Wall Street. In light of events in the Middle East, many Senators considered energy a national security issue that demanded immediate attention. As Victor Hugo said, "There is nothing more powerful than an idea whose time has come."

The life of a staffer during debate on a major bill is tough. It involves many exhaustive days and late nights. A staffer prepares floor statements and fully vets issues for their bosses. Staffers were prepared for all the important and controversial issues, e.g., drilling in the Arctic Wildlife Refuge, improved fuel efficiency standards, and climate change, but the 1000-page Senate energy bill contained countless smaller provisions that needed to be understood and interpreted in light of a Senator's constituents and prior voting record. Examples of these lesser provisions included hydraulic fracturing for extraction of coalbed methane, transparency in the trading of energy derivatives, and research and development for improved catalytic converters. A staffer needs to find enough time to do their homework and still be on the Senate floor, where staffers sit on benches in the back corners of the chamber. You're there to support your boss, but there is also a great deal to learn from other staffers as well as leadership aides who often have a great deal of insight into how events might unfold.

A bill is broken into different sections or "Titles," and the electricity title in the energy bill was extremely complex and time consuming. Each provision needs to be evaluated from many different perspectives. For example, what recommendation do I make to Senator Reid on the reliability provisions of the electricity title? What's in the best interests of Nevada? How do the Western governors view the issue? How about NERC – the North American Electric Reliability Council – or NARUC – the National Association of Regulatory Utility Commissioners? What's leadership's (meaning the party's) position on the issue? If an issue is voted along party lines, it's always important to know which Democrats and Republicans will cross party lines, which largely determines its outcome in a Senate that had 50 democrats, 49 republicans, and one independent. Make no mistake, Senators are extremely knowledgeable about issues and typically know how they are going to vote. In the final analysis, Senators are elected and not staffers. But it's still the responsibility of the staffer to make certain their bosses know both sides of every issue, as well as its nuances and subtleties.

Senator Reid is the Whip and is always on the floor. Just turn on CSPAN-2 and you'll see what I mean. He is often called upon to speak on an issue, and it was my job along with other Reid staffers to prepare him. Senator Reid has many experienced and extremely knowledge-

able Legislative Assistants, who always provided me with guidance and insight. For example, they might suggest that I speak to a certain staffer, lobbyist, or organization. When a bill is on the floor, you don't have time to fully research any issue, so you're dependent on writeups and white papers, which are usually provided by Senate offices that have the greatest interest in an issue or by the Democratic Policy Committee. But that information is being made available in real time during the debate and not in advance.

If a bill is "reported out" of committee, it typically means that most of its provisions either enjoy bipartisan support or at the very least a majority along party lines. The committee process provides a preview or scorecard of what's likely to happen on the floor. Because the energy bill came directly to the floor under Rule XIV, things were a bit more uncertain. The bill brought to the floor is refereed to as the "underlying legislation." It's the starting point. If you want to change the bill, you need to amend it. Normally it takes 51 votes to amend a bill, but it may take 60 votes to override a threatened filibuster or a budget point of order. The bottom line is that a provision only stays in the bill if one side or another can demonstrate they have the necessary votes. If not, then a series of amendments will ensue until either side gets the votes. Each side will revise their provision by making changes to attract other Senators. For example, if renewable energy is being debated, an amendment might be expanded to include additional provisions for hydropower that will hopefully attract Senators from the Northwest. Nobody has a pat hand in the process. You can't simply defend the underlying legislation. If a provision in the bill doesn't have 51 votes, it will eventually fail.

It's also worth pointing out that not all debates are along party lines. During the debate on fuel efficiency, it was Senators from the Midwest representing the automakers that opposed improved fuel efficiency standards. It wasn't an issue of Democrats versus Republicans. Sometimes it's simply regional, East versus West. Sometimes Senators offer an amendment and then withdraw it, just to make a point and get their arguments in the Congressional Record. Sometimes Senators offer an amendment to get their colleagues on record and to establish a legislative history. For example, an amendment was offered for a Renewable Portfolio Standard requiring utilities to supply 20% of their electricity from renewable energy resources by 2020. It got 29 votes, far short of the necessary 51, but the vote was viewed as a respectable showing on a controversial provision. In the final bill, a 10% Renewable Portfolio Standard was adopted.

In my opinion, the Senate Energy bill circa 2002 was not a great or even a good bill. The only thing that could have reduced America's dependence on foreign oil was improved fuel efficiency standards for cars and light trucks, and those provisions were defeated. Drilling in the Arctic Wildlife Refuge doesn't change the energy balance equation. In addition, the electricity title in the Senate bill had been criticized for its lack of consumer protections. The best part of the Senate energy bill was its tax provisions for renewable energy, alternative vehicles, and energy efficiency.

In the summer of 2001, the House passed its own energy bill. In late July of 2002, a House-Senate conference began the daunting job of reconciling a 1000-page Senate bill with a 500-page House bill that did not include an electricity title. Senator Reid was a conferee, so I was heavily involved in the conference. Unfortunately, the House-Senate conference was unable to report out a bill. More on that in a future report.

The main purpose of a Congressional Fellowship is to learn the legislative process. I learned a great deal in my second year on the Hill by staffing Senator Reid on the Senate energy bill. The process of making legislation is not for the naive or idealistic, and it's not perfect and precise like research endeavors strive to be. It's politics, people, process, and patience. Major energy legislation was only passed a few times in the 20th century, and not in 2002. We'll try again in the 108th Congress.

