

## CONFERENCES

The 2002 IEEE Nuclear Science Symposium and Medical Imaging Conference (NSS/MIC) will be held from November 10-16, 2002 in Norfolk, Virginia, at the Norfolk Waterside Marriott and the Sheraton Waterside Hotels. Scientists and engineers in the fields of Nuclear Science and Medical Imaging will participate and present original work in a variety of subject areas related to these fields. In addition, the Symposium on Nuclear Power Systems, chaired by Jay Forster will continue the tradition of meeting in conjunction with the NSS/MIC, from November 12-14.

Norfolk has a 400 year-old seaport packed with galleries, theaters, museums, a variety of shopping options, and a wealth of military history. Norfolk sits at the center of the East Coast of the United States at the base of the historic Chesapeake Bay. A trip to Norfolk

can include wonderful activities ranging from attending outdoor concerts to shopping and dining at Norfolk's waterside to historical tours and cruises.

### *Nuclear Science Symposium*

The NSS program, chaired by Nigel Lockyer and Rick Van Berg from the University of Pennsylvania starts on Tuesday, November 12 and ends on Friday morning, November 15. The meeting begins with a Plenary session on Tuesday, and follows with oral and poster sessions on analog and digital circuits, astrophysics and space, data acquisition and analysis, environmental health, gas detectors, high energy physics instrumentation, new radiation detectors, nuclear measurements and monitoring, photodetectors, radia

Continued on page 3

Joel Karp  
*NSS/MIC General  
Chair*

Nigel Lockyer  
*NSS Program Chair*

Paul Kinahan  
*MIC Program Chair*

Jay Forster  
*SNPS Program Chair*

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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 January 10, 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 January 10, 2003.

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tion damage effects, scintillation detectors, and semiconductor detectors. Joint NSS/MIC sessions will be held the afternoon of Tuesday, November 12. The joint sessions will cover topics of interest to both groups, including scintillation detectors with applications to medical imaging, and hadron therapy accelerators and imaging techniques for radiation oncology.

The NSS will host a luncheon on Tuesday; Jack Marburger, who is currently President Bush's scientific advisor, will be speaking. Dr. Marburger is the former head of Brookhaven National Laboratory.

### **Medical Imaging Conference**

The MIC program, chaired by Paul Kinahan and Robert Miyaoka from the University of Washington starts on Wednesday, November 13 and ends at noon on Saturday November 16. This year the plenary speakers will be Harrison Barrett from the University of Arizona and Charles Metz from the University of Chicago. Drs. Barrett and Metz will speak on objective measures of image quality involving human and numerical observers. Topics during the subsequent sessions will emphasize PET and SPECT instrumentation, data correction techniques, and image reconstruction in emission tomography, and also include other imaging modalities including X-ray and CT. Sessions will also be held in two areas that lend themselves to special purpose instruments, small animal imaging and breast imaging. Following last year's successful program, we have continued to increase the emphasis towards the excellent poster sessions, and the oral sessions will continue to be the single session format.

The MIC will host a dinner on Friday evening; Admiral Cavanaugh, commander of the USS Wisconsin, currently docked in Norfolk Harbor, will be speaking.

### **Symposium on Nuclear Power Systems**

The technical paper sessions on nuclear power systems will take place on November 12 to 14. The topics covered are those 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
- And more

For more information please contact Jay Forster, 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

### **Short Courses**

An excellent set of short courses will be given prior to the start of the NSS/MIC programs. Specialized topics covering a wide range of nuclear and medical technology will be presented in the Short Course Program, organized by Gary Alley from Oak Ridge National Laboratory. These courses are scheduled at the beginning of the week, from Sunday November 10 to Tuesday November 12 and include:

#### **Radiation Detection and Measurement**

Organized by Glenn Knoll, University of Michigan; Nov. 10, 11:

#### **Triggering for Particle Physics Experiments**

Organized by Peter Weilson, FNAL; Nov. 10:

#### **Integrated Circuit Front-ends for Nuclear Pulse Processing**

Organized by Chuck Britton, Oak Ridge National Laboratory; Nov 11:

#### **Nuclear Emission Imaging Detectors, Systems and Methods for Breast Cancer Evaluation**

Organized by Martin Tornai, Duke University and Craig Levin, UC San Diego; Nov. 11, PM:

#### **Multi-Modality Imaging Devices**

Organized by David Townsend, University of Pittsburgh; Nov. 12, AM:

#### **Analytical Reconstruction Methods**

Organized by Michel Defrise, Vrije Universiteit, Brussels; Nov. 12, AM:

#### **Task Based Assessment of Image Quality**

Organized by Michael King, University of Massachusetts; Nov. 12, PM:

#### **Statistical Methods for Image Reconstruction**

Organized by Jeffrey Fessler, University of Michigan; Nov. 12, PM.

### **Registration**

This year, in addition to discounted registration fees for students and post-doctoral fellows, we are offering discounted fees for the Short



**Richard Van Berg**  
NSS Deputy  
Program Chair



**Robert Miyaoka**  
MIC Deputy Program  
Chair



**Gary Alley**  
Short Course  
Convenor

## Question

[His] lovemaking was of a character to flatter her vanity without alarming her virtue.

*Hannah Pakula  
(Who was he and who was she??)*

## (F)utility man

There is, of course, no reason for the existence of the male sex except that one sometimes needs help with moving the piano.

*Rebecca West*

Course Program. Please check the NSS/MIC web site ([www.nss-mic.org/2002Mting/nsshome2002html](http://www.nss-mic.org/2002Mting/nsshome2002html)) for details about the courses, dates, and fees. Note that the early registration deadline is October 21. The special hotel conference rates are available up to the same date. Advance registration savings are \$150 for regular registration, \$100 for students, and \$50 for retired or unemployed IEEE members. Of course, there are the special rates for IEEE members which are up to \$150 less than those for non-members. Student travel awards will also be available, with preference given to those who are presenting at the NSS and MIC.

### Social Program

An interesting Tour Program has been put together by Margaret Daube-Witherspoon together with Virginia Escape, who organized the tours when the NSS/MIC was last held in Norfolk in 1994. We encourage attendees as well as companions to take advantage of these day trips, which will include a continental breakfast, admission fees, lunch, transportation, and a historically-trained guide. One trip is planned each day from November 11 – 15, including:

- walking tour of Olde Portsmouth,
- tour of Jamestown Settlement and Yorktown,
- tour of Colonial Williamsburg,
- tour of Chrysler Museum of Art and Hermitage Museum,
- tour of historic homes of Norfolk and Virginia Beach.

Detailed descriptions can be found at the NSS/MIC web site.

Other activities to be held during the week include an Exhibition Program that will be open from Tuesday afternoon through Thurs-

day afternoon. Many companies involved in Nuclear Science and Medical Imaging Instrumentation will be present to discuss the technical details of their products. Tuesday evening the exhibitors will host an opening reception from 6:00 pm – 7:30 pm.

On Wednesday evening from 6:00 pm – 9:00 pm, the conference will host the General Welcome Reception for all attendees at the Nauticus, the national maritime center, which has marine activities and exhibits of naval history.

A related program to the IEEE conference to be held in conjunction with Thomas Jefferson National Accelerator Facility (Jefferson Lab.) is an outreach day for high school teachers on Monday, November 11. Speakers include Bill Moses from Lawrence Berkeley National Lab, Josh Klein from the Universities of Pennsylvania and Texas, and Kanai Shah from Radiation Monitoring Devices. A public lecture that evening will be given by Michael Levi from Lawrence Berkeley National Lab on the topic of Cosmology.

Information on registration, travel awards, conference sessions, publication in the IEEE Transactions on Nuclear Science, the local educational outreach program, and other information are available on our web site ([www.nss-mic.org/2002Mting/nsshome2002.html](http://www.nss-mic.org/2002Mting/nsshome2002.html)) and we encourage you to register and book your hotel rooms early.

On behalf of the Scientific Committee, I hope that you will partake in the IEEE Nuclear Science Symposium and Medical Imaging Conference, and its related activities during the week.

I look forward to seeing you in Norfolk.

*Joel Karp, the 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: +1 215 573-3880; E-mail: [karp@rad.upenn.edu](mailto:karp@rad.upenn.edu)*

# SPACE TECHNOLOGY AND APPLICATIONS INTERNATIONAL FORUM

*An annual international meeting, which emphasizes disseminating information and beneficial technical exchange in the many exciting areas of space technology.*

**February 2-6, 2003  
Albuquerque, NM**

The Institute of Electrical and Electronics Engineers, Inc. (IEEE) is pleased to announce that IEEE will again cosponsor the annual **Space Technology And Applications International Forum (STAIF-2003)**. The theme for STAIF-2003, *"Expanding the Frontiers of Space"*, captures the imagination. As children we probably have all wondered how far we can go, realizing now that there are no real boundaries.

STAIF-2003 will host five conferences, namely:

1. **Conference On Thermophysics In Microgravity**, Co-Chaired by Ad Delil, *National Aerospace Laboratory Space Division, The Netherlands* and Ted Swanson, *NASA Goddard Space Flight Center, Greenbelt, MD*;
2. **Conference On Commercial/Civil Next Generation Space Transportation**, Chaired by William Gaubatz, *Universal Space Lines, Newport Beach, CA*;
3. **20<sup>th</sup> Symposium On Space Nuclear Power And Propulsion**, Co-Chaired by Stanley Borowski, *NASA Glenn Research Center, Cleveland, OH* and James H. Lee, Jr., *Los Alamos National Laboratory, Los Alamos, NM*;
4. **Conference On Human Space Exploration**, Co-Chaired by Gary L. Martin, *NASA Headquarters, Washington, DC* and Douglas R. Cooke, *NASA Johnson Space Center, Houston, TX*;
5. **1<sup>st</sup> Symposium On Space Colonization**, Co-Chaired by Eric Rice, *Orbital Technologies Corporation, Madison, WI* and William Siegfried, *The Boeing Company, Huntington Beach, CA*

As noted by the conference names, this annual international Forum provides the attendees a unique opportunity to gain knowledge in a number of different but related areas. These conferences cover a variety of topics on human space exploration; nuclear power and propulsion; advanced energy conversion technologies; safety and environmental effects; planetary exploration

missions; advanced concepts; spacecraft thermal control and management technologies; next generation space transportation; space exploration; and space colonization. Prominent scientists and engineers from the United States and many other countries are scheduled to speak at the technical and plenary sessions.

In addition, as in past meetings since 1984, the technical program includes a half-day education and outreach program devoted for high school teachers and students from throughout the State of New Mexico. The students compete annually in a space design project and the winning projects are selected by a committee



**Astronaut Bonnie Dunbar with several of the students who participated in the Space Design Competition at STAIF-2002**

made up of experts attending the Forum. The students are recognized at the meeting's luncheon and presented certificates and monetary awards. This education and outreach event has attracted more than 20 teachers and 100 students annually. This is in addition to a number of parents who attend to support their children. The attendees of this event visit the industrial exhibits on display at the Forum and interact with the exhibitors and the technical experts who influence the students as role models.

**Give me the tools...**

You can't fix a dead horse with a monkey wrench.

*Henry Ford*

## Seeing is believing

The reason so many people showed up at his funeral was because they wanted to make sure he was dead.

*Samuel Goldwyn  
(on Louis B. Mayer)*

## Our IEEE??

They have decided only to be undecided, they are resolved only to be irresolute, they are adamant for drift, solid for fluidity, all-powerful but impotent.

*Winston Churchill*

The program for STAIF 03 features a short course “*Space Nuclear Power and Propulsion Systems Technology: Enabling Future Planetary Exploration*” designed for space engineers and scientists who are or expect to be involved in future space missions and spacecraft employing space nuclear power and propulsion systems as well as graduate students who are interested in pursuing graduate research in one of the areas of space nuclear power and propulsion. This two-day short course, to occur the weekend before the start of STAIF-03, will be taught by more than 12 prominent experts who are involved in cutting-edge R & D in the various technical areas at NASA, DOE, industry and academia. More information on the short course can be found at the STAIF web site: [www.unm.edu/~isnps](http://www.unm.edu/~isnps).

