

Nuclear & Plasma Sciences

Number 2 • June 2003

SOCIETY NEWS

CONFERENCES

40th ANNUAL NUCLEAR AND SPACE RADIATION EFFECTS CONFERENCE NSREC 2003

Monterey, California, July 21-25, 2003

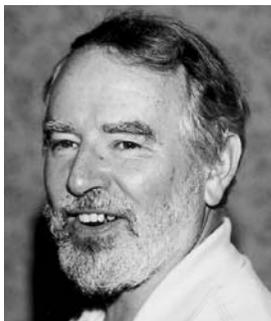
As General Chairman it is my, Allan Johnson's, pleasure to invite you to attend the 40th Annual International Conference on Nuclear and Space Radiation Effects (NSREC) to be held July 21-25, 2003 at the DoubleTree Hotel and City of Monterey Conference Center in Monterey, California. As with previous NSRE Conferences, 2003 will offer an outstanding technical program, a one-day Short Course preceding the technical program, a Radiation Effects Data Workshop, and an Industrial Exhibit. We welcome attendance by engineers, scientists, managers and other interested persons from throughout the world. Highlights of the conference are given below. You can also access this information at www.nsrec.com.

To commemorate the 40th Anniversary, a special issue of the Transactions on Nuclear Science will be distributed to all attendees. The special issue will contain 16 review papers that summarize key technical findings presented at the conference over its history, with a contemporary interpretation of the

results. Joe Srouf (Northrop Grumman Space Technology) is the editor of the special issue.

The DoubleTree Hotel is located in downtown Monterey, a few steps away from the pier in Monterey Bay where seals, otters and other marine life abound. Monterey is one of the most popular vacation destinations in California. Nearby activities include kayaking, hiking, fishing, golf, wine tasting and even auto racing. The Local Arrangements Chairman, Mark Hopkins (Aerospace Corporation), has planned several social events for attendees and family members, including a shopping trip and luncheon in nearby Carmel and a visit to a local winery. The highlight of the social program is an evening at the world-renowned Monterey Aquarium, which will be open only to conference attendees and families. This will provide a relaxing environment for social interaction, as well as the opportunity to see the aquarium without the large crowds that are present during a typical day in peak season.

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Allan Johnson
General
Chairman



Paul Dodd
Technical Program
Chairman



Joe Benedetto
Short Course
Chairman



Mark Hopkins
Local Arrangements
Chairman

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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 August 1, 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 August 1, 2003.

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CONFERENCES (cont'd)

The conference is sponsored by the IEEE Nuclear and Plasma Sciences Society Radiation Effects Committee and supported by the Defense Threat Reduction Agency, Sandia National Laboratories, Air Force Research Laboratory, and the NASA Electronic Parts and Packaging Program.

Short Course

Attendees will have the opportunity to attend a one-day Short Course on Monday, July 21. A Short Course is offered each year and is intended to provide newcomers with an overview and in-depth study of timely and significant issues in the radiation effects field and also to update the knowledge of experienced workers. The 2003 Short Course, organized by Joe Benedetto, Mission Research Corporation, is entitled *Radiation Effects in Advanced Commercial Technologies: How Device Scaling Has Affected the Selection of Spaceborne Electronics*.

The first session will begin with a description of advanced CMOS processes, including process history, scaling and proven design hardness techniques by Ron Laco, Aerospace Corporation. There is a tremendous opportunity to use commercial fabrication facilities not only for the production of radiation tolerant components but also for the study of new basic mechanisms and materials. The second session, presented by Alessandro Paccagnella, will focus on the challenges and opportunities involved with the new ultra-thin oxides from a radiation and reliability viewpoint.

After lunch the third presentation by Tim Oldham, NASA GSFC, will discuss single-event effects in advanced CMOS technology, which have been heavily influenced by changes in device design and scaling. The final session by John Cressler, Georgia Tech, will discuss total dose and single-event effects in advanced bipolar devices, where scaling has also had a major effect on the way that advanced devices are affected by radiation.

For those interested in Continuing Education Units (CEUs), there will be an open-book test at the end of the course. The course is valued at 0.6 CEUs and endorsed by the IEEE and the International Association for Education and Training.

Technical Information

The Technical Program Chairman, Paul Dodd (Sandia National Labs) and his program committee have put together an outstanding set of contributed papers that have been organized into nine sessions of 50 oral and 47 poster presentations, along with a Radiation Effects Data Workshop. The Workshop consists of 25 papers emphasizing radiation effects data on electronic devices and systems, and descriptions of new simulation and radiation test facilities. In addition, there are three outstanding invited talks that should be of general interest to attendees and their companions.

Technical sessions include:

- Devices and Integrated Circuits
- Basic Mechanisms
- Photonic Devices and Integrated Circuits
- Atmospheric and Terrestrial Radiation Effects
- Single-Event Effects, Devices and Integrated Circuits
- Single-Event Effects, Mechanisms and Modeling
- Spacecraft Environments and Effects
- Hardness Assurance
- Dosimetry and Facilities

Invited Talks

On July 23, Dr. Marcia K. McNutt, Monterey Bay Aquarium Research Institute will present *Use of Technology in the Exploration of Monterey Bay*. The Monterey Bay Aquarium Research Institute (MBARI) was founded in 1987 by David Packard. The institute's main focus is on designing and building new tethered and autonomous underwater vehicles and in situ sensor packages for increasing the spatial and temporal sampling of the ocean and its inhabitants. MBARI is located in Moss Landing, California, where its two research ships and remotely operated vehicles are berthed, giving them immediate access to Monterey Bay. MBARI also maintains moorings offshore, equipped with ocean-monitoring instruments, as well as two moorings in the equatorial Pacific that are part of the NOAA Tropical Atmosphere Ocean array. In this talk, Dr. McNutt will describe the institute's use of technological innovation to explore Monterey Bay.

On Thursday, July 24, *The Future of Electronics: Micro, Nano, or Molecular?* will be presented by Prof. Mark S. Lundstrom, Purdue



NSREC 2003
MONTEREY

The perils of power
No one would have doubted his ability to reign had he never been emperor.

Tacitus

Too true

The difference between a team and a committee is that a team is made up of people with diverse views but a common goal, whereas a committee is generally comprised of representatives whose job is to make their voices heard.