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No laughing matter

If you don't learn to laugh at trouble, you won't have anything to laugh at when you grow old.

Ed Howe

Thoughtless

You are not thinking. You are merely being logical.

Neils Bohr (to Albert Einstein)

BILL WOULD USE R&D FUNDING TO PROMOTE METRIC CONVERSION

On Jan. 7, Rep. Vernon Ehlers (R-MI) introduced legislation (H.R. 60) that would amend the Metric Conversion Act of 1975 in order to require that persons receiving federal funding for scientific or engineering research must identify the extent to which the metric system of measurement or other systems of measurement will be used under the transaction and impose financial responsibility on the funding recipient for any failures to follow that measurement system. The bill was referred to the House Science Committee for review.

See text of H.R. 60 at: http://thomas.loc.gov/cgi-bin/query/z?c108:H.R.60:

From IEEE-USA Eye on Washington, January 17, 2003

Editor's Comment. No comment!!

DOE PLAN CALLS FOR FUSION-GENERATED ELECTRICITY IN 35 YEARS

Meeting in Washington in late November, the Department of Energy's Fusion Energy Sciences Advisory Committee (FESAC) gave its "unanimous unqualified endorsement" to a preliminary plan that "can lead to the operation of a demonstration fusion power plant in about 35 years and enable the commercialization of fusion power." The panel noted that significant scientific and technological challenges remain to be overcome and that significant funding increases will be required to realize that goal. Citing environmental and national security concerns, however, the report asserts that "a A commitment now to expend the additional resources to develop fusion energy within 35 years is timely and appropriate." In a related report, DOE assessed the $5 billion cost estimate developed for the International Thermonuclear Energy Reactor (ITER) program, and concluded that it was "based on sound management and engineering principles, and is credible as a basis for establishing relative contributions by the Parties to the construction of ITER." All attention turns now to the White House and its FY 2004 budget proposal (due for release in late January) to see if funding is requested to support U.S. participation in the multi-national ITER project.

See FESAC Plan for the Development of Fusion Energy at: http://fire.pppl.gov/fesac_devpath_prelim_rpt.pdf

See DOE Assessment of the ITER Project Cost Estimate at: http://fire.pppl.gov/doe_iter_lehman.pdf

In related news, the National Academy of Engineering's Burning Plasma Assessment Committee released a letter report on Dec. 20 recommending a U.S. return to the ITER program.

See Academy report at: http://books.nap.edu/html/BPAC/letter_report.pdf

From the IEE-USA Eye on Washington, December 24, 2002.

Out of toyland

The electron - up to that time largely the plaything of the scientist - had clearly entered the field as a patent agent in the supplying of man's commercial and industrial needs.

Robert Millikan (on the 1915 achievement of New York to San Francisco phone calls)

NATIONAL ACADEMY HEADS QUESTION VISA RESTRICTIONS ON FOREIGN SCIENTISTS AND ENGINEERS

In a high-profile statement released on Dec. 13, the heads of the National Academies of Science and Engineering and the Institute of Medicine called on the federal government to revise its current visa restrictions impeding entry of foreign scientists, engineers and qualified students. According to the Academy heads, "recent efforts by our government to constrain the flow of international visitors in the name of national security are having serious unintended consequences for American science, engineering and medicine." To ensure that national security is not compromised, the statement called for development of new visa screening procedures, including such mechanisms as pre-security clearances for scientists and engineers with proper credentials, creation of a special new visa category for established researchers, and collaboration with the U.S. scientific and technical community to identify foreign citizens properly engaged in research collaborations and/or to assist the government in determining areas of particular security concern.

From the IEEE-USA Eye on Washington, December 24, 2002.

We miss them

War would end if the dead could return.

S. Baldwin

STRENGTHENING TIES BETWEEN THE MEDIA AND THE ENGINEERING COMMUNITY

For each of the past three years, IEEE-USA has sponsored an engineering student in the American Association for the Advancement of Science (AAAS) Mass Media Science and Engineering Fellows Program. The program is designed to strengthen the connections among scientists, engineers and journalists by placing advanced science and engineering students in newsrooms across the country. The program, which will enter its 30th year next summer, has placed more than 400 fellows with news magazines, newspapers, TV networks and local organizations.

The Program

IEEE-USA Mass Media Fellows work for 10 weeks in the summer as reporters, researchers and production assistants in mass media organizations nationwide. Fellows collaborate with media professionals to enhance coverage of science- and engineering- related issues in the media in order to improve public understanding and appreciation of science and technology.

Through the program, fellows observe and participate in the process by which events and ideas become news; improve their communication skills by learning to describe complex technical subjects in a manner understandable to the lay public; and increase their understanding of editorial decision making and the way in which information is effectively disseminated. Fellowship applicants must be U.S. members of the IEEE and must be enrolled college or university juniors or seniors or graduate or post-graduate students in the natural, physical, health, engineering or social sciences. IEEE-USA underwrites the expenses for the IEEE-USA fellow.

How to Apply

For information on becoming an IEEE-USA Mass Media Fellow, contact AAAS at 202 326 6670 or IEEE-USA Communications Director Pender M. McCarter at 202 785 0017.

Good deal!

We are overpaying him but he's worth it.

Samuel Goldwyn

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