The technical program for STAIF-03 and the short course offering are designed to provide the needed information exchange and the professional training in response to the expected increase in R&D spending by NASA to develop and demonstrate the technologies of Advanced Radioisotope Power Systems (ARPS) and Space Nuclear Reactor Power Systems (SNPPS) for electrical propulsion to the outer planets in the solar system. This spending is part of NASA's Space Nuclear Initiative (SNI), to be funded for a total of \$950 M over five years, starting FY 03. The objective of the SNI is to develop the technologies to enable the ARPSs to operate at at least twice the current State-Of-the-Art Radioisotope Thermoelectric Generators, thus using much less  $^{238}\text{PuO}_2$  fuel and more than double

the specific power density at the Beginning-Of-Mission from about 5.3 We/kg to as much as 8-10 We/kg.

This initiative will also advance the technologies of electrical propulsion to develop large thrusters in the range of 10 to 25 kWe, and which could be used in conjunction with nuclear reactor electrical power systems generating up to 100 kWe, to 10 –15 years. This technology of SNRPS with electric propulsion would cut down the travel time to the outer planet in the solar system “Pluto” to about 5 years, versus more than ten years with the current SOA technology. In addition, SNPPS will provide ample electrical power for surface and subsurface operation, fast and large data transmission, and offer the capabilities for multiple destination missions. These electrical power systems will revolutionize the future of space exploration, and will be designed for multiple shutdown and restarts. Those who have not been at STAIF in the past should seriously consider attending STAIF-03 to familiarize themselves with the new developments in the technology and future funding opportunities.

For more information and a complete listing of the technical sessions and the people involved in the technical program and in the organization of STAIF-03, please visit the website at [www.unm.edu/~isnps](http://www.unm.edu/~isnps), call at +1 505 277-0446, or email to [isnps@unm.edu](mailto:isnps@unm.edu). At the time of this writing, abstracts were still being considered, please contact the STAIF organizers for up to date information. ■

## PAC 2003

The 2003 Particle Accelerator Conference, the 20<sup>th</sup> in this series, will be held in Portland, Oregon from May 12 to May 16. The conference will cover new developments in all aspects of the science, technology, and use of accelerators. Approximately 1200 attendees are anticipated and more than 1000 papers are expected to be presented. There will be invited paper sessions, contributed oral papers, and poster presentations.

Important dates are the **abstract submission deadline of December 3, 2002**, the hotel and early conference registration deadlines of April 10, 2003, and May 12, 2003, which is the opening day for the scientific program. There will be an awards ceremony on Weds. May 14 honoring engineers and scientists who have made important contributions to particle

accelerators. The awards will include the IEEE NPSS Particle Accelerator Science and Technology Awards, APS Robert R. Wilson Prize, and newly elected IEEE and APS Fellows.

PAC 2003 is described in more detail at the conference WWW site ([www-conf.slac.stanford.edu/pac03](http://www-conf.slac.stanford.edu/pac03)). The Stanford Linear Accelerator Center and the Lawrence Berkeley National Laboratory will host PAC 2003.

The Chair of the PAC 2003 Organizing Committee is Robert Siemann ([siemann@slac.stanford.edu](mailto:siemann@slac.stanford.edu)), SLAC, and the Program Committee Chair is Alan Jackson ([ajackson@lbl.gov](mailto:ajackson@lbl.gov)), LBNL. Joseph Chew ([pac2003ed@lbl.gov](mailto:pac2003ed@lbl.gov)) from LBNL is the Editor of the conference proceedings, and Maura Chatwell and Adrienne Higashi ([pac03@slac.stanford.edu](mailto:pac03@slac.stanford.edu)) from SLAC are the Conference Coordinators. ■

# 2003 NSREC GEARING UP!

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.

This is the 40<sup>th</sup> 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 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.

We are soliciting papers describing significant new findings in the following or related areas:

### **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 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](http://www.nsrec.com). The deadline for submitting summaries is February 7, 2003.



## **Surgical advance**

And let's face it,  
he's had a  
charisma bypass.

*Colin Hart*

## A thought

There is nothing like thinking about thinking to make you feel dumb as a post.

James Gorman

### SHORT COURSE

Attendees will have the opportunity to participate in a one-day Short Course on Monday, July 21. We are currently assembling a short course that focuses on how scaling and technical advances in microelectronics affects 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 radiation as well as ways to select advanced microelectronics for space applications.

### 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 that 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.

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## Strength in weakness

Whoever needs more should feel humble because of their weakness, not self-important because of the kindness shown to them.

St. Benedict

## Invitation to ICOPS 2004, Baltimore, Maryland

Website: <http://www.ieee.org/icops2004>


**W**e wish to extend a cordial invitation to the 31st IEEE International Conference on Plasma Science to be held in Baltimore, MD, between June 27 and July 1, 2004. The conference technical program will feature exciting, up-to-date reports on new developments in plasma science and engineering. The conference location is the Hyatt Regency Baltimore, located on the inner Harbor in Baltimore, MD.

Plasma physics covers a spectrum of topics and has a broad range of applications. This conference will offer a balanced technical program that will have representation from a wide range of research areas including basic plasma physics, inertial- and magnetic-confinement fusion, high-energy-density plasmas, thermal and non-equilibrium plasmas, plasma processing, microwaves, lighting and medical applications. Results from work representing researchers the

world over will be presented. The conference will have seven plenary talks of general interest to the plasma physics community given by recognized leaders in their fields.

The Hyatt Regency Baltimore has a lovely view of the Baltimore Inner Harbor. The meeting space is ideally suited for moving between poster and oral talks, and provides room for interactions with colleagues. The hotel is walking distance from many attractions such as the Baltimore Aquarium, the Maryland Science Center, Camden yards and many fine shops and restaurants, as well as being only a 30 to 40 minute drive from the nation's capital, Washington, DC. The conference dates merge with the fourth of July weekend, and a limited number of rooms have been reserved at the conference rate for those wishing to take part in the elaborate 4th of July festivities in both Baltimore and Washington, DC.

The conference organizers, including committee members, session organizers, and conference planners, and the Plasma Science and Applications Committee (PSAC) encourage you to attend this meeting. We will work hard to ensure that the technical program will be rewarding and that your stay in the Baltimore/Washington area will be especially enjoyable.

Bob Commisso, Chair ICOPS 2004, can be reached at the Naval Research Laboratory, Code 6777, 4555 Overlook Avenue SW, Washington, DC 20375-5346; Phone: +1 202 404-8984; Fax: +1 202 767-2012; E-mail: [commisso@suzie.nrl.navy.mil](mailto:commisso@suzie.nrl.navy.mil) 

## NPSS GENERAL REPORTS

# PRESIDENT'S REPORT

### Some final thoughts

This is the last newsletter article I'll write as NPSS President. It has been a challenging and rewarding two years. I have a fuller appreciation of our society and its many volunteers. Although smaller than many, we are the most active of the 37 societies in IEEE. We sponsor four archival journals and, on a per member basis, publish more pages, have more attendance at our conferences, and develop and promote more standards than any other IEEE Society. In this article, I'd like to share my impressions of the Society and how we might move forward.

Our Society's greatest strength is its diversity. We have eight active technical committees that run outstanding conferences and publish our *Transactions on Nuclear Science and Plasma Science*. Income from our conferences and publications puts the society on a strong financial footing. You've read *ad nauseam* of IEEE's financial woes. Thanks to Ed Lampo, NPSS was well positioned to weather the IEEE financial storm, while other societies were fighting for their very existence I think it's fair to say that we were part of the solution and not part of the problem. Clearly, IEEE needs a new way of doing business and much progress is being made.

NPSS embraces the international nature of IEEE. In the last couple of years, we've held conferences in France, Spain, and Canada. In 2003, we'll go to Korea and in 2004 to Italy. The greatest part of NPSS growth is in Europe, where NPSS has recently established chapters in Paris, Benelux, Italy and Ukraine. This is exciting for everyone. The 26 June 2002 issue of *IEEE's Society Sentinel* reports that NPSS is the second fastest growing Society in IEEE at

7.0%. We attribute our overall growth to Vern's tireless recruiting efforts at NPSS conferences, the unbundling of the journals from the membership fees, and our highly professional NPSS brochure and web site.

IEEE Publications is a difficult, complicated, and at times frustrating business. Yes, it's a business, the core of IEEE's \$200 million enterprise. It was so easy to prepare camera-ready manuscripts. Why did we need to change to fully electronic? Really, there wasn't any choice. The IEEE financial engine is driven by *your* intellectual property. The users of that IP – libraries, universities, and corporations – need fully searchable, cross-referenced material. IEEE *Xplore*<sup>TM</sup> is the platform we use to deliver our product and it has proven to be a huge success. One and a half million engineers have access to *Xplore*<sup>TM</sup>, which had 749,602 unique visits in May and a minimum of 39,000 visits per day. Every month, 1.5 million PDF files are downloaded!

I'm proud of the work of the NPSS Communications Committee. Peter Clout has spearheaded an activity to effectively present our society to its members and prospective members. We have a great new brochure, poster, membership booth, and a score of handouts. Ken Connors and Dick Kouzes have developed a top-notch web site. Following the lead of other societies, our web site should serve as the "portal" for information on nuclear and plasma sciences. This portal should direct visitors to basic information in the field of nuclear and plasma science.

A great example of this type of outreach is the Coalition for Plasma Science, a group of institutions, organizations, and companies joining forces



**Peter Winokur**  
NPSS President

**Can't stand it**  
... it is a quite  
general rule that  
intolerable things  
are not tolerated.

*George Stigler*

**With friends like  
this...**

Always brilliant.  
Sometimes  
intelligent.

*Robert Bourassa*

to increase awareness and understanding of plasma science and its many applications and benefits for society. By visiting the coalition's web site at [www.plasmacoalition.org](http://www.plasmacoalition.org), you can learn some new things about plasmas in our world, in our society, and in our economy. Get answers to basic questions like: "What is plasma?" I'm proud to say that NPSS's own Gerry Rogoff heads the Coalition for Plasma Science. In addition, our portal might offer distance learning, which could include short courses of our own making or commercial 3<sup>rd</sup> party courses for high school, college, graduate, or continuing education. The NPSS web site must be the primary source of information for our members and the public.

In the final analysis, we are a volunteer organization. I want to thank Albe Larsen, NPSS Secretary, Ed Lampo, NPSS Treasurer, and Ken Dawson, NPSS Newsletter Editor, for their long-term dedication and invaluable contributions to our Society. As they say, Albe, Ed, and Ken make the trains run on time. It's easy

to lose sight of the fact that they're also great engineers who have made significant contributions in their respective technical communities. Thanks also to our transactions editors Steve Gitomer, Ed Hoffman, and John Valentine.

It has always been my great pleasure and good fortune to work with my close friends Hal Flescher and Paul Dressendorfer, NPSS's Finance Committee Chair and Editor-in-Chief, respectively. Finally, I want to pledge my support to Ed Hoffman, our incoming NPSS President, who brings a great perspective and wealth of experience to his new position.

It has been an honor to serve as NPSS President for the last two years. It has been the best of times, and in some ways, it has been the worst of times. Welcome to the 21<sup>st</sup> century.

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## SECRETARY'S REPORT

### May 31, 2002 AdCom Meeting



**Alberta Dawson  
Larsen**  
NPSS Secretary

**T**he Administrative Committee of the IEEE Nuclear and Plasma Sciences Society met on May 31, 2002 at the Banff Centre, Banff, Alberta, following the highly successful ICOPS conference chaired by Dr. Robert Fedosejevs of the University of Alberta.

The Treasurer, Ed Lampo, reported that our reserves will be reduced by about \$1.09 million to help pay for IEEE's losses in 2001. This will reduce our reserves by about \$500,000. The rest is offset by our earnings. However, we expect to earn much less in 2002 because of changes in the Book Broker program. It is anticipated that IEEE will require about another \$600,000 of our reserves in 2003 to pay for 2002 losses, even though the Institute has signed on to a balanced budget for 2002. There is considerable speculation that the budget will not be met, and hence, our reserves will drop even further. Were the stock market to turn around and the reserves earn interest, we would see any gains over 4% added to our income stream. However, the market pundits seem to think that reversal is highly unlikely in this calendar year.

The Treasurer reiterated how important it is that conferences meet their budgets and increase

their income to help cover some of our past losses as well as those foreseen in the future.

Peter Winokur, our President, reviewed a number of the issues discussed at our March retreat. Among these were the benefits of belonging to IEEE and NPSS: access at reasonable cost to our conferences and publications to remain technically up-to-date; access to Xplore to get articles and abstracts on-line; awards to recognize contributions either for technical work or for service to the community; receipt of an excellent newsletter (thank you, Ken); and, an opportunity to return something to the community by being of service to it. It was determined that, in addition to our handsome brochure, we needed a summary single page piece that described why one should join NPSS. The Communications Committee under Peter Clout, has produced this document and it is available on request to Peter ([clout@vista-control.com](mailto:clout@vista-control.com)), along with full brochures and posters, for use in conference packets. Peter also pointed out that the web site was revamped and thanked our stalwart web meisters, Ken Connor of RPI and Dick Kouzes of the Pacific NW Lab.