Margot Northey

University. As the recent report of silicon MOSFETs with 6 nm channel lengths demonstrates, progress in silicon technology continues at a breath-taking pace. There is, however, a growing consensus that the end of device scaling is only a decade or so away. As silicon technology accelerates toward its limits, rapid progress in unconventional electronics is also occurring. In this talk, Mark Lundstrom will examine the limits of silicon technology, discuss some recent scientific breakthroughs in molecular electronics, and explore the possibilities of turning this exciting science into new technologies.

On Friday, July 25, Carl Walz, U.S. Air Force officer and career astronaut, will describe *Living and Working in Space*, his experiences on four previous space missions and as a member of the most recent International Space Station (ISS) crew. He will discuss his intensive training in Russia and the U.S., the mission itself and the recovery process after more than 5 months in space. We will have a unique opportunity to learn the latest status of the Station and the growing understanding of man's place in space.

Industrial Exhibit

Starting at noon on Tuesday, July 22, this year's Industrial Exhibit, organized by Howard Bogrow, Xilinx, will provide an opportunity for conference attendees to discuss the latest radiation-resistant electronics, radiation analysis and testing equipment and facilities, and hardware and software simulation products and services. An Industrial Exhibits Reception will occur on Tuesday evening. Exhibitors include:

- Actel
- Aeroflex UTMC
- ATMEL
- Babcock
- BAE Systems
- Boeing Radiation Effects Lab
- Brookhaven National Lab
- Crane Interpoint
- Defense Microelectronic Activity
- DPA Components International
- EMPC
- Honeywell
- Integrated Systems Engineering, Inc.
- International Rectifier
- Intersil Corporation
- J. D. Instruments
- J. L. Shepherd/ICS Radiation Technology
- Maxwell Technologies
- Modular Devices

- NASA Applied Radiation
- NASA Goddard Space Flight Center
- NASA Marshall Space Flight Center
- Northrop Grumman
- Peregrine Semiconductor Corporation
- Sandia National Laboratories
- Seair
- Silvaco
- Synplicity
- Texas A&M Cyclotron
- US Semiconductor
- Vanderbilt University
- White Sands Missile Range
- Xilinx, Inc.

Social Program

Social events have been planned to give Conference attendees and their guests opportunities to informally discuss radiation effects and to become better acquainted. Mark Hopkins, (Aerospace Corporation), this year's Local Arrangements Chairman, has put together a terrific social program. The highlight of the social program is an evening at the world-renowned Monterey Aquarium, which will be open only to conference attendees and families. This will provide a relaxing environment for social interaction, as well as the opportunity to see the aquarium without the large crowds that are present during a typical day in peak season.

We strongly encourage you to register as early as possible for the social events as we are limited in the numbers we can accommodate. Please visit www.nsrec.com to view the activities and obtain the registration forms.

Please call the DoubleTree Hotel at 831-649-4511 and ask for the "IEEE NSREC" block of rooms. Reservations must be guaranteed. The cut-off date for room reservations is June 17, 2003. After that date, room accommodations will be confirmed on a space available basis and the conference room rate is not guaranteed.

Additional Information

For the latest NSREC information (technical program, conference & social registration forms, hotel and travel information, etc.) please visit our web site at www.nsrec.com.

You may contact the General Chairman, Allan Johnston, JPL, at (818) 354-6425 or Email: allan.h.johnston@jpl.nasa.gov.

Or you can contact the Publicity Chairwoman, Teresa Farris, Aeroflex UTMC, at (719) 594-8035; E-mail: teresa.farris@aeroflex.com, who prepared this article. 

2003 NUCLEAR SCIENCE SYMPOSIUM AND MEDICAL IMAGING CONFERENCE

including
SYMPOSIUM ON NUCLEAR POWER SYSTEMS
and
13TH INTERNATIONAL WORKSHOP ON ROOM
TEMPERATURE SEMICONDUCTOR X- AND
GAMMA-RAY DETECTORS

**Doubletree Hotel Portland – Columbia River & Jantzen Beach
Portland, Oregon, USA, October 19-25, 2003**

INTRODUCTION

The Nuclear Science Symposium, Medical Imaging Conference, 13th International Workshop on Room-Temperature Semiconductor Detectors, and Symposium on Nuclear Power Systems will be held in Portland, Oregon, USA on October 19–25, 2003. Outstanding natural beauty, dozens of urban parks, public art, and a world-class transportation system are just a few of the many reasons to visit this jewel of the Pacific Northwest. Downtown Portland boasts an amazing array of attractions, including an outstanding collection of cast iron and terra cotta architecture, great shopping, the largest new-and-used bookstore in the world, a nationally acclaimed art museum, numerous beer halls featuring local microbreweries, and a vibrant culinary community suitable for palates of all. Come and join the 2003 IEEE meeting and consider staying a few extra days! The Pacific shore to the west offers a spectacular, rugged coastline, sport fishing, and great opportunities for beachcombing. Wineries and tasting rooms dot the landscape. The Cascade Mountains provide extraordinary skiing (year-round at Mt. Hood), climbing, fishing, and picnicking. The Columbia River Gorge to the east of Portland offers stunning scenery of waterfalls and numerous opportunities to sample the fruits and wines produced in the region. You might consider seeing Mount St. Helens and take notice of nature's splendor and its ability to recover from catastrophic volcanic emissions, or visit Crater Lake to the south, Oregon's brilliantly blue showpiece and national park. The parks beckon visitors from around the world with hiking, photography, river rafting, camping, and a long list of other outdoor activities. The conference will arrange a selection of programs for you and your com-

panions that will provide an attractive shopping bag of alternative activities.

This year we welcome a return of the International Workshop on Room-Temperature Semiconductor Detectors (RTSD). The conference organizers have chosen to hold the RTSD in conjunction with the IEEE NSS and MIC meetings for the purpose of encouraging greater information exchange between scientists and engineers working to develop semiconductor radiation detectors and imaging arrays and to increase the overall number of oral presentations and posters. Joint sessions between the different groups are planned to bring together people with common interests, build synergy, and hopefully offer the right environment for the creation of new and fruitful discussions.

We are looking forward to a technically stimulating and socially invigorating experience in one of the most beautiful locations in the Pacific Northwest. I urge you to participate and share your data, energy, experience and knowledge with your colleagues, and to explore new ways to cooperate and collaborate.

I look forward to seeing you and wish you a memorable, enjoyable stay in Portland.

Ralph B. James

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SCIENTIFIC PROGRAM

It is not possible in limited space to give full details of the extensive program, so the reader is directed to the conference web site

Do you??

A lot of very intelligent people are so specialized, they don't understand what they are doing.