Our President also discussed how to better integrate elected AdCom members into the ac-

tivities of AdCom and assignments were made for assistance in a number of areas including finance, publications, and membership. There are many other opportunities to help and to learn how various parts of AdCom operate.

Peter Staecker, the Division IV Director was able to join us at this meeting. He, too, noted that the IEEE financial picture over the last couple of years has been difficult, and that 2002 will be a tough year. Although IEEE membership is growing (4% in 2001), that membership is subsidized Institute-wide, by almost \$400k. Societies and the Institute have to adjust membership fees to make membership costs revenue neutral. NPSS has moved in that direction and all societies are being encouraged to do so, to make membership, now subsidized at an average of \$15/member across societies, revenue neutral. Many societies are decoupling Transactions from their membership fees, as NPSS did last year. TAB is developing a membership business plan. There has also been a small drop in staff over the last year. However, reserves were hit hard, and core expenses, those costs associated with running the Institute, are expected to go way up, and there is huge pressure on the societies to support those increases. One method of cost containment is to simplify the way IEEE does business, to limit options and streamline processes such as membership renewal, where very large cost savings might be achieved. Peter is chair of a committee to work on business simplification, and Ed Lampo serves with him. Projected savings just from simplifying the membership renewal process are of order \$2,700K.

Another issue is that of RAB, the Regional Activities Board, which does nothing to generate revenue, but sucks money out of IEEE, while having an equal voice with TAB in Institute decision-making. It, too, has reserves. Have these been tapped to offset IEEE's operating deficits?

We also learned that *Spectrum* is selling mailing lists for presumed one-time only use.

### **Technical Committee Reports**

CANPS is working hard to get the Real Time conference on a better footing, with a broader technical committee and a more international program committee. The Montreal conference in 2003 will be the first beneficiary of this improved organization. It has been very helpful to have Dr. Jean-Pierre Martin of L'Université de Montréal attend recent AdCom meetings. Sites for 2005 are being evaluated

Fusion Technology has successfully weathered the problems associated with moving the date of the 19th Symposium on Fusion Engineering (SFE) following September 11. Their Conference Record has gone to press. At future meetings, both a CD-ROM and printed copies of the Conference Record will be available. Lawrence Livermore National Lab. will host the 2003 conference; Monterey and Pleasanton, CA are being considered as sites. The original hope, to hold the conference at the Claremont in Berkeley, had to be put aside because of the very high hotel costs in the Bay area. There are discussions under way to unite SFE with ICOPS, or perhaps at least to collocate, in 2005 and beyond.

The Nuclear Instruments and Detectors committee has released a wideband standard for vote. The release was delayed because IEEE originally insisted that all those allowed a vote must be members of the Standards board. IEEE finally backed off and allowed the standard to be sent to the field experts.

Nuclear and Medical Imaging Sciences have formed a committee, chaired by Bill Moses, to do a 5-year review of their constitution and by-laws. TMI has announced a member subscription price jump from \$24 to \$36 a year. It is still a huge bargain. In 2003, Max Vergievier of Utrecht University will become the TMI Editor in Chief, replacing Michael Vannier who has served for 3 terms.

Particle Accelerator Science and Technology reported that the PAC03 Organizing Committee met in Albuquerque to discuss the upcoming meeting. For the first time in many years, the conference chair, Bob Siemann of SLAC, is a member of IEEE NPSS as well as of APS DPB. They are looking at how to get all the back conference records and transactions scanned for posting on the web, now that IEEE has given its permission for that project.

Plasma Science and Applications reported a meeting with the organizers of the 2003 ICOPS meeting in Korea. The venue has been changed from downtown Seoul to the resort island of Jeju. The pace of organization has picked up, and it looks positive that the 2003 meeting will be a success. The ICOPS ExCom is watching the planning closely. There is an Asian Pacific Conference on Plasma Science held in even years that might help in increasing the Asian base of ICOPS. Osamu Ishihara and Andrew Ng will attend that conference. The work in plasmas in Asia is focused more heavily on fusion, plasma processing and plasma displays, and should add new topics for the 2003 conference. It was noted

### **Positive feedback**

Wars start when politicians lie to journalists and then believe what they read in the newspapers.

*Karl Kraus*

### **Free trade**

Americans are benevolently ignorant of Canada; Canadians are malevolently well informed about the United States.

*Frank Underhill  
(Canadian historian)*

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## Now, listen children

Yes, Virginia, scientists do love recognition, but only since Pythagoras.

*Leon Lederman*

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## For me too!

Physics has become too hard for the physicists.

*A mathematician commenting on the rise of theoretical physics in the early 1900s*

that ICOPS was once a part of the APS DPP conference, which has become fusion dominated. The Korean fusion program does indeed invest some money in the US fusion program through the Princeton Plasma Physics Laboratory. Future ICOPS Conferences: 2004 – Baltimore, MD; 2005 – Monterey, CA; 2006 – Traverse City, MI; 2007 (joint with Pulsed Power) – TBD. The ExCom also had a Human Rights discussion led by Wally Mannheim and Victor Granatstein concerning a personnel situation at *Physics Today*. While the motion put forward was vetoed, there was considerable private action and contact with APS DPP management.

The Pulsed Power Committee, chaired by Bob Reinovsky, reported that the 2001 PPPS conference is now in audit, with a good return to NPSS. However there are still some Book Broker issues to be resolved. The special issue of TNS for October 2002 is moving forward successfully. The 2003 Pulsed Power conference will be held in Dallas from June 16-19, with Mike Giesselmann of Texas Tech as the chair. All arrangements are complete, and many activities, including abstract processing, have been outsourced. In 2005 Pulsed Power will again meet contiguously with ICOPS. And there may be a few combined events, but this will not be a joint conference. It is possible that the megagauss conference will be held jointly with Pulsed Power in 2005. The steering committee is also looking at other areas and conferences with which to coordinate. They have also revised their student award plan so that nominations for student awards will be submitted yearly rather than biennially enabling students who graduate in the between years to be included in award opportunities. Gerry Cooperstein is chairing a subcommittee that will propose a scheme to make this effective.

The Radiation Effects steering group, chaired by Dale Platteter, have returned 10.4% on the Vancouver conference. The 2002 conference will have been held in Phoenix, AZ in July. They advertised it with a large brochure with many photos. Their web site is active and registration was on-line. There were over 100 overseas registrants at the end of May, and of the 162 summaries submitted, 102 were accepted for presentation in Phoenix. They are preparing an updated CD-ROM of the notes from all their short courses held to date. These will be available to purchase from IEEE. They have also prepared a QuickTime video of one of the 2001 short courses that will be given to NPSS members attending this year's short course. They

have added a new conference topic, Radiation Effects in High Energy Physics, in an effort to broaden the community served by the conference. In 2003, the 40<sup>th</sup> NSREC will be held at the Monterey DoubleTree Hotel, with Alan Johnston of JPL as the chair. There will be a special issue of TNS reviewing their 40-year history and accomplishments in radiation hardening. There will also be a new session, this on Terrestrial Radiation Effects. In 2004, Dan Fleetwood will chair the conference to be held at the Atlanta Renaissance Waverly hotel, and in 2005, Fred Sexton of Sandia will be the chair, but the venue has not been chosen.

The Radiation Instrumentation Steering Group, chaired by Ron Keyser, noted that they are electing new members to the steering group. At this year's NSS in Norfolk, VA, they will give the first Early Achievement award. Short courses will be held November 10-12, exhibits will be open November 12-14, and MIC will run from November 13-16. The AdCom meeting will be held prior to the short courses. Tom Lewellen has been selected as general chair for the 2005 NSS/MIC, with Dick Lanza and Tom Cherry as NSS and MIC program chairs, respectively. They are closing in on a site.

The report for the Transnational committee was given by Patrick Le Dû for Erik Heinje. The committee has added two new members, one from India, the other from Czechoslovakia. They are concerned about NSS attendance, especially in 2004 for the Rome conference. There are some conflicting workshops, and CERN's tight budget and limited travel may also pose difficulties. They are working to elevate more international members to senior member and Fellow status, A third of NPSS members come from outside North America. They will try also to profile their areas of activities.

## **Functional, Appointive, and Liaison Committees**

The Members, Chapters and Distinguished Lecturers Committee, chaired by Vernon Price, reported that at ICOPS they added 35 new members, over half of whom were not from North America. Our total membership grew by 7.2% from April 2001 to April 2002. Increased membership may be attributable to a new method of contacting lapsed members, and to the new brochures and exhibit, plus recruiting efforts at conferences, and to the appeal of our journals. Check with Vern to see if

you are eligible for elevation to senior member (v.price@ieee.org).

Paul Dressendorfer, chair of the Publications Committee and NPSS Editor-in-Chief reminded us that we should be working to expand our publications and other intellectual property, while still maintaining the highest of standards. We should be working to encourage all those whose work is appropriate to our journals to publish in them. We also need to work more on minicourse materials. Also papers need to be made available earlier, especially from conferences. Password protected web sites should be encouraged, and these should be removed once the print or CD-ROM versions are available. More materials, especially conference records, might be made available through Xplore. This will take some time and head scratching by the AdCom at some point in the future.

Probably the biggest issue for the Publications Committee is the late appearance of our journals. Both TNS and TPS are behind schedule and it seems that year after year IEEE Pubs promises that they will do better, but it doesn't happen. IEEE Pubs have also introduced a new policy that a journal issue that is presented to them even a day or two late, will now go to the end of the publications queue, so issues will be even later. In some instances, such as planning NSREC, not having the journal issue with papers from the past conference, causes serious problems in trying to select papers and plan for the next conference. Can we, as members, help to solve this problem? It has existed for all of the close to twenty years that I have been associated with IEEE Pubs.

Our Newsletter editor made an excellent suggestion, that every four years each technical committee plan a special issue that would be a state-of-the art review of their particular field. Such issues tend to become treasures when they are well planned and executed.

IEEE now requires that abstracts be submitted with copyright forms. Starting in 2003 abstracts will be posted on the web prior to manuscript publication.

The Communications Committee, chaired by Peter Clout, has produced a new flyer called "What is IEEE NPSS." Again, copies of these and of the NPSS brochure, which will be revised for 2003, are available from Peter (clout@vista-control.com) for inclusion in conference briefcases. Just let him know how many you will need, and by what date. The booth materials that went astray (thanks, UPS) after the 2001 NSS/MIC have been replaced so

we are now able to accommodate desktop exhibits at two conferences simultaneously. The NPSS poster is also available from Peter, or it may be downloaded from the NPSS web site, where it is available in pdf format.

Now that our web site has been transferred to IEEE and upgraded, it is time for many of the Technical Committees to get busy and work on their own pages. Perhaps each TC and Functional Committee could appoint a web person who would be responsible for keeping pages up to date and for getting correct link information to Dick Kouzes (RKouzes@pnl.gov). Our best face should not show us years behind the times.

Ron Jaszczak, chair of the Awards Committee, noted that May 15 was the deadline for nominations. There were 5 candidates for the Merit award and 4 for the Shea award. Other awards are Early Achievement, and graduate scholarships. Phelps travel grant recipients are chosen by the conferences that run short courses.

Osamu Ishihara reported that in 2002 there were 13 Fellow nominations, down from 18 in 2001. Of those 18, 11 were elevated to fellow status. Technical Committee chairmen should be alert to possible nominees from their fields since certain NPSS areas of interest are underrepresented by Fellows. Requirements for nomination – senior member of IEEE and outstanding technical contributions to field. Details and forms can be obtained from the IEEE web site.

Ed Lampo reported for the Finance Committee. He noted that we are solvent, but in the current scheme of things, we are unable to grow our reserves and will not be able to without some changes. Our conference registration fees are low by most standards and could easily be increased by a small amount until they approach the industry norm. Indeed, TAB may ask in future for higher conference returns. For reserves to grow, we must have growth in two of three budget areas including interest on reserves, revenues from publications and conferences, and dues. Each member costs the society money. This is a situation that is not unique to NPSS, but true for many IEEE societies. We have to strive for revenue neutrality in our membership fees. There is no interest income return expected for 2002, and IEEE gets the first 4%, if there is a return.

The Transactions Assessment was a key issue of discussion since its history is murky and its calculation complex. It was originally established to pay for Transaction issues that contained papers from conferences, with one issue devoted to one conference. In recent years,

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**Born too soon**  
Age is, of course  
a fever chill  
That every  
physicist must  
fear  
He's better dead  
than living still  
Once he's past  
his thirtieth year

*Attributed to Paul  
Dirac*

---

**(C)ouch**  
The old one ...  
saw keenly. He  
allowed himself  
to be lulled by no  
illusory  
consolations  
except an  
exaggerated  
confidence in his  
own ideas.

*Albert Einstein  
(on Sigmund  
Freud)*

## Past tense

Chemistry has its glorious future behind it.

David Knight

these papers have been published over several journal issues, so the costs are unclear.

The Coalition for Plasma Science, chaired by Gerry Rogoff, who is also our liaison, continues to do its excellent job in teaching folks what plasmas are, where and how they are used, and what benefits accrue from them. They focus on the government, media, K-12 students, and teacher training. Their web site is up and has informational material. They have held panel discussions at various conferences, and held a reception at the Banff ICOPS meeting.

### Actions Taken:

- A motion was introduced that had been presented at the March AdCom meeting to provide the request notice period to change Bylaw 8.9 to read:

8.9 Conference Policy Committee (note name change): Responsible for recommending policies and procedures to AdCom for all conferences and symposia for which the NPSS takes full or partial responsibility and for ensuring compliance with IEEE conference policies as stated in the IEEE Meetings Organization Manual. Note that conference officers with fiduciary responsibility are to be members in good standing of the IEEE NPSS or of a cosponsoring society. The motion was seconded and passed unanimously.

- It was moved, seconded and passed that the Space Technology and Information Forum (STAIF) be held in cooperation with IEEE NPSS.
- The Particle Accelerator Science and Technology Committee introduced two motions.

1) The IEEE/NPSS authorizes the expenditure of \$3000 to defray in part the costs of a reception to be held in conjunction with the IEEE Particle Accelerator Awards ceremony at PAC 03 in honor of the 2003 Awardees.

2) The IEEE/NPSS authorizes the contribution of \$3000 to support student travel to PAC '03.

The motions were seconded, discussed and then withdrawn. Following the meeting, they were resubmitted for e-mail discussion and vote, and carried.

- A motion to increase the graduate scholarship awards was defeated. However, the Awards Committee will look at this award and all similar awards across IEEE societies to ensure that we are in agreement with the standard.

- A motion to eliminate the transactions assessment and increase conference fees to maintain revenue neutrality was seconded and passed.
- A motion was moved, seconded and passed to change our support of the Dusty Plasma Conference to technical support, since Osamu Ishihara is now on the program committee.

The meeting closed with a lengthy discussion of an action taken by the IEEE Board of Directors that disenfranchises our members in Burma, Cuba, Iran, Libya and Sudan, purportedly to remain in compliance with the laws of both New York State, where IEEE is incorporated, and the laws of the U.S. government. The Board's action was learned of through the back door, when a request to sign a petition came from IEEE members in the Middle East. It was suggested that, until full member services could be restored to these individuals, their dues be refunded, and that they continue to be supplied with what limited services were supposedly still available to them. Letters to the IEEE president, to the TAB Executive Director and to other individuals in IEEE leadership positions have produced no satisfying results, only an indication that "this is being looked into," and that a letter had been sent sometime well after the fact, to the U.S. IEEE student chapters. Why this action was not presented up front to all membership through the Institute is unclear and a matter of grave concern. Are we not a professional technical society that is meant to be transnational and nonpolitical? Why was this clandestine action not presented up front in the Institute, the global voice of IEEE? And why have letters to the editor of the Institute concerning this action been denied publication? Just what is our Board trying to hide? AdCom passed a resolution that our concerns be taken by Peter Staecker to Ray Findlay, IEEE President, Mike Lightner, TAB Vice President, and Mary Ward-Callan, TAB Executive Director.

The next meeting of the Administrative Committee of NPSS will be held on Saturday, November 9, 2002, at the Sheraton Norfolk Waterside, Norfolk, VA, prior to the start of the NSS/MIC meeting.

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*Editor's Note: Since the time of the AdCom meeting there have been developments on the disenfranchisement issue. My letter to The Institute,*

## Needling

Nature exhibits herself more clearly under the trials and vexations of art [forced experiments] than when left to herself.

Francis Bacon

while initially not accepted, was printed without an important phrase in the August issue along with a longer letter applauding the withdrawal of service. I have also learned that in early January a well-written letter over the IEEE President's sig-

nature went to all members affected by current US trade restrictions. It contained an offer to remit any dues paid. Why we, the general membership, were not informed of this is worrisome. What was there to hide? Nothing shameful here. ■

## DIVISION IV REPORT

# DIVISION DIRECTOR'S REPORT

## IEEE Fiscal State of Affairs: V

As we left 2001, IEEE finances suffered from the double whammy of an optimistic view of investments vs. the actual market slump. Even a heroic performance in operations could not offset the red ink from investment losses. Halfway through 2002, the operating lessons have been remembered and augmented, the investment lesions have not worsened, and the 02 forecast is tracking the budget expectations. As we review financial events since our last report, four headings of our previous discussions are still appropriate:

1. Selection and management of initiative programs within the Institute,
2. Periodic review of the Corporate Infrastructure activities
3. A closer look at (read "simplification of") the complicated set of business rules that are required to support the many offerings of the Societies and Councils,
4. A financial model that more properly allocates expenses among users.

### 1. Initiative Programs:

As one of the principles of the IEEE financial model (see 4. below), new and continuing initiatives will be capped by dividend and interest income. A process for initiative approval has been established. The New Initiative Committee of the Board of Directors has met to review initial submissions of ideas for possible funding in 2003. Of the 17 ideas submitted, the Committee has asked that 9 be developed into formal business plans for further consideration. These refined proposals are due to the Committee by 8 July. Following those submissions, the Committee will review the proposals and make a recom-

mendation to the IEEE Executive Committee (ExCom) at its August meeting as to which initiatives should be funded. In turn, the ExCom will then send forth a recommendation to the IEEE Board of Directors for incorporation into the 2003 IEEE Operating Budget on which the Board will vote at its November meeting. If you have any questions about the process or status of any initiatives, please feel free to contact Matt Loeb in Piscataway at +1 732 562-5320 or via e-mail at [m.loeb@ieee.org](mailto:m.loeb@ieee.org).

### 2. Infrastructure Charge Distribution within TAB:

Recall that past discussion in this column dealt with the distribution among TAB Societies and Councils of the *direct* infrastructure costs, so-called because of the relatively "direct" relationship of these costs to activities such as headcount, membership, and expenses. We developed *pay-by-the-drink* philosophy to deal with these within TAB, and called it the *Principles Method*. And finally, this method of distributing these direct infrastructure expenses will be phased in over a 3-year period. Some follow-up activities to this process have been identified, since our last discussion, including:

- A. Collecting accurate cost data for these expenses and benchmarking them to "competitive" costs for similar services.
- B. Preparing a collection of "best practices" that S/Cs can use when considering changes in their operations that may reduce their share of Infrastructure allocations.

In short, the process of identifying these costs, distributing them equitably among the operating units of the Institute, and within each operating



**Peter Staecker**  
Division IV Director

## Lost and not found

It is surely necessary to abandon your reason; but how do you go about retrieving it when you have need of it.

*Sadi Carnot*

**Round we go!**  
What is insanity?  
The reason of an  
individual. What  
is reason? The  
insanity of man.

Julius Robert  
Mayer

**Bilateral needs**  
Only that man  
can experiment  
who has a wide  
knowledge of  
theory ... and only  
that man can  
theorize with  
success who has  
a great  
experience of  
practical art.

Kamerlingh  
Onnes

unit (of which TAB is one) is complete. The next part of the process, benchmarking and lowering these costs, has now been defined and both of these activities encourage proper financial behavior and will work toward lowering these direct infrastructure costs.

Well what of the *indirect* infrastructure costs? For the 2002 budget, indirect costs are allocated based on three methodologies: ASPP revenue tax, Book Broker revenue tax, and Reserves. The first pass 2003 budget has those costs allocated based on expenses (less conference expenses). A TAB committee reported on its recommendations for assigning these costs at the June TAB meeting, but lack of consensus around the suggestions will require additional refinements and another try at the November meeting.

### **3. Membership Services-Related 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. TAB committee discussion has focused on simplifying the options available for Society membership, and the subscription process for members regarding optional Society publications. The TAB Strategic Planning and Review Committee led a wider discussion on the value proposition of Society Membership and optional publications. TAB FinCom became involved on issues of pricing strategy. Two principles of membership and publication pricing were socialized at TAB:

1. Membership dues should recover the variable costs of servicing Members (Here and in the following, *variable* cost is the cost of servicing the *next* Member).
2. Prices for Society optional publications to Members should recover their variable costs.

The reception of these principles within the June TAB meeting was mixed, and broader consensus needs to be reached. The simplification exercise is to reduce the number of options to select Society membership and optional publications available from Societies. Reducing the distinction among members eligible for reduced rates will help. This category presently includes student, unemployed, low income, retired, permanent member, and life

member grades. Can business rule simplification take place while maintaining member benefits? Stay tuned; better yet, participate.

RAB is addressing other details of Membership Business Rules simplification. Already, rule simplifications have been put into place that will realize annual savings of about \$300K, starting in 2003.

### **4. Financial Model and the Budget Update**

IEEE Budget principles adopted at the November Board of Directors' Meeting for the 2002 Budget are serving as a template for the 2003 Budget development. The first order principles, approved at the June BoD meeting, include:

- The operating budget will be balanced (bottom line equal to or greater than zero). Individual Operating Units (OUs), which includes TAB, will also have balanced operating budgets, including any applied infrastructure charges.
- Investment income is NOT part of the operating budget. Dividends & Interest (D&I) will be budgeted, but used specifically to fund new and continuing initiatives. Any excess D&I income will be used to reduce infrastructure charges.
- Other investment income surplus/loss will be distributed proportionally to those OUs with reserves.

In addition, a process and timeline have been identified for developing the budget. With principles and process now well defined, 2003 budget development has begun, but is a bit behind schedule because of the lingering approval period for the 2002 budget.

The April 2002 Institute forecast is on target to break-even. TAB and Standards are feeling the strain of their challenge budgets, but increases in revenue and savings in infrastructure make up their shortfalls.

### **Discussion**

*Direct* infrastructure costs have been identified, and a method for distribution has been approved. The stage is now set for comparing these costs to others, determining best practices, and driving costs down in this area. Distribution methods for *indirect* infrastructure expenses are being addressed. Business Rules Simplification efforts have begun within the area of Membership Services. The financial model is defined, understood, and is being applied to the 2003

budget process. Additional substantial cuts to infrastructure are planned for 2003 to further streamline operations. Finally, in its June meeting, the BOD has approved an external review of the IEEE Corporate infrastructure expenses with the goal of determining their value and their costs. The RFP for this has been completed and the expectations are to have the engagement completed by November. In summary, methods for improving the financial health of the Institute

are proceeding along both tactical and strategic fronts. If this keeps up, I will have to talk about one of my other interests, Publications activities, next time! As always, your comments and suggestions are welcome.

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## TECHNICAL COMMITTEES

# ANNUAL REPORT FROM THE RADIATION EFFECTS COMMITTEE

The IEEE Radiation Effects Committee (REC) held its annual Open Meeting on July 18, 2002 at the Pointe South Mountain Resort in Phoenix, Arizona, during the 2002 Nuclear and Space Radiation Effects Conference (NSREC). The meeting included reports from the chairmen of the 2001 through 2003 NSRECs.

An election was held during the Open Meeting for Junior Member-at-Large to the Radiation Effects Steering Group (RESG). The RESG welcomes Gary Lum of Lockheed Martin as its newly elected Junior Member-at-Large.

During the Open Meeting, Dale Platteter introduced the new members of RESG. Fred Sexton of Sandia National Laboratories is the newly appointed 2005 Conference General Chairman. Fred was also honored for completing 3 years of service as Member-at-Large. Mark Hopkins of Aerospace Corporation was honored for 4 years of dedicated service as our representative on NPSS AdCom.

Marty Shaneyfelt of Sandia National Laboratories, 2001 Conference General Chairman, recognized each member of his committee with an award plaque. Marty and his team took the NSREC to Vancouver in 2001, facilitating one of our most successful meetings.