*W.E. "Bill"
Coville*

Report card

In the past 25 centuries, man has excelled in two areas: the creation of rules for a “just society”, and the breaking of these rules in the pursuit of power.

The Observer

(<http://www.nss-mic.org>) for complete details of all the topics and sessions. We are expecting on the order of 700 paper contributions that will be presented in both an oral and poster format. The following are descriptions of the individual programs.

The **Nuclear Science Symposium (NSS)**, to be held October 21-24, offers an outstanding opportunity for scientists and engineers interested or actively working in the fields of nuclear science, radiation instrumentation, software and their applications to meet and network with colleagues from around the world. The program emphasizes the latest developments in technology and instrumentation and their implementation in experiments in space, accelerators and other radiation environments. An educational aspect on specialized topics will also be available through the Short Course program. Authors are invited to submit papers describing original, previously unpublished work in the topics areas listed below:

- Analog and Digital Circuits
- Astrophysics and Space Instrumentation
- Beamline Instrumentation
- Data Acquisition and On-Line Analysis Systems
- Environmental Health and Safety Instrumentation
- Extensive Air Shower and Cerenkov Radiation Detectors
- Gas Detectors
- GPS Time Synchronization Systems
- High-Density Detector Processing and Interconnect Technologies
- High Energy Physics Instrumentation
- Instrumentation for Biological Research
- Instrumentation for Radiation Medicine
- New Radiation Detectors
- Nuclear Measurements and Monitoring Techniques
- Nuclear Physics Instrumentation
- Photo Detectors and Radiation Imaging Detectors
- Radiation Damage Effects
- Reports from Large-Scale Physics Projects and Experiments
- Scintillation Detectors
- Semiconductor Tracking and Spectroscopy Detectors
- Sensor Network System and Homeland Security
- Software and computing for detectors, computing GRID
- Synchrotron and Neutron Instrumentation
- Trigger and Front-End Systems

For information concerning the NSS Program, please contact:

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The **Medical Imaging Conference (MIC)**, to be held October 22-25, provides a forum for fundamental theoretical and applied contributions to the physics, engineering, and mathematical aspects of medical imaging. This conference will provide the opportunity for an exchange of ideas and recent advances in medical imaging. Authors are invited to submit papers describing original and innovative technical contributions to the general field of medical imaging in the following list of topics:

- Emission Tomography Instrumentation and Techniques (PET and SPECT)
- New Nuclear Medicine and Multi-modality Imaging Geometries and Systems
- Analytical and Monte Carlo Modeling of Medical Imaging Systems
- Applications of New Detector Materials and Technologies to Medical Imaging
- High Resolution and Small Animal Imaging Systems
- Multi-dimensional Image Reconstruction Methods
- Dynamic Data Acquisition and Processing Methods
- Quantitative Image Processing Methods
- Evaluations of image systems and reconstruction methods
- Intra-operative Probes and Small Imaging Systems
- X-ray Computed Tomography and Digital Radiography
- Other Imaging Modalities such as Nuclear Magnetic Resonance Imaging and Spectroscopy, Ultrasound, Synchrotron Radiation, Impedance and Biomagnetic/Bioelectric Imaging

For information concerning the MIC Program, please contact:

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The 13th **International Workshop on Room Temperature Semiconductor X- and Gamma-Ray Detectors**, to be held October 20-24, is a continuation of a series of international meetings and will be held this year in conjunction with the NSS and MIC conferences. Registration at the workshop entitles admission to all NSS and MIC presentations, and those registered for the NSS/MIC conferences are invited to attend the workshop. All three conferences will be held in the same complex of buildings to facilitate cross-fertilization of ideas and information exchange between the participants. The registration fees and methods of payment will be the same for both the workshop and the NSS/MIC conferences. A special banquet limited to the workshop attendees is tentatively scheduled. Room temperature semiconductor radiation detectors are finding increasing application in such diverse fields as astrophysics, nuclear medicine, national security, and environmental remediation. The objective of this workshop is to provide a forum for discussion of the latest results to advance the state-of-the-art of this technology. To provide a comprehensive review, oral and poster presentations representing a broad spectrum of research activities emphasizing either device or materials understanding are sought. Authors are encouraged to submit abstracts on original, unpublished work in the following areas:

- Wide Band-gap Semiconductor Materials, including CdZnTe, CdTe, Si, GaAs, Se, HgI₂, PbI₂, BiI₃, TlBr, SiC, InP, ZnSe, AlSb and diamond, of Interest for Radiation Detection
- Detector Performances
- Properties of Electrical Contacts
- Crystal Growth and Materials Characterization
- Measurements of Crystal Surfaces and Interfaces

- Novel Detector Structures
- Radiation Damage, Aging, and Environmental Effects
- Impurity Doping and Defect Engineering
- Modeling of Detector Operation, Growth Processes, and Material Properties
- Novel Test and Characterization Methods
- Strip, Pixel, and Discrete Semiconductor Arrays
- Scintillator/Semiconductor Array Hybrids
- Semiconductor Neutron Detectors
- Low-Noise Electronics and Software
- Spectrometer Systems for Nuclear Inspections, Safeguards, Portal Monitoring, and International Security
- Imaging Systems for Medical, Digital Radiography, Astrophysics and Cargo Monitoring Applications
- Other Applications including, but not limited to: X-Ray Fluorescence, Environmental Remediation, Dosimetry, X-Ray Diffraction, and Tomography

For questions concerning the International Workshop, please contact:

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The **2003 Symposium on Nuclear Power Systems (SNPS)** will be held 21-22 October 2003. The Sessions will again be held in conjunction with the Nuclear Science Symposium and Medical Imaging Conference. The Technical paper sessions on nuclear power systems cover subjects currently of major interest to the operation of nuclear power stations and supporting services and suppliers, including:

- Upgrading digital technology for reactor protection, I&C, and other systems
- Reliability-based maintenance and plant modernization
- New aspects on equipment qualifications
- Plant life extension with cost effectiveness

Sure thing!

It is easy to be certain. One has only to be sufficiently vague.

Charles Sanders Peirce

Go figure

If your experiment needs statistic you should have done a better experiment.

Ernest Rutherford

Hang in there

Keep an open mind, but not so open your brains fall out.

Carl Sagan

I dunno!

Who was it who suggested crime wouldn't pay if the government ran it?