Ken Hunt of Air Force Research Laboratory, 2002 Conference General Chairman, summarized some statistics from the 2002 conference. NSREC attendance was up by 12% in Phoenix, with 538 attending the technical and short course sessions. In addition,

we registered 64 additional people for the exhibits, for a grand total of 602 attendees. 129 papers were presented during the 5-day meeting (52 orals, 48 posters, 29 data workshop). International attendance was up by 10%, with visitors from 23 countries. Best of all, a new record was set for IEEE. 60% of NSREC attendees were members of IEEE, thanks to Vern Price who recruited 28 new members during the conference.

Allan Johnston, 2003 Conference General Chairman, announced that the 2003 Nuclear and Space Radiation Effects Conference will be held on 21-25 July 2003, at the DoubleTree Hotel in Monterey California. Joe Benedetto of Aeroflex UTMC is organizing the tutorial Short Course. The Technical Program Chairman will be Paul Dodd from Sandia National Laboratories. Once again, NSREC 2003 is planning a Radiation Effects Data Workshop and an Industrial Exhibit. Mark Hopkins of Aerospace Corporation is assembling the social program, which includes an evening at the Monterey Aquarium. The 2003 conference celebrates our 40<sup>th</sup> anniversary.

This past July, NSREC published the "Archive of Radiation Effects Short Course Notebooks 1980-2002." The CD archive is a valuable resource and can be ordered from IEEE on-line Catalog&Store at <http://shop.ieee.org/store> (\$160 IEEE members). The current plan is to update this CD every 4 years.

We are constantly looking for new ways to encourage NPSS membership in our community. This fall, we plan to distribute a QuickTime



**Dale G. Platteter**  
REC Chairman

**Good old days**  
People had the toiled outside the house and ate their meals inside the house.

*Henry Craggs*

**I see!**  
The way it currently works does make sense (even if it doesn't make sense that it should work the way it does).

*Jim Hart*

video recording of the 2002 Short Course on CDROM (playable on your PC), and provide this CD to each NPSS member who attended. We expect our NPSS members to show this Short Course video to their non-NPSS colleagues. The goal of this project is to provide members with "good opportunities" to recruit new members. Tim Holman of Vanderbilt University is leading this effort and putting his high-tech digital video equipment to good use.

Minutes from the REC Open Meeting are available at [www.nsrec.com](http://www.nsrec.com). For the most current information on the Nuclear and Space Radiation Effects Conference, including information on paper submission, please visit this web site.

#### **Radiation Effects Steering Group 2002-2003**

##### **Elected Members:**

*Chairman:* Dale Platteter  
NAVSEA Crane

*Executive Vice-Chairman:* Ron Schrimpf  
Vanderbilt University

*Secretary:* Jim Schwank  
Sandia National Laboratories

*Senior Member-at-Large:* Dave Hiemstra  
MD Robotics

*Member-at-Large:* Janet Barth  
NASA / GSFC

*Junior Member-at-Large:* Gary Lum  
Lockheed Martin

*Past Chairman:* Klaus Kerris  
Army Research Laboratory

##### **Appointed Members:**

##### *Vice-Chairman, Publications:*

Nick van Vonno  
Intersil Corporation

*Vice-Chairman, Publicity:* Teresa Farris  
Aeroflex UTMC

RADECS Liaison: Robert Ecoffet  
CNES

##### *Editor, IEEE Trans Nuc. Sci.:*

Paul Dressendorfer  
Sandia National Laboratories

*Vice-Chairman, 2002 Conference:* Ken Hunt  
Air Force Research Laboratory

*Vice-Chairman, 2003 Conference:*  
Allan Johnston

Jet Propulsion Laboratory

##### *Vice-Chairman, 2004 Conference:*

Dan Fleetwood  
Vanderbilt University

##### *Vice-Chairman, 2005 Conference:*

Fred Sexton  
Sandia National Laboratories

##### **Elected AdCom Members:**

*Term expires: 12/02:* Peter Winokur  
Sandia National Laboratories

*Term expires: 12/03:* Ken Galloway  
Vanderbilt University

*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: +1 812 854-1206; Fax: +1 812 854-1751; Email: [platt@ieee.org](mailto:platt@ieee.org)*

## **RADIATION INSTRUMENTATION TECHNICAL COMMITTEE**



**Ronald M. Keyser**  
*Chair RISC*

All interested NPSS members are invited to attend the RITC annual meeting at the NSS/MIC meeting. Look in the program guide or at the meeting for time and location. At this meeting you will have the chance to talk with the Steering Committee (RISC) about the meeting, the Society or any other topic. The Steering Committee oversees the operation of the whole Committee and your input is important, so that we may do what you want.

If you haven't made plans to attend the 2002 meeting in Norfolk (Nov 10-16), do so now. This is the premier meeting for radiation detectors, processing electronics, modeling, systems, and medical imaging. The General Chair, Joel

Karp, has assembled an impressive number of papers in Nuclear Science and Medical Imaging. Before and after the meeting short courses and workshops where you can learn about newest developments, the basics of radiation detection, or medical imaging are available. Gary Alley has assembled an excellent group of instructors with extensive real-world knowledge of their topics. The Symposium on Nuclear Power Systems (SNPS) will be held in conjunction with the NSS/MIC. This gives you the opportunity to attend the Nuclear Power sessions organized by Jay Forster. He has again put together an exciting program on Nuclear Power Systems. The exhibits will showcase the latest products from many companies. Even if you have known some of

these companies for many years, it is worth the time to investigate their new products. Because of the quality of this meeting, many companies make the first public showing of products at this exhibition. Don't miss the Exhibitor Technical Session (started in 2000 meeting) for the latest products. See the web site [www.nss-mic.org](http://www.nss-mic.org) for complete details.

You will soon receive a ballot for new members of the RISC. The RISC has 15 elected members, of which 5 are elected each year for a three-year term. Please vote for your choice from these highly qualified candidates. It's not too early to volunteer for next year, so send me a message if you want to be on the Steering Committee.

The future NSS/MIC meetings are:

**2003** Oct 19 to 26, Portland, OR  
General Chair: Ralph James;

**2004** Oct 16 to 23, Rome, Italy  
General Chair: Alberto Del Guerra

**2005** TBA in USA  
General Chair: Tom Lewellen

Mark these dates on your calendar. The abstract submission is usually in the late spring for the following meeting. This means you need to be thinking about it soon. It's never too early to start the writing.

To the members in Universities, I put out a call for more student members. Vernon Price has done an outstanding job of getting new members, including students. However, many students are not receiving all the membership benefits they could obtain by attending meetings and through association with others doing similar work from around the world. If you need help in explaining the benefits to potential student members, Vernon will be happy to supply you with the right materials.

Finally, remember to vote and I look forward to seeing you in Norfolk in November.

*Ron Keyser, the RISC Chair, 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](mailto:RonKeyser@ieee.org)*

**On being**  
It is not enough to  
be someone —  
one must be  
something.

*Talleyrand*

## AWARDS

### 2002 NPSS AWARDS

The nominations for the 2002 NPSS Society Awards have been received and evaluated. Final selections have been made by the Committee after a thorough deliberation process. I would like to thank all of the nominators. This year we had an outstanding group of nominees.

The Nuclear and Plasma Sciences Society gives three different categories of awards each year. Some awards are given by the Society and others are given by the Technical Committees. In addition to Society and Technical Committee Awards, NPSS Sponsored Conferences that have Short Courses give Paul Phelps Continuing Education Grants. These grants are intended either for tuition in NPSS Sponsored Short Courses, or for partial or total travel expenses to attend NPSS Short Courses. These grants are available for outstanding Student Members of NPSS and unemployed members of NPSS who need assistance in changing career directions. Completed Nomination Forms for the Paul Phelps Continuing Education

Grants should be sent to the General Chair of the appropriate Conference. This year the Phelps Awards are being processed by those NPSS Conferences that have Short Courses. The Conference Chair is responsible for advertising the Phelps Award, soliciting candidates and selecting Awardees.

The recipients of the IEEE Nuclear and Plasma Sciences Society Awards for 2002 are:

**Jan S. Iwaczyk** of Photon Imaging, Inc. received the NPSS **Merit Award** "For outstanding contributions to development of compound semiconductor and silicon detectors, and imaging systems, and their applications in physics experiments, medicine and other fields of use."

**Peter N. Clout** of Vista Control Systems, Inc. received the **Richard E. Shea Award** "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."

**Simon J. Cooke**, of Science Applications International Corporation received the **Early**



**Ronald Jaszczak**  
Chair, NPSS Awards  
Committee

**Or thinner!**  
You don't make  
sheep any fatter  
by weighing  
them.

*Old Scottish  
proverb*

**Achievement Award** "For contributions to numerical modeling of vacuum electron devices and RF components through the development of advanced algorithms for three-dimensional electromagnetic simulation."

**Mu Chen** of Duke University, **Zhiyu Chen** of the University of Tennessee, and **James A. Felix** of Vanderbilt University received NPSS Graduate Scholarship Awards.

On behalf of the Society, I take this opportunity to recognize their outstanding accomplishments and congratulate them wholeheartedly. More detailed biographical sketches of the 2002 NPSS Awardees will appear in the next NPSS Newsletter.

Information about the NPSS awards and grants can be found in the IEEE/TAB Award Manual, which can be downloaded in PDF format by going to <http://www.ieee.org/tab/societyhome.html> and clicking on "TAB Awards and Recognition Manual". This TAB Manual includes descriptions of the NPSS Awards as well as descriptions of the Awards of other IEEE Societies.

*Ronald Jaszczak, Chair of the NPSS Awards Committee, can be reached at Duke University Medical Center, Department of Radiology, DUMC-3949, Durham, NC 27710; Phone: +1 919 684-7685; Fax: +1 919 684-7122; E-mail: [rji@dec3.mc.duke.edu](mailto:rji@dec3.mc.duke.edu)*

## IGOR ALEXEFF

### 2002 Plasma Sciences and Applications Award

**P**rofessor Emeritus Igor Alexeff was awarded the Plasma Science and Applications Award by the Chairman of the Plasma Science and Applications Committee, Dr. Robert K. Parker, at the banquet of the IEEE International Conference on Plasma Science (ICOPS) in Banff, Canada, on Tuesday, May 28, 2002. Dr. Alexeff's talk at the banquet was titled "Outrageous Personal Plasma Projects." In it he described projects that have had unexpected results in scientific, political, and personal undertakings and came to the padadoxical conclusion that "objectivity in science is a subjective matter."

Professor Alexeff organized the first ICOPS conference in 1974 in Knoxville, TN, USA. He has served in numerous positions in the IEEE over the years, culminating in serving as President of The Nuclear and Plasma Sciences Society in 1999-2000.

His career covered three areas: He served as a nuclear engineer at Westinghouse in 1952-1953, where he helped develop the first nuclear submarine, the Nautilus. He worked at Oak Ridge National Laboratory in 1960-1970 in Plasma Science and Controlled Thermonuclear Fusion. He then worked at the University of Tennessee

in 1970-1995 as Professor of Electrical Engineering. He is now Professor Emeritus, and is a member of the ASI Technology Corporation, developing plasma antennas for the military and industry.

Professor Alexeff has been active in many public organizations, having been one of the founding organizers of the Tennessee Inventors Association, and is President at present. He was also President of the Southern Appalachian Science Fair, and brought the Westinghouse Science Fair to Knoxville.

Professor Alexeff received his BA from Harvard in 1952, and his PhD from Wisconsin in 1959. During his career, Professor Alexeff worked overseas in Japan, India, South Africa and Brazil. He has a PhD in nuclear physics, and a Professional Engineering license from the state of Tennessee. He has over 100 refereed publications, over 10 patents, and one book to his credit.

*Igor Alexeff can be reached at the University of Tennessee, Electrical Engineering Department, Ferris Hall, Knoxville, TN 37996-2100; Phone: +1 865 974-5467; Fax: +1 865 974-5492; E-mail: [i.alexeff@ieee.org](mailto:i.alexeff@ieee.org)*



**Igor Alexeff at the  
Awards Ceremony**

**Cash or?**  
What you have  
become is the  
price you paid to  
get what you  
used to want.

*Mignon  
McLaughlin*

## KENNETH GALLOWAY 2002 NSREC RADIATION EFFECTS AWARD

The 2002 Radiation Effects Award was presented to Dr. Kenneth Galloway, Dean of Engineering, Vanderbilt University, during the opening ceremonies of the conference. Dale Platteter, the chairman of the IEEE Radiation Effects Group Steering (RESG), made the presentation. The purpose of this 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. Dr. Galloway received this year's award with a citation *"for technical contributions and leadership that have enhanced the understanding of radiation effects in semiconductor devices, for meritorious service to the radiation effects community, and for promoting radiation effects education."*

Kenneth Galloway is currently serving as Dean of the School of Engineering and Professor of Electrical Engineering at Vanderbilt University. As such, he has the administrative responsibility for academic programs in biomedical engineering, civil and environmental engineering, chemical engineering, electrical and computer engineering, engineering science, computer science, management of technology, and mechanical engineering. The Vanderbilt E-School, the oldest private engineering school in the South, has approximately 1275 students studying for bachelors degrees and 350 pursuing masters or Ph.D. degrees.

Prior to joining Vanderbilt in 1996, he held professional appointments at Indiana University, the Naval Surface Warfare Center, the National Institute of Standards and Technology, the University of Maryland and the University of Arizona.

Dr. Galloway's personal research and teaching interests include solid-state devices and

semiconductor technology. He has authored or co-authored more than one hundred and fifty technical publications and was elected a Fellow of the Institute for Electrical and Electronics Engineers (IEEE) in 1986 for "Contributions to the study of radiation effects in microelectronics." He served as General Chairman of the 1985 IEEE Nuclear and Space Radiation Effects Conference, Chairman of the IEEE NPSS Radiation Effects Committee (1991-94), and General Chairman of the 1997 IEDM (Int. Electron Devices Meeting). He is currently a member of the administrative committee of the IEEE Electron Devices Society and the IEEE Nuclear and Plasma Sciences Society. He is a member of Sigma Xi, Eta Kappa Nu, Tau Beta Pi, AAAS (Fellow), ECS, ASEE, and APS.

Dr. Galloway received the B.A. degree from Vanderbilt University in 1962 and the Ph.D. from the University of South Carolina in 1966.

*Ken Galloway can be reached at Vanderbilt University, School of Engineering, VU Station B, 351826, Nashville, TN 37235; Phone: +1 615 322-0720; Fax: +1 615 343-8006; E-mail: kenneth.f.galloway@vanderbilt.edu*

### About the Radiation Effects Award

The prestigious Radiation Effects Award is presented by NPSS on a yearly basis in recognition of a "sustained history of outstanding and innovative technical contributions and/or leadership contributions to the Radiation Effects Community". It includes a plaque and a cash award of \$2000. The nomination process is open to any member of the Radiation Effects Committee. A nomination form and directions are available at the NSREC Web site, [www.nsrec.com/nominate.htm](http://www.nsrec.com/nominate.htm). ■



Kenneth Galloway

### Anti-socialism

I'd like to see the government get out of war altogether and leave the whole field to private industry.

Joseph Heller

## IEEE NPSS MEMBER RECEIVES AWARD

Dr. Joseph Benedetto, IEEE Sr. Member, recently received the "Outstanding Presenter" award at the 2002 Commercialization of Military and Space Electronics Conference from Components Technology Institute (CTI) for his presentation entitled "Basic Radiation Effects on Components and the Use of COTS Devices in Radiation Environments." CTT's president, Leon Hamiter, states

"Dr. Benedetto has presented numerous papers on radiation effects on COTS components presently available to the producers of satellites and launch vehicles for the LEO, GEO and MEO orbits. His dedication to making this information available at CTT's Commercialization of Military and Space Electronics conferences, in both the U.S. and Europe, has increased the awareness of issues relevant to in-



Joseph Benedetto

## Go with what you got

The art of being able to make a good use of moderate abilities wins esteem, and often confers more reputation than real merit.

*De la Rochefoucauld*



**Ying Li**



**Andrew Sternberg**

egrated circuits used for space applications. Dr. Benedetto has presented papers at five CMSE conferences, served as session chair and has conducted two Short Courses. The most recent Short Course at the CMSE, June 2002 in Paris received the highest accolades from our attendees. To receive Dr. Benedetto's CMSE papers, please visit the web at [www.cti-us.com](http://www.cti-us.com).

Dr. Benedetto has authored or co-authored over 75 technical presentations before various professional societies and has been published in a variety of journals including: Journal of Applied Physics, IEEE Trans. on Nuclear Science, Ferroelectrics, IEEE Spectrum, COTS Journal (3), EE Times and Integrated Ferroelectrics.

He has been actively involved in the IEEE Nuclear and Space Radiation Effects Conference, serving as session chair (2), Local Arrangements and Finance Chair and will serve as Short Course Chair in 2003.

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

*Joe Benedetto can be reached at Aeroflex UTM, MS 1004, 4350 Centennial Blvd., Colorado Springs, CO 80907-3701; Phone: +1 719 594-8415; Fax: +1 719 594-8468; E-mail: [joe.benedetto@utms.aeroflex.com](mailto:joe.benedetto@utms.aeroflex.com)* ■

## PHELPS GRANTS AWARDED TO RAD-EFFECTS STUDENTS

**O**n behalf of NPSS, we are proud to announce two recipients for the Paul Phelps Continuation Education Grant.

### **Ying Li**

Ying Li received her B.S. and M.S. degrees in physical electronics from Fudan University, Shanghai, China, in 1996 and 1999, respectively. She is currently working toward her Ph.D. degree in electrical engineering at Auburn University, studying the radiation effects and low-temperature characteristics of SOI MOSFETs. She was first author on three publications, and has present a paper entitled "Proton radiation Effects of 0.35 $\mu$ m Partially-Depleted SOI MOSFETs Fabricated on UNIBOND" at 2002 IEEE Nuclear and Space Radiation Effects Conference in Phoenix, AZ. Ying was nominated by her advisor, Dr. John D. Cressler.

### **Andrew Sternberg**

Andrew Sternberg is currently completing his Masters Degree in Electrical Engineering at Vanderbilt University where he studies single-event transients in analog circuits. Andrew

has co-authored 10 publications, 4 as first author, and has presented a paper entitled "The Role of Parasitic Elements in the Single-Event Transient Response of Linear Circuits" at 2002 IEEE Nuclear and Space Radiation Effects Conference in Phoenix. Andrew was nominated by his professor, Dr. Lloyd W. Massengill.

It should be noted that both students have submitted papers for publication in the December 2002 issue of the *Transactions on Nuclear Science*. Both students are members of IEEE and NPSS.

Professors should consider nominating their most promising students before May 15, 2003. Forms can be found on the NSREC web site at [www.nsrec.com](http://www.nsrec.com).

*This and the preceding two articles were prepared by Teresa Farris, the REC Publicity Vice-Chairman. She can be reached at Aeroflex UTM, 4350 Centennial Blvd., Colorado Springs, CO 80907-3486; Phone +1 719 594-8035; Fax: +1 719 594-8468; E-mail: [teresa.farris@utmc.aeroflex.com](mailto:teresa.farris@utmc.aeroflex.com).* ■

## LIAISON REPORT

# IEEE-USA ENERGY POLICY COMMITTEE

The IEEE-USA Energy Policy Committee (EPC) is closely following energy policy legislation that is currently being considered by a joint House/Senate conference committee. The conference committee will attempt to reconcile differing versions of the bill passed by each chamber. At issue for the EPC is a provision in the Senate bill that will create a self-regulating electric reliability organization. The new organization, the North American Electric Reliability Organization. NAERO, would build on the successful voluntary industry-created North American Electric Reliability Council (NERC) and provide necessary legislative authority to transform this volunteer organization into a means to assure the reliability of the complete North American Electric grid, including the elements that lie within Canada and Mexico. The House bill does not include the provision. The committee sent letters to

conferees and members of the committee met key Congressional staffers urging support for the Senate provisions.

The committee is also currently reviewing the recent report distributed by the Department of Energy's National Transmission Grid Study (NTGS). The study, released in May of 2002, recommends ways to "facilitate investment in the Nation's transmission infrastructure to improve reliability and reduce electricity costs to consumers." In addition, delegates from the committee met with Senate appropriations staffers to urge their support for an increase in funding for Transmission Reliability Research in the FY2003 Energy and Water Appropriations Bill.

*Ned Sauthoff can be reached at the Princeton Plasma Physics Laboratory, P.O. Box 451, Princeton, N.J. 08543; Phone: +1 609-243-3207 ; Fax: +1 609-243-3266; E-mail: n.sauthoff@ieee.org.*



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

## 2002 IEEE ELECTION

### Editor's Note

This year's IEEE annual election ballot contains two races of general interest to all NPSS members – IEEE President Elect and Vice President, Technical Activities.

Both these positions are ones from which the incumbent can affect, for better or worse, affect all IEEE members in general and NPS members in particular. For example, because of the over-optimism of the Board of Directors concerning the stock market built into budgets of a few years ago, Societies, such as ours, have been heavily taxed in order to make up for large deficits. Peter Staecker, our Division Director, has kept us all informed of what steps have been taken to rectify this misjudgement. One can only hope that in the future IEEE will learn to live within its means. Based on the statements of the three candidates for IEEE President Elect it looks as though the hard lesson has been learned.

All three President Elect candidates have run before. Vijay Bhargava in 1996, Luchi Gandía in 1993, and Arthur Winston in the preceding two elections. They have had long-standing and varied responsibilities within many parts of the IEEE.

The TAB Vice President candidates, Benjamin Wah and Ralph Wyndrum Jr., have each held many positions of responsibility within the Society structure of IEEE and have served TAB well in a number of capacities.

It is certainly worth your while to take a careful look at their IEEE activities listed in the election brochure to see how well they match your perception of what the IEEE and TAB now need.

IEEE election candidates are given only a very limited space in the election brochure to address the many important issues facing its members and the profession. Each year the pages of the

### ...Three's necessary

Every family should have at least three children. Then, if one is a genius the other two can support him.

*George Coote*

NPSS Newsletter are made available to all candidates for the positions of direct interest to NPSS members in order to allow the candidates to expand upon their brief formal statements.

This year all candidates responded to my request. I thank them all and wish them all good luck. 📧

## IEEE PRESIDENT ELECT CANDIDATES

### Vijay Bhargava



**Vijay Bhargava**  
Candidate for 2003  
IEEE President Elect

**T**he IEEE is the world's largest professional organization. Our technical products and conferences are the awe of association business. Our sections and chapters provide good membership value and we have strong volunteers contributing in so many ways. But like the Bob Dylan song "the times they are a-changin'" and the IEEE is not immune to them. This presents us with challenges and opportunities that I now propose to discuss.

#### **Intellectual Property and Products**

Our products and services account for 75% of our revenue. Protecting and increasing this revenue is a challenge that we cannot ignore. Members need electronic access for timely and authoritative information. Cross reference links to other publishers, multimedia enhancement, IEEE digital library for members, indexing and search capability are some of the on going projects that need to be nurtured. We need to develop a strategy to handle direct publishing to Internet. Younger members feel quite comfortable in quoting Internet publications. Perhaps IEEE should consider turning the IEEE website into a portal for related technical material and brokering cooperative arrangements with other publishers.

Our technologies are becoming increasingly interdisciplinary. We need to encourage societies to bring out products that address these interdisciplinary needs and eliminate organizational impediments that may hinder this. Early identification and promotion of emerging technologies is a must to position ourselves as a dominant player.

#### **Vibrant IEEE Societies**

Vibrant societies are essential to the IEEE's spirit of innovation and the introduction of new products and member services. Unfortunately the recent trend of IEEE exercising central

control is not very conducive to this. A sense of "ownership" is essential for our societies to remain vibrant. In particular, we must revert to the past practice of society empowerment and allow them to control their own budgets. The real challenge here, of course, is to work for a common vision: to offer the best products and services to our members and customers. If we keep this in mind, then vibrant and empowered societies really are strengths.

#### **US OFAC/ ITAR Regulations**

The IEEE is a global professional organization that serves a worldwide body of professionals and has always been committed to communication of scientific knowledge. Unfortunately the US Office of Foreign Assets Control (OFAC) regulations covering exporters and importers, and the International Traffic in Arms (ITAR) regulations, have seriously eroded this commitment. They have presented us with a major challenge to provide normal IEEE membership and services to our members in several countries. The consequence can be significant if you don't comply. ITAR seems to be ultimately solvable but OFAC is a more difficult issue. A team of senior level volunteers and staff is working with US government to better understand these rules and to explain to them the nature of our business. I support this effort and hope that we will revert to something close to our global mandate.