Still Don't Know

- A special annual overview report of major importance to nuclear power utilities
- Risk Informed Regulation – Panel Session
- And more

For information concerning the Symposium on Nuclear Power Systems, please contact:

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CONTINUING EDUCATION PROGRAM

The Continuing Education Program, this year, consists of seven Short Courses covering topics of interest common to all conference programs. The following courses will be scheduled for the first three days of the conference to limit conflicts with the technical sessions.

- **Front-end electronics**
(Chuck Britton, Oak Ridge Nat. Lab.)
- **Geant-4**
(Marie Grazia Pia, CERN and INFN)
- **Nuclear Science for Homeland Security**
(Anthony Peurrung, Pacific NW Nat. Lab.)
- **Dynamic Imaging**
(Anna Celler, Univ. of British Columbia)
- **Medical Dosimetry**
(Michael Ljungberg, Lund Univ.)
- **Medical Imaging Fundamentals**
(Neal Clinthorne, Univ. of Michigan)
- **Statistical methods for Reconstruction**
(Freek Beekman, UMC Utrecht)

Descriptions of the short courses may be found on the conference web site (<http://www.nss-mic.org>). For questions, please contact:

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WORKSHOPS

Eight workshops addressing topics important to all four conference programs will be presented:

- **Compton Camera Workshop**
(Gary Royle, University College London)

- **Detector Aging Workshop**
(Maxim Titov, Univ. Freiburg, Markus Hohlmann, Florida Inst. of Technology)
- **Global Detector Network Workshop**
(Rick van Kooten, Indiana Univ., Joachim Mnich, RWTH Aachen)
- **Hadron Therapy Workshop**
(Patrick Le Du, CEA Saclay, Manjit Dosanjh, CERN)
- **Human Computer Interfaces and Virtual Interface Technology**
(Suzanne Weghorst, Univ. of WA, Seattle)
- **Micro-Pattern Detectors for Time Projection Chambers Workshop**
(Fabio Sauli, CERN, Craig Woody, BNL)
- **Nanotechnology Workshop**
(Klaus Sattler, Univ. of HI)
- **Problems with Detector Fabrication, Testing, Quality Control and Long Term Operation Workshop**
(Archana Sharma, CERN)

The workshops are intended to broaden the scope and interest of the conference, and have been organized to integrate into the Scientific Program.

Full details of their programs may be found on the conference web site (<http://www.nss-mic.org>).

PUBLICATIONS

The title and authors of accepted papers will appear in the Conference Program Handbook. A Book of Abstracts will be handed out to participants on arrival at the conference. Full paper texts will be published in the Conference Record, a non-refereed journal of the conference proceedings, available only on CD-ROM.

In addition, authors may submit their papers to the conference issue of the IEEE Transactions on Nuclear Science (TNS). This is a peer-reviewed journal with significant distribution within the nuclear science and medical imaging communities. All IEEE/NPSS member participants will receive a complimentary copy of the conference issue of the TNS. Alternatively, relevant papers may be independently submitted to the IEEE Transactions on Medical Imaging (TMI) - there is no special conference issue.

INDUSTRIAL EXHIBITS PROGRAM

The NSS-MIC 2003 Industrial Exhibits will take place in an area central to the conference activities to ensure easy access to all the booths with the maximum of comfort and visibility for the exhibitor and visitor alike. The program of technical seminars and product presentations associated with the exhibition will be held in seminar rooms adjacent to the exhibits area.

In addition to the exhibits, poster sessions and general coffee breaks will also be held in this central area to provide attendees with additional convenient access to the exhibits.

Up to date information on the Industrial Program including the list of exhibitors, their contact information and profiles, the exhibition floor plan, as well as details of the technical seminars and product presentations, will be made available on the conference web site (<http://www.nss-mic.org>).

For all information concerning the exhibits program, please contact:

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Information is also on the Web site <http://www.tainc.com/>

TOURS & COMPANION PROGRAM

The focus on the Tours & Companion Program is to provide unusual experiences and activities not generally available to the public. The price of each day's activities includes a lunch or snacks with drinks (except where noted), the services of a very knowledgeable tour guide, and all entrance fees. All tours depart from, and return to, the Conference Hotel (Doubletree Hotel). For those tours beginning in the morning, participants are invited to meet for a complimentary continental breakfast at the Doubletree Hotel.

The tours are subject to a minimum participation and the detailed itinerary of each tour may be changed without prior notice. For your comfort and safety, "sensible" footwear is advised – please visit the web site (<http://www.nss-mic.org>) for complete details regarding restrictions and requirements and the tour program.

GENERAL CONFERENCE EVENTS

General conference events include an Exhibition Reception (a cocktail reception hosted by the Exhibits Program), the NSS Luncheon (featuring a renowned speaker and personality), the Conference Reception (where all participants are invited to meet and communicate and network with their colleagues) and the MIC Banquet (this year in form of a Columbia

River Cruise) – please visit the web site <http://www.nss-mic.org>) for complete details.

REGISTRATION

This year, all registration formalities for participants are being handled electronically through the conference web site at <http://www.nss-mic.org>. Participants can register for the conference, Short Courses, Workshops, Tours and Companion Program, Technical Visits, as well as all social events and request hotel accommodations. Payment may be made in several convenient ways.

DOUBLETREE HOTEL PORTLAND – COLUMBIA RIVER & JANTZEN BEACH

Situated on the scenic Columbia River both Doubletree Columbia River and Doubletree Jantzen Beach are conveniently located just off I-5, only 10 minutes north of downtown Portland and 12 minutes west of the Portland International Airport via complimentary hotel transportation. Guests can enjoy a first-class service and amenities in both sister hotels located next door to each other. The hotels are located right at the shore of Columbia River from where the cruise ships for the companion tour and MIC dinner will depart. Please visit the web site, <http://www.nss-mic.org>, for complete details and hotel information.

CONTACT ADDRESSES

Conference

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Conference Secretary

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Conference Hotels

Doubletree Hotel Portland-Columbia River
1401 N. Hayden Island Drive
Portland, OR 97217, USA
Tel: 1-503-283-2111
Fax: 1-503-283-4718

Doubletree Hotel Portland-Jantzen Beach
909 N. Hayden Island Drive
Portland, OR 97217, USA
Tel: 1-503-283-4466
Fax: 1-503-283-4743

Aren't people absurd?
They never use the freedoms they do have but demand those they don't have; they have freedom of thought, they demand freedom of speech.

Soren Kierkegaard

Invitation to ICOPS 2004, Baltimore, Maryland

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

Revelation

Miracles are explainable; it is the explanations that are miraculous.

Tim Robinson

We wish to cordially invite you to the 31st IEEE International Conference on Plasma Science to be held in Baltimore, MD, between June 28 and July 1, 2004. The conference, held at the Hyatt Regency on the inner Harbor in Baltimore, MD, will feature an exciting technical program with up-to-date reports on new developments in plasma science and engineering.

Plasma science covers a broad spectrum of topics and a wide range of applications. This conference will offer a balanced technical program with representation from all of these 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. Researchers from the world over will be presenting results of their work. 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 overlooks the Baltimore Inner Harbor and boasts meeting spaces ideally suited for moving between poster and oral talks, all the while providing ample

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. The conference location is also only a 30 to 40 minute drive from the nation's capital, Washington, DC and Annapolis, the state capital of Maryland. As conference dates merge with the Independence Day weekend, a limited number of rooms have been reserved at



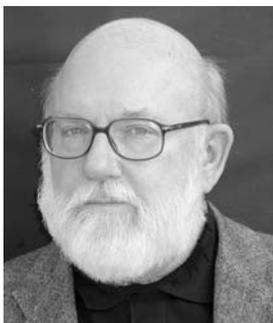
the conference rate for those wishing to take part in the elaborate 4th of July festivities in Baltimore, Annapolis, and Washington, DC.

The conference organizers, including committee members, session organizers, and conference planners, 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

NPSS GENERAL BUSINESS

PRESIDENT'S REPORT



Edward J. Hoffman
NPSS President

The financial woes of the IEEE seem to be getting significantly worse. I am pleased to report that this time, it is not because of poor judgement at corporate headquarters, it is due to problems external to the IEEE. The recent problems with SARS has caused some conferences to be cancelled and apparently caused attendance to be low at other conferences, especially among non-members. The concern that the conflicts in the middle East would bring about an increase in terrorism has compounded the effect that terrorism had already caused in reducing the attendance at conferences.

The projected shortfall is \$6.5 M, which is about \$20 per member. We have gone through a year of cost cutting, and we seem to be running out of places to cut. I expect that there will be increases in cost across the board. Even if the \$20 per person shortfall is passed on to us, for those of us, who are serious about our science or engineering activities, the cost of IEEE membership is a bargain and a good investment. If the IEEE remains true to form the increase in dues will be significantly smaller than the \$20. As individuals, we can assist by working to increase the attendance at our confer-

ences. This can be as simple as talking to colleagues about attending, or putting up posters on your bulletin boards. Unfortunately, convincing people to become new members is not helpful for the immediate future, because we lose money on each new member.

Our dues amount to about 20% of the total funding of the IEEE. The return from conferences and sales of subscriptions of IEEE publications to libraries and non-members constitute the lion's share of income. As a member of IEEE, you receive journal subscriptions for on the order of 10% of the cost to a non-member. The retail price of a 3400 page

Transactions such as TNS is certainly not the \$15 we pay each year. TMI, which is considered the best journal in its field costs us only \$24. If you attend one meeting per year and subscribe to one IEEE publication, the IEEE membership would provide you with a significant savings and, to top this all off, you receive our Society's Newsletter, which is only available to NPSS members.

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

SECRETARY'S REPORT

The IEEE NPSS Administrative Committee met on March 1, 2003, in St. Louis, MO. We were pleased to welcome the new elected AdCom members Joe Benedetto (Radiation Effects), Grant Gullberg (NMIS), Glenn Knoll (Radiation Instrumentation) and Patrick O'Shea (Particle Accelerator Science and Technology). Tom Hussey is the new Plasma Sciences and Applications chair. Gerald Jackson, the chair of the PAC Electronic Archiving project, also joined us.

Ed Lampo reported that more conferences are closing late and we have already incurred eight fines. These are not a one-time deal. They repeat and increase in penalty size over time. Conference chairs and conference treasurers/financial chairs must pay special attention to closing their conferences on time. Remember that you can close a conference before the last bills have been paid. Close your books and authorize IEEE to make these final payments. Talk to Ed Lampo (e.lampo@ieee.org) if you have any question about the procedure. Ed also noted that TAB, the Technical Activities Board, has recommended a 20% of the conference budget as the return to societies, up considerably, but in line with having to pay for more services that were previously paid from IEEE general funds, now depleted due to mismanagement and poor financial practices, and an unrealistic dependency on the stock market. Hal Flesher commented that chasing people to get conferences closed also costs money, and that when budget projections are not met, that also costs money because of having to deal, often at great expense, with lack of predictability. Hal also noted that while NPSS is trying hard to globalize and to hold conferences in non-US

venues, that the problems with closing overseas conferences have been a challenge and expensive.

It was also asked why our journals are given a financial "reward" when they stay within 5% of the page budget set by the editors each year. When these goals are met, the Publications Office workload is predictable. When they are not, it causes either extra work or too little that then has to be caught up when the next over-page budget project arrives. This, too, costs IEEE money. It was also noted that IEEE publication sales were down last year, and this was not balanced by additional increases in the IEL revenue.

Our new president, Ed Hoffman, reported that we continue to have problems with publications. Although the last two issues of TNS were out on time, there were problems with the issues. Part of the problem is that everything is a crisis for IEEE Publications, and there isn't very good communication among editors, authors and Pubs. In some cases, Pubs editors change language in a way that they change meaning, and these changes do not get back to authors so that they can be reviewed over a reasonable time frame. There have been problems, too, with graphics that have been the result of poor communication. The Panel of Editors meeting will discuss and try to resolve some of these issues, and the issues for the NPSS journals will also be discussed in our five-year society review that will be presented this June.

Ed also talked about funding for Vernon Price's recruiting activities at our conferences. It has been suggested that the conference pol-

Dirty business

I used to be Snow White ... but I drifted.

Mae West



**Alberta Larsen
Dawson**
NPSS Secretary

CNN or BBC?

The difference between an optimist and a pessimist is that the pessimist is better informed.

Hungarian saying

There's a lesson here

A hole in the ice offers peril only to those who go skating.

Rex Stout

icy manual be amended to indicate that, with the conference requesting Vern's presence, the NPSS will pay his expenses, although the conferences are encouraged to provide him a room from their comped room block. Additional discussion is needed on the Distinguished Lecturer program and on funding for chapters. These issues will be addressed at the July 26 meeting.

The question was also raised of whether all our journals should be digitized and made available on-line. The issues of cost and who pays for the work need to be addressed.

The issue of TIP codes was also raised. What do we use them for? What needs to be maintained? Are they of value to NPSS? They are expensive to maintain and, according to Hal Flescher, only a few societies actually make much use of them. Hal will discuss this with HQ and come back to AdCom with more information.

Ed asked Peter Winokur, our immediate past president, to present an overview of AdCom and where it fits into NPSS and IEEE. Peter first noted that this is a volunteer society. We don't have any hired administrative people as some societies do. We are about 3,000 members, a number that has grown slightly in the last few years, and are divided into eight technical committees that work to transmit information to our membership. On the most basic level, this is our charter. At one level this looks very simple and straightforward. However, because we are part of a very large organization, there are many complexities. These include our relationships with IEEE management, with the Technical Activities Board (TAB), Regional Activities Board (RAB) and Educational Activities Board (EAB) management, with IEEE Publications who produce our journals and conference records, and those of 36 other societies and councils, and who manage the premier products offered by IEEE, the All-Periodicals Package (APP), and the Integrated Electronic Library (IEL). The benefits in general outweigh the problems in being part of an organization that is close to 400,000 strong, with broad and growing membership outside the US. However, there are problems within the organization structure, one being that TAB, which has 37 societies and councils in 10 divisions, generates significant income for IEEE and yet has no

more voice in IEEE management than RAB, which gets an allowance and which has not taken fiscal conservancy seriously yet. This arrangement makes it very hard to make substantive changes in the overall management of IEEE. During the 1990s the stock market was providing IEEE large returns on its reserves and general fund and the organization followed very poor business practices, including operating on deficit budgets for several years. It has only been since the big downturn in the stock market that IEEE has started to look at how it does business and to institute some reforms. They now have a balanced budget, but have had to use society money to balance their budgets. Because NPSS has been fiscally responsible and had, for a relatively small society, healthy reserves, we have been severely penalized. Slowly, IEEE is moving toward learning how to distribute costs as appropriate and to live within its means. Because of these problems, NPSS is becoming even more fiscally conservative. Among other things, we are working toward eliminating our subsidy of membership in NPSS, which amounts to about \$60,000 per year.

Hal Flescher, who was NPSS president in 1990, is now our Division IV director has been heavily involved with TAB since the days of his presidency. He has been TAB treasurer and now, as a Division Director, represents part of TAB on the Board of Directors which, for those not familiar with the structure, comprises the present, past and future presidents of IEEE, 11 representatives from TAB (vice president plus 10 Division directors), 11 from RAB, one from IEEE-USA and one each from Standards and Education. To change the constitution and bylaws of IEEE requires a 2/3 vote of the Board. Hence, TAB and RAB both have the power to block any changes. As RAB gets a portion of the dues and does not earn or spend any money, it is highly unlikely that the RAB general mentality is apt to be changed by anything less than cataclysmic. When they do spend money, they don't necessarily spend it wisely. Witness: a recent Region 3 meeting at a Jamaican resort!! Why?

As Division IV director, Hal represents 5 societies. The Computer Society has two directors, the Communications Society has one, and the other 7 Division Directors represent several

societies each. Hal is chair of the IEEE Nominations Committee, and also involved with the Infrastructure Oversight Committee, and the committee headed by former president Winston that is involved with budget reporting simplification. IEEE does not do business in a clearly understandable way, and this committee is addressing this problem. (Also, look at Peter Staecker's reports in the 2001 and 2002 Newsletters!) There have been many other reports on IEEE's financial problems and the build-up and then loss of the General Fund Reserve. Hal reviewed that financial history.

Hal noted that about 40% of IEEE members are not affiliated with any society, and that there are more industrial than scientific community (universities, national research labs) members. In early 2003, over 30% of IEEE's membership is from outside the USA. In 8 years, at the same growth rate, the US and non-US membership will be equal.

Technical Committee Reports

Christian Boulin, chair of the Computer Applications in Nuclear and Plasma Sciences TC was unable to attend this meeting, so Patrick LeDû reported for him. The RT2001 books are still not closed, but they are trying to resolve this. The CANPS committee is being enlarged and is becoming more active in supervising the conferences. At present there are 10 members, and it is planned to increase that number to 15. The committee met on March 15 and will meet again in Montreal in May, during the RT2003 conference. Patrick noted that the majority of RT conference attendees are from Europe. Jean-Pierre Martin, chair of RT2003, reported that the web site is active and has links for abstracts, conference registration and hotel reservations. Registration is being handled by IEEE Conference Services, and they will provide a registration manager at the conference itself. As of March 1, 135 abstracts had been received. Conference attendance, based on prior history, is expected to be about 225, with 70% of the attendees coming from Europe. The program has been defined and Saclay is preparing the program booklet. There will be a commercial exhibit with exhibitors being offered the choice of a booth and/or a sponsorship opportunity. The Physics Department of the Uni-

versity of Montreal and Saclay are providing manpower support at the conference.

Fusion Technology Standing Committee chairman Phil Heitzenroeder reported that the 2002 SFE was closed, with an excellent return to NPSS. The dates and hotel for the 20th SFE have been set. The meeting will be at the Bahia Hotel in San Diego under the chairmanship of Richard Callis, from October 14 to 17. The first call for papers went out in January, and abstracts are due in April. IEEE Conference Services will handle registration and have reviewed the hotel contract. The second call for papers was in the process of being mailed. As of March 1 there were only 58 pre-registered attendees. A conference call with the Standing Committee was organized to urge abstract submittal. The web site has been updated and upgraded, and links to fusion information at other sites have been incorporated. Mark Tillack of UCSD has taken on the role of web master for the Fusion Technology Standing Committee.

Ron Keyser has just assumed chairmanship of the Nuclear Instruments and Detectors committee. Their role is to enact, update and maintain our standards. It is probable that this committee will, in future, become a functional committee of NPSS.

Ron Jaszczak, chair of the Nuclear Medical and Imaging TC presented the revised bylaws for this elected TC. The biggest change is in providing for a two-year term for the chair-elect, to allow a better learning opportunity before assuming leadership.

Steve Mieckle has proposed a Pacific Rim NSS/MIC. This is under consideration. Magnus Dahlbom, the NMIS vice chair and web master is working with Radiation Instrumentation to integrate the MIC and NSS better, so that functions that don't need duplication are no longer duplicated in the conference management. Obviously some functions, such as choice of award winners, cannot be integrated. The goal is more efficiently run conferences.

Bruce Brown, chair of the Particle Accelerator Science and Technology committee reported that PAC01 books are closing. They went to audit in February, and audit returns will be complete in March. PAC05 will be

**Next excuse,
please**
Make it possible
for programmers
to write programs
in English and
you will quickly
discover that
programmers do
not know how to
write in English.

*Old programming
proverb*

Remember, I'm not perfect

I don't need you when I'm right, I need you when I'm wrong.

John A. Macdonald

Government work

The rest of the stuff was make-work produced by the unwilling for the incompetent about the unnecessary.

Danny O. Coulson

chaired by Norbert Holtkamp of SNS and will be held at the Knoxville Convention Center. The contract for PAC05 has been well vetted by the community and IEEE and is now going to the Convention Center and the affiliated hotels for final tweaking. PAC07, to be chaired by Stan Schriber, formerly of LANL and now of Michigan State, will be held at the Albuquerque Convention Center. Although Stan has moved from the area, LANL will continue to provide support for the conference.

Bob Siemann, chair of PAC03 was with us, and he reported that Ed Lee of LBNL has taken over from Alan Jackson as program chair. Alan has gone to Australia to work on the Australian Light Source. There have been 1283 poster submissions and there will be 80-90 invited oral papers and about 190 contributed oral papers. This year the registration fee is below that offered in 2001 since the proceedings will be available on CD only. These are still handled as an IEEE Conference Record and paper copies will be available through Book Broker. Later, Bob asked how IEEE NPSS values accrued to the Accelerator community. For the APS DPB profit share, all money goes to community activities. Their total budget is perhaps \$60K a year. IEEE and NPSS function very differently. Bruce also noted that NPSS and DPB hold different positions about money for awards, travel grants and so forth. NPSS is fiscally conservative and believes that conferences should fund these activities. We feel that we must have adequate reserves to cover a failed conference. APS DPB thinks surplus money from conferences should be used to fund these other activities. (Perhaps they should think about how they would handle a financial disaster, since they are liable for half of any loss and it is unlikely that APS will provide the funds – Secretary's note.) There is, however, a legitimate issue of whether the PAC awards are NPSS awards or NPSS/APS DPB awards. The problem arises because PAC was an NPSS conference for 30 years before APS DPB became involved, and the problems arise from joint sponsorship.

Gerry Jackson, head of the PAC Electronic Archiving Project talked about the proposed digitization of all the PAC proceedings from 1963 to 1988 so that they will be available on

line. IEEE has already given its permission for this project, but will continue to hold all copyrights. Adobe scanning, which has very high character recognition and which also allows full text search of digitized papers, is being used. To date papers through 1967 have been scanned and about half those from 1969 are complete. There is a critical need for funds to complete the project, which has a projected budget of \$140K. So far \$60K have been used. They are requesting \$30K each from APS- Division of Physics of Beams, the Department of Energy, and NPSS to complete the project. There is \$2500 in the PAC03 budget dedicated to this work

Vernon Price will attend the PAC03 in support of IEEE recruiting activities.

It was noted that the ASME is forming an accelerator group and are looking for sites for information.

There was discussion of how to pay for the Electronic Archiving. The simplest thing would be to include the funds in the conference budget, but it is too late to do that for 2003 and 2005 is pretty far down the line. It is hoped that the work will be complete before then. It was suggested by Hal Flescher that, as the return from PAC01 was expected to exceed the projected return, the funds beyond the expected return be applied to paying for this project. See AdCom actions later in this report.

Tom Hussey, of the Air Force Research Lab, is our new Plasma Science and Applications chair. He reported that Christine Coverdale is the newly elected vice chair. The 2003 meeting, to be held on Cheju Island, South Korea has, as of February 8, received about 700 abstracts, of which 270 are from Korea, 120 from Japan, 110 from the USA and 70 are from China. The budget is based on an attendance of 350. There may be travel problems due to the situations in Iraq and North Korea. There are also many more students registered than expected, which may impact the budget. In addition, there are other cultural differences in running a conference in Korea. A major example is that ICOPS has only published the invited talks in the past, whereas the attendees at this meeting expect to have the contributed papers published as well. Therefore, two issues of TPS will contain ICOPS papers – one with the invited papers

and another with any contributed papers that are submitted. Of course, all papers will have to pass the IEEE review process.

Future ICOPS meetings: 2004, in Baltimore, MD; 2005 in Monterey, CA, back-to-back with Pulsed Power; 2006- Traverse City, MI; 2007 – PPPS, in Albuquerque.

This year's ICOPS award goes to Tom Antonsen of the University of Maryland. Congratulations, Tom!

The PSAC is looking at strategies for holding other joint meetings, both with the Pulsed Power community and possibly with SFE. Hutch Nielsen of PPPL made a presentation to PSAC about collocation and both communities are evaluating this option.

Bob Reinovsky, chair of the Pulsed Power Technical Committee reported that although the 2001 financial report was not officially posted, NPSS has received a substantial return from the conference. The 2003 conference, to be held in Dallas in June, under the leadership of Mike Giesselmann of Texas Tech, has received 477 abstracts, up about 6% from 2001. It is a strong program with about half of the papers from the US. They used a commercial abstract service this year that was highly successful. The costs were modest and the reduction in stress on volunteers noteworthy. There were, on average, 2.4 reviews per abstract. There will be an industrial exhibit, job placement center, and one minicourse. The finances seem in good shape, although the uncertainties in international affairs are also a worry for this conference, with its large international attendance. There has also been an excellent pool of candidates for the three Pulsed Power awards

They also have been discussing the value of IEEE affiliation with several independent conferences including a Beams conference that will be collocated with the Dallas meeting, and the High-density Z-pinch conference.

The committee has been discussing membership rotations and is moving toward becoming an elected technical committee.

As Dale Platterer was unable to attend, Dennis Brown presented the Radiation Effects report. On July 1, Tim Oldham will take over as committee vice chairman, as Ron Schrimpf assumes the committee chairmanship. Janet

Barth has accepted the chairmanship of the 2006 NSREC.

This is the 40th anniversary of Radiation Effects and there is a 40-year history on their web site <http://www.nsrec.com/facts03.pdf>. Check it out! Their web site also has a lot of other valuable information on Radiation Effects. They have planned a special June 2003 issue of TNS containing invited papers as part of the 40th anniversary commemoration.

The 2002 conference books are closed, with a return to NPSS slightly below that expected, even though the attendance was up by 12%.

An up-to-date archive of the NSREC short courses has been published on CD-ROM. These are available through IEEE on-line Catalog and Store.

The 2003 conference, under Alan Johnston of JPL, will be held in Monterey from July 20-25. Abstract receipt indicates that attendance should be close to that in 2002. Future NSRECs: 2004-Atlanta, GA; 2005 – Seattle, WA.

Ron Keyser, chair of the Radiation Instrumentation Steering Group, reported that the budget and room layouts have been completed for the 2003 NSS/MIC in Portland, OR. Ralph James of BNL is the general chair. The 2004 conference, to be held in Rome with Alberto del Guerra as general chair, is completing its budget. There are particular issues to be considered, such as potentially unavoidable taxes, but Hal Flescher is looking into this. The 2005 conference will be held in San Juan, PR with Tom Lewellen as the general chair, and 2006 will be held in San Diego. A proposal has been received, as mentioned above, from Steve Mieckle and Anatoly Rosenfeld for a Pacific Rim conference (read Australia) that is being evaluated by the joint NMIS/RI site selection committee.

Patrick LeDû reported on the struggles in closing the 2000 conferences held in Lyon. What is clear is that the processes in the US and in Europe are different. Some problems resulted from the transition from the French franc to the euro in 2000. Others resulted from the change in CEA Saclay's accounting system to SAP, meaning that there was a long period of time over which account information was unavailable. There were other bureaucracy issues and, because the conference was such a success,

Personality test

All the atoms we are made of are forged from hydrogen in stars that died and exploded before our solar system was formed. So if you are a romantic, you can say we are literally stardust. If you're less romantic, you can say we're the nuclear waste from the fuel that makes the stars shine.

Martin Rees

A laughing matter

The only gracious way to accept an insult is to ignore it; if you can't ignore it, top it; if you can't top it, laugh at it; if you can't laugh at it, it's probably deserved.

Russell Lynes

it was noticed by France and the European Community, so unexpected taxes were levied against it at a rate of 20% on certain income. A negotiation is in process to reduce this to 5%, but at least some tax will be unavoidable, it seems. In addition, the conference service company, Carte Blanche, declared bankruptcy. Patrick feels that he finally has a good set of numbers with which to work, which he now has to present and justify. He hopes that all issues will be resolved shortly so that the conference can close. One important lesson for those organizing international conferences is to examine the methods of organization and the logistics and to work closely with our financial people as well as with those of the host country to try to prevent problems from happening. In the case of European conferences, it may be that the European Union would be a better host than an individual country. This is an issue to be explored.

It is clear that guidelines need to be written for non-US meeting planning.

It is hoped that, because of extenuating circumstances, the penalties levied against NSS/MIC 2000 will be waived.

As Erik Heijne was unable to attend this meeting, Patrick LeDû reported for the Transnational Committee that they are trying to define their work and activities.

They plan to promulgate the NPSS umbrella for appropriate European independent conferences, and are working on the issue mentioned several times above, of how to manage non-US conferences appropriately.

Functional Committee Reports

The Meetings committee would like input on upcoming conferences. Please send information to Ray Larsen (larsen@slac.stanford.edu) including conference name, dates, venue and contact person, when that information is available.

The Awards committee, chaired by Igor Alexeff, reviewed the NPSS awards that were also listed in the last Newsletter, and is seeking nominations, which will have been due on May 15. It was noted by Hal Flescher that the IEEE has trouble in getting nominees for the principal awards it offers. Maybe the community has become too blasé about these. Peter Winokur also reminded us that none of the Technical Field Awards offered

by IEEE cover our interest areas. We could initiate one, but would also have to fund it unless we could find a corporate sponsor for it. We might still have the problem of getting a good pool of candidates after a few years!

Vernon Price, chair of the Members, Chapters and Distinguished Lecturers committee was at an IEEE meeting related to these subjects so several items were deferred to the July meeting, which we hope he'll be able to attend.

The Finance committee, chaired by Hal Flescher, has had no formal meetings recently, but are in constant telephone contact, which is one of the reasons our society is fiscally very sound.

NOW is the time, says Peter Winokur, chair of the Nominations committee comprised of all TC chairs, to submit to him names of candidates to fill the four AdCom positions that will become vacant at year end. The areas to be replaced include Pulsed Power, Fusion, Plasma Science and Applications and Radiation Effects. Most remarkably, the Pulsed Power community already has two strong candidates! Good job, Bob Reinovsky and co!

Our editor-in-chief, Paul Dressendorfer, reported for all segments of the Publications committee. This is the year for our five-year journal review, which is companion to the society review. Paul noted that TNS and TPS have both had significant publication delays over the years. TNS actually came back on schedule with the December 2002 issue and TPS seems to be catching up. Delays are due both to editors/guest editors and to IEEE Publications. There are still quality issues related both to graphics and to text editing (see above, President's Report). The first special issue of ICOPS contributed papers will appear in TPS in 2004.

The comment was made that TPS has not been out on time in several years, and that quality is a major issue. For example, material provided to IEEE Pubs for the August 2003 special issue was not included, and no reason was given for this.

The issue of lateness has been at a cost to NPSS. We were unable to get listed in Index Medicus, which is very important to the imaging community and to academics who rely on timely publication and science citations

for promotions. The sources of delays are not always clear-cut.

Liaison Reports

Peter Winokur has asked to be replaced as liaison to the R&D Policy committee. Igor Alexeff is the new liaison to the IEEE Awards committee. Gerry Rogoff, the liaison to the Coalition on Plasma Science, has promised a full report in July. Peter Winokur noted that their meeting for Congressional staff and Congresspersons was very well attended and had much valuable information available. Hal Flescher, the liaison to RADECS noted that the steering committee has been reorganized and now has a number of new members. The RADECS issue of TNS from the Grenoble conference contains 32 papers of the 100 presented. The meeting in Padua, at which 40 papers were presented, (the alternate year small meeting) will contribute 14 to TNS. In 2003 the major meeting will be held in the Netherlands; in 2004 the small meeting is in Spain; and the 2005 large meeting will be in Montpellier, France. There is an effort to avoid duplications between the NSREC and RADECS programs.

Unfinished Business

Expenses for AdCom meetings held in conjunction with NPSS conferences should not be included in conference budgets. While AdCom asks the host conference to pay the bills, and the conference gets credited with rooms and meals for AdCom, the expenses are transferred to AdCom. This discussion provoked discussion of the Budget Sheets developed by IEEE.

These are confusing and should be amended. Suggestions for changes will be given to Hal Flescher and he'll take them to the TAB Finance committee on our behalf. If our conference organizers are finding these confusing, it is likely that