#### **Managing Budget/ Reducing Corporate Expenses**

The IEEE budgeting process is currently an annual exercise. As your president, I will first conduct a thorough and independent review of all internal operations, examining accounting controls, information systems charges, institutional research costs, travel services ledgers, legal fees, marketing costs, and operational

### Non-zero sum game

You can't win: if you tell lies, you'll be distrusted; if you tell the truth, you'll be disliked.

*Jean Anouilh*

expenses. I'll then plan for multi-year balanced budget.

To reduce corporate spending, we need to

- make our internal operations competitive with external providers,
- prioritize all activities and focus resources on those that are relevant,
- work with societies to simplify business rules,
- consider outsourcing when it is cost effective
- have volunteer oversight on IT expenses, and
- approve major programs only after examining their value and long-term financial implications.

### **Membership and Volunteerism**

There is a growing concern that the IEEE is becoming an "old boys/girls club". We need to involve more people in IEEE activities. The people are out there; the key is to identify them. Society chapters could play a strong role in identifying new volunteers.

## **Luis T. Gandía**

### **Message to the Nuclear & Plasma Science Society**

**D**ear colleagues of the Nuclear & Plasma Science Society. First of all please allow me to express my gratitude for this opportunity you are giving the candidates for 2003 IEEE President Elect to address you. This is an excellent opportunity for the members of this society to learn about the candidates and be better prepared to vote. I am sure my good friends; Art Winston and Vijay Bhargava join me in expressing our gratitude to you.

The purpose of this article is to inform you about my agenda regarding the candidacy for 2003 IEEE President Elect, the highest position in our Institute. It is impossible for me to bring to you all my ideas and agenda in 750 words therefore I will discuss just a few issues I believe are extremely important.

IEEE is facing very serious challenges, some of these being:

1. Maintaining our competitive advantage
2. Practicing fiscal discipline
3. Becoming a global organization

We need to expand membership beyond the traditional field of electrical engineers. There are tremendous opportunities in information technology and related areas. This too should help the societies strengthen their volunteer base. I will support these members/volunteers by working to simplify bylaws and delegating authority to counter staff control.

### **Concluding Remarks**

I am committed to ensuring the viability of the societies and councils, since they are the key to the bulk of IEEE IP production. I offer specific ideas and plans to bring about improvements in product and services that our members receive. I invite you to visit <http://www.ece.uvic.ca/~bhargava/ieee>.

*Vijay Bhargava can be reached at the University of Victoria, Electrical & Computer Engineering, EOW Room 423, P.O. Box 3055, Victoria, B.C. V8W 3P6, Canada; Phone: +1 250 721-8617; Fax: +1 250721-6052; E-mail: [v.bhargava@ieee.org](mailto:v.bhargava@ieee.org)*

### **Error procedures**

A doctor can bury his mistakes but an architect can only advise his client to plant vines.

*Frank Lloyd Wright*

Let us discuss them briefly.

For many decades IEEE has been the leading edge in publications, standards, and conferences concerning electrotechnology and allied sciences. Recently, several commercial organizations have become engaged in these fields. We must look for ways and means to maintain IEEE as the leading organization offering these products and services to our members, our professions and society in general.

I believe that our competitive advantage comes from our primary strengths; which are:

1. Recognition of our contributions to members and society from volunteer activities.
2. The IEEE name and logo as a mark of distinction and a brand.
3. Our ability to bridge the needs of the academic and industrial community.
4. The demonstrated innovation in providing services related to electrotechnology.

The services of our volunteers are preeminent. Our brand name and logo are known and re-



**Luis T. Gandía**  
Candidate for 2003  
IEEE President elect

## Better late than never!

I will have more to say when I'm dead.

*E. A. Robinson*

spected worldwide. IEEE must strengthen and propagate, even more effectively, our great name and logo through award ceremonies at different levels by leading accreditation issues and by a public relations program, among others.

Our challenge is to build on these strengths and make sure they meet the needs of the knowledge economy. We must respond to changes more rapidly and with more creativity than our competitors. We live in a knowledge-driven economy. We need to become the innovators – the leaders – rather than the followers. This is how we will maintain our competitive advantage.

During the past few years IEEE has been using part of its reserves to cover a deficit budget. Our “day-to-day” expenses must be covered with our “day-to-day” income. Our reserves and, specifically, reserves from our societies and councils should only be used for new initiatives for the betterment of the Institute and specially our societies and councils.

A few years ago, our board of directors established a five (5) year period for IEEE to become truly global. We are working toward this goal. But until all IEEE members, no matter where they reside, have essentially the same kind of services and all our organizational units demonstrate their global outreach, this goal will not be fulfilled. Our key volunteers and staff must be in constant communication with our membership in order to reach this most important goal in the least possible time.

Late in 2001, our Board of Directors, based on recommendations from legal council de-

ecided to stop serving members in a number of countries. The reason given to our membership was that the U.S. Government prohibits that technical information be provided to members residing in these countries. I strongly believe that this action by the IEEE BoD has delayed our globalization goals by at least a decade. It is my opinion that our key volunteers and staff took the “easy way out” in this case. There must be ways by which we could serve these members without breaking the law. We must look for these and re-establish services to these members.

Another matter into which our Institute must dedicate time is our public relations. Unfortunately, the IEEE – although the world's largest technical society – is not known as we believe it is. We must establish a public relations program and “sell” IEEE to industry, governments and academia in order for them to really know what we really are.

As I previously said, 750 words are not enough to depict my full agenda. Please visit my web page at <http://www.luchigandia.com> where I cover in detail these and other important topics.

Once more, thank you for allowing us to contact you through this means.

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## Arthur Winston



**Arthur Winston**  
Candidate for 2003  
IEEE President Elect

**A**s a long-time active member, I am concerned about the current state of the Institute. Dues are going up, our technical societies are uncertain as to their future, conference attendance is dropping, and web-based competition is growing. As President, my goal will be to ameliorate the current deficiencies, reduce expenses, while adding value to our members.

It is safe to say that volunteers and staff are conscientious and well meaning. But are we making best use of staff? Do we have an optimum number and mix to achieve our goals? Are our goals affordable or how can we make them affordable by improved efficiency and less cost to the member? Are there additional services that would be of value in our careers and would attract the profession and improve

the member retention rate? Can we then make the IEEE more member responsive, more efficient and less costly to operate?

For example, at the request of 24 Society Presidents, an external consultant has been retained to review IEEE's infrastructure to identify improvements that can be made that would significantly increase efficiency and lower costs. The study is supposed to be completed in time for the November 2002 Board meeting series. The Board approved this study at a cost of US\$358K plus expenses, with the Societies agreeing to pay for the study. The study itself will include a number of interviews with IEEE volunteers and staff members.

Since TAB requested this action, I support it. However, I question it. The time is short for an outside organization to conduct the study;

the IEEE is really a complex organization and does not follow the mold of the conventional non-profit that the consultants are more experienced in dealing with; the findings may depend upon the individuals interviewed. We are a volunteer organization whose members have considerable talent. Why can't we do this ourselves and also save the expense?

It is necessary to understand the changing market place and world dynamics, and how to operate as a business and yet be volunteer-driven. Metrics must be established to determine what areas and funds are most appropriate to achieve the Institute's strategic goals. The Board should more actively review the level of staff and staff structure to optimize the usefulness of that resource. It is hard not to believe that the staff is too large for our purposes. It is necessary for the staff to provide timely and useful information to the Board to enable them to make more effective decisions.

Demonstration of our global presence is adequately accomplished through regional meetings and technical conferences. I would thus encourage the BOD and ExCom to hold its meetings in locations, which are optimum to reduce travel time and cost. Hotel lodging/food expenses and associated staff support costs should also be reviewed.

Concern has been expressed in many quarters over the restrictions placed on members from certain countries. The IEEE must continue its non-discrimination policy with respect to member services based on national origin. However, residents of these countries cannot become members and enjoy member benefits while they are residents of those countries. Currently, the IEEE is a US corporation and must obey US laws that supersede any statement in the IEEE Constitution and by-


laws. Even if the IEEE were not a US corporation this requirement would exist because so much business is done in the US and local laws have to be obeyed. Unfortunately, this is the price that some of our innocent professional colleagues who live in these countries must pay. Certainly, we should not be charging dues but it is my understanding that they may purchase papers and proceedings but not at a favorable member price.

In summary, this is my platform:

- Provide financial planning and stability and reduce expenses
- Improve efficiency of Board operations
- Improve trust and communication
- Enhance membership value
- Ensure the viability of our Technical Societies
- Stimulate educational activities and career development
- Ensure volunteer input and participation globally
- Improve the retention rate of members, including students
- Restore industrial acceptance
- Enhance the image of the profession

I have the vision, drive and experience needed to lead the IEEE, and I am willing and able to dedicate the time, energy and attention required by this most important position. We can make the IEEE more member-responsive, more efficient, and less costly to operate.

I respectfully ask for your vote and thank you for your support.

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## Without question...

A great political leader is not someone who has all the answers [but is someone who understands the questions.

*Kim Campbell*

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## Quick, the aspirin

If you wake up feeling no pain, you're dead.

*Russian proverb*

## TAB VICE PRESIDENT ELECT CANDIDATES

### Benjamin W. Wah



**Benjamin W. Wah**  
Candidate for TAB  
Vice President Elect

In my vision, the IEEE will provide our members easy access to current and concise technical information, facilitate interactions through conferences and regional activities, and bring new technologies to our members, steps ahead of other sources. As vice president for TAB, my goal is to carry out this vision and help our members maintain a competitive edge, using means like distance learning. To fulfill the mission of the IEEE and reduce the technology gap of our members, I will represent your interest and emphasize the following:

- Guiding the IEEE into a learning community through journals, electronic conferences, Web-based tutorials, seminars, virtual communities, section meetings, and regional activities. We must help our members overcome obsolescence and meet their daily challenges of rapidly advancing technologies. We will do this through reviews and surveys from well-known experts, as well as discussions in conference panels and invited speeches that will be made available electronically beyond conferences. Using interactive distance learning, we will bring conferences to members' homes and strive for new ways of delivering timely and easily understandable information to our members according to their technological interests.
- Promoting publications, conferences, and services for our practitioner members who need to stay attuned to changing technologies and continuously expand their technical expertise. We must develop new publications and services in emerging areas and improve our current offerings to serve our practitioner and student members' needs. I will work with society program boards to help bridge the gap between theory and practice.
- Developing plans to better serve our regular and student members worldwide. We need more effective and economical methods to deliver workshops, conferences, publications, digital libraries, and services to our worldwide members. We must bring all our global members to closer collaboration.
- Leading the IEEE through sound financial management practices and better cooperation among societies and councils. In addition, I will work hard to represent the interests of our members by reducing the costs of products and services, especially those unemployed and with low incomes.

I have served the IEEE-CS since 1978 and have been active in TAB in the last six years. In particular, I have demonstrated my leadership ability in serving as the IEEE-CS President in 2001, during which I managed an annual budget of \$33 million, a membership of nearly 100,000, and many diverse activities in publications, conferences, standards, education, and international cooperation. To illustrate my abilities the following are three projects that I helped initiate in 2001.

First, we launched the *Total Information Provider Project*, the master plan of IEEE-CS' electronic future in the coming years. The project was in response to member requests for concise, relevant, and up-to-date technical material in digital format in diverse topical areas. It provides a method of offering broader content from within the total scope of computing literature and for synthesizing that information to focus on specific technical areas. It also offers tools to help members address their problem of information overload and their need for access to essential and timely information with anywhere, anytime delivery.

Second, we developed in 2001 a new distance learning initiative to significantly enhance the value of IEEE-CS membership. To energize educational activities, we started offering all IEEE-CS members free access to hundreds of hours of professionally developed IT-related courses via the Internet. The project was highly successful, leading to increased membership in 2002.

Third, we developed strategic partnerships with other IEEE entities in order to enhance member services. We also helped resolve many differences between IEEE and IEEE-CS that arose in the past few years.

My other significant activities in the IEEE include the cofounding of the *IEEE Transactions on Knowledge and Data Engineering* in 1988 and

**On the ball**  
They never  
missed an  
opportunity to  
miss an  
opportunity.

*Abba Eban*

serving as its EIC between 1993-96, serving as the IEEE-CS Vice President for Publications between 1998-99, leading the initiation of the *IEEE Transactions on Mobile Computing* and *IEEE Pervasive Computing* in 2001, serving as an AdCom member in the IEEE Neural Network Council for eight years, serving as an IEEE-CS Board of Governors member for eight years, and serving as conference and program chairs of numerous IEEE conferences.

In my professional career, I am currently the Robert T. Chien Professor of Electrical and Computer Engineering at the University of Il-

linois, Urbana, where I have taught since 1985. Previously, I taught for six years at Purdue University. I served as a program director at the National Science Foundation between 1988 and 1989. My research is inter-disciplinary and covers areas in multimedia signal processing, computer networks, neural networks, and nonlinear optimization.

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## Ralph W. Wyndrum Jr.

**B**efore 2000, I served AT&T Labs as Technology VP, and later Program Planning/Management VP. I was also a delegate to CCITT (ITU) for 9 years. More recently, I have served as an executive consultant in technology(R&D) planning, and as Business Development Director for a Silicon Valley startup developing R&D enterprise decision support systems.

The IEEE exists to provide unique, affordable products and services to our members, academia, industry and government; it must be a leader in electronic publications/services. World class technical leadership and business practices are essential ingredients. The TAB VP must lead TAB, but also be a key player on the IEEE management team with the Board of Directors.

Basic industry redirections are underway, including shifts *from internal R&D*. Venture-funded R&D and contract development/manufacture are business models being used today. These models *seriously affect IEEE members and programs*. My Board experience as Director for both Divisions I (Circuits and Devices, 2000-01) and III (Communications, 1990-91) as well as a Society President, help me understand the IEEE infrastructure/cost issues. Costs

need to be streamlined for the environment. I understand and appreciate the problems facing our large Societies as well as our small ones

I have wide international experience. I have been a leader in the Div. I-IV annual Region 8 chapter meetings. Further, as IEEE-USA VP-Technology Policy for 2002, I am working with the Societies to strengthen our programs informing Congress and the Regulatory Agencies on vital current issues. Many Societies need to be more supportive of regional programs globally, programs vital to members in start-ups, larger companies, academia and government.

I will deal with the technical challenges and infrastructure cost issues promptly. For years I have run organizations with \$100M+ budgets – always balanced and properly weighted. I am familiar with valuable practices (e.g. activity based costing) which can benefit the IEEE. I will work closely with our colleague Board members to lead technical strategy, planning and operations to a healthy future as Technical VP.

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## Universal metric

Man measures his strength by his destructiveness.

Bernard Shaw



**Ralph W. Wyndrum Jr.**  
Candidate for TAB  
Vice President Elect

## How to pick a partner

If you want to make peace, you've got to make peace with your enemies.

Ezra Lifshitz

## Details, details...

Trifles make perfection — and perfection is no trifle.

*Michelangelo*

# RESEARCHERS CALL FOR “BURNING PLASMA” PROGRAM AS NEXT MAJOR FUSION STEP

Over 280 representatives of the U.S. and international fusion research community gathered in Snowmass Village, Colorado on July 8-19 to assess the next steps in fusion energy science research. Their initial conclusions released on July 19 include a recommendation that the next major step in magnetic fusion research should be a burning plasma program, deemed essential to the science focus and energy goal of fusion research. The participants went on to identify three viable options for a “burning plasma” program, including the \$5 billion International Thermonuclear Experimental Reactor

(ITER) currently under development by Russia, Europe and Japan. The United States, a founding member of the ITER project, dropped out in 1998 but is under increasing pressure to reconsider its involvement. The Snowmass report notes that their conclusions “will provide the basis for a policy decision by the United States to pursue a role in the ITER project.”

For more information on the Snowmass Summer Study Program see: <http://web.gat.com/snowmass/>

*From the IEEE-USA Eye on Washington, July 26, 2002* 📄

## IEEE-USA Position Statement

### UNIVERSITY INTELLECTUAL PROPERTY POLICY GUIDELINES

(Approved by the IEEE-USA Board of Directors, 20 June 2002)

IEEE-USA recommends that universities and colleges follow these guidelines in developing policies and procedures on intellectual property developed by their faculty, staff and students.

#### 1. Dissemination of Written Policy

University policies and procedures should be in writing and clearly state the intellectual property that the university considers its own and any laws applicable to its intellectual property policies. IEEE-USA suggests that such written policy be disseminated to all faculty, staff and students to whom it applies, and a summary of the policy is included in the university catalog or other material sent to applicants. The summary should indicate the procedures required to receive a complete copy of the policy.

IEEE-USA suggests that the university also obtain signed intellectual property agreements from all applicable faculty, staff and students, indicating that they have been informed of the university’s intellectual property policies, and agree to abide by them. The university should also inform faculty, staff and students who will be working on a grant or contract whenever that grant or contract contains terms that affect the ownership of intellectual property. [Note: Government policy concerning use of federal funds for research already requires written

agreements with researchers that they will promptly disclose all subject inventions in writing, and will assist in securing patents.]

IEEE-USA urges universities to establish programs to educate their faculty, staff and students in intellectual property rights. These programs should provide the necessary steps for securing intellectual property protection, information on events that can cause the loss of intellectual property rights, and information concerning the university’s specific intellectual property policies and procedures.

#### 2. Intellectual Property Subject to Policy

IEEE-USA suggests that universities clearly indicate what intellectual property produced by faculty, staff or students is considered to be the property of the university, and what intellectual property is owned by its creator. Such policy should treat intellectual property consistently. The treatment of computer software is of particular concern.

Computer software should be treated in the same manner as other creative works covered by copyright law. If the intellectual property policy gives ownership in textbooks, journal articles, musical compositions, and the like to its creator - regardless of whether university resources were used in its creation, then the same ownership by should hold for computer software.

## The skeptical inquirer

If a man will begin with certainties, he shall end in doubts; but if he will be content to begin with doubts, he shall end in certainties.

*Francis Bacon*

Computer software can be protected by copyright and, in some instances, patents. Ownership in intellectual property expression rights to computer software should not depend on whether the software might be patentable.

Several states have laws that limit claims of intellectual property ownership by employers to the business activities of the employers, rather than all intellectual property developed by their employees. IEEE-USA supports laws granting employees ownership of intellectual property developed outside of their employment without the use of employer resources. Students' rights should be no less than those of employees.

Determining what intellectual property a university should own is more complicated. Unlike companies doing business in specific areas, university research activities are simply the sum of the research interests of its faculty. A test other than "related to employer business" should be used in this special case of university faculty.

IEEE-USA recommends that the test for ownership of intellectual property should be whether it was produced as part of a specific job assignment of faculty, staff or students. Intellectual property produced as part of the general activities expected of faculty or students, such as teaching, artistic creation, or unfunded research, should be owned by its creator. Intellectual property developed under a specifically funded research project or a specific university assignment should be owned by the university or as specified in the research agreement.

If there are intellectual property ownership requirements associated with a proposed contract or grant, all faculty, staff, or students who will be working on that grant or contract should be made aware of those requirements as soon as they are known to the university.

### **3. Student-Produced Intellectual Property**

IEEE-USA strongly recommends that intellectual property produced by students as part of their course work, theses or dissertation research, other than funded research for which the university has obligations to others, should be owned by the students, not the university. This follows because students are not acting as university employees when they are taking a class or writing a thesis or dissertation.

Intellectual property created by students in the course of their employment by the university on a specific project, except for a thesis or dissertation written by them, as well as intellectual property developed with university resources to the extent that use exceeds what is normally provided students, should be the property of the university.

### **4. Sharing of Intellectual Property Income**

IEEE-USA recommends that a portion of the net proceeds from the sale or licensing of intellectual property by a university be returned to its creators to foster a culture of practical innovation. This should be based not only on cash royalties received, but also on stock or other assets received by the university. While IEEE-USA does not recommend a specific percentage share for the creators, 40 to 50 percent of net proceeds is common. A portion of the university's share should go directly to the creators' academic unit (college or department), to encourage future intellectual property development.

In computing net proceeds from the sale or licensing of intellectual property, IEEE-USA thinks that only the external expenses of securing any necessary protection for the intellectual property should be deducted from the income for that property. This would include patent application and attorney fees, patent maintenance fees, copyright registration fees, and the like. It should not include operation costs of the university's technology transfer program (whether internal or external), which should be supported through the university's share of the proceeds of intellectual property sales or licensing, or general university funds or other overhead.

IEEE-USA also encourages universities to make its technology transfer program expertise available on a low-cost basis to faculty, staff and students who wish to have the university assist in the licensing of intellectual property owned by those faculty, staff or students.

### **5. Other Considerations**

IEEE-USA recommends that successful creation of intellectual property be considered during any review of a faculty member for retention, promotion or tenure.

IEEE-USA also recommends that when a faculty member moves to a new university, his or her prior university should license any intellectual property created by the faculty member, for research and development purposes only, to the new university at no cost to permit the faculty member to continue research without concern for infringing upon intellectual property rights he or she originally created. The prior university will retain all rights to commercialize or otherwise license the intellectual property, but the new university or the faculty member (as appropriate under the new university's intellectual property policy) will have the rights to any improvements based on the prior university's intellectual property. ■

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**I've got the tool!**  
One of the most important tools of theoretical physics is the wastebasket.

*Richard P. Feynman*

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**Are you sure?**  
Scientific knowledge is a body of statements of varying degrees of certainty — some most unsure, some nearly sure, none absolutely certain.

*Richard P. Feynman*

## 2002 Nuclear and Plasma Sciences Society Administrative Committee

President	Peter S. Winokur
Vice President	Edward J. Hoffman
Secretary	Alberta M. Dawson Larsen
Treasurer	Edward J. Lampo
Most Recent Past President	Igor Alexeff
Division IV Director	Peter Staecker

### Elected Administrative Committee Members

**Terms expiring 2002:** Charles L. Britton (RI), Edward J. Hoffman (NMIS), Alan M. M. Todd (PAST), Peter S. Winokur (RE);

**Terms expiring 2003:** Richard W. Callis (FT), Kenneth F. Gallo-way (RE), Osamu Ishihara (PSA), Edl Schamiloglu (PPST);

**Terms expiring 2004:** Erik H.M. Heijne (Transnational), Tom K. Lewellen (NMIS), Mark Rader (PSA), Michael P. Unterweger (NID).

**Terms expiring 2005:** Dennis B. Brown (RE), Mounir Laroussi (PSAC), Patrick LeDû (CANPS), William W. Moses (RI)

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*Computer Applications in Nuclear and Plasma Science (CANPS):* Christian Boulin; *Radiation Instrumentation (RI):* Ronald M. Keyser; *Fusion Technology (FT):* Philip J. Heitzenroeder; *Nuclear Instruments and Detectors (NID):* William M. Bugg; *Nuclear Medical and Imaging Sciences (NMIS):* Joel S. Karp; *Particle Accelerator Science and Technology (PAST):* Bruce C. Brown; *Plasma Science and Applications (PSA):* Robert K. Parker; *Pulsed Power Science and Technology (PPST):* Robert E. Reinovsky; *Radiation Effects (RE):* Dale Platteter.

## Functional Committee Chairs

*Awards:* Ronald Jaszczak; *Chapter and Local Activities:* Vernon G. Price; *Communications:* Peter N. Clout; *Fellow Candidate Evaluation:* Osamu Ishihara; *Finance:* Harold Flescher; *Conference Policy:* Raymond S. Larsen; *Membership:* Vernon G. Price; *Nominations:* Igor Alexeff; *Publications:* Paul V. Dressendorfer; *Students & Careers:* Edl Schamiloglu & Kenneth A. Connor; *Transnational:* Erik H. M. Heijne.

### Publications

*Editor-in-Chief:* Paul V. Dressendorfer; *Editor, IEEE Transactions on Nuclear Science:* Paul V. Dressendorfer; *Editor, IEEE Transactions on Plasma Science:* Steven J. Gitomer; *Editor, IEEE Transaction on Medical Imaging:* Michael W. Vannier; *Conference Editors, Transactions on Nuclear Science:* Edward J. Hoffman, John Valentine; *Editor, Newsletter:* W. Kenneth Dawson; *Newsletter Editor Emeritus:* John F. Osborn.

### Liaison Representatives on other IEEE Committees

*Aerospace Policy:* TBA; *Coalition for Plasma Science:* Gerald L. Rogoff; *Distinguished Lecturer Program:* Vernon G. Price; *Energy Policy:* Ned R. Sauthoff; *R&D Policy:* Peter S. Winokur; *PACE:* Julian Forster; *RADECS Liaison:* Harold Flescher; *Social Implications of Technology:* Raymond S. Larsen; *Standards:* Julian Forster; *TAB New Technology Directions:* Edward J. Hoffman; *TMI:* A Bertrand Brill and Ronald Jaszczak.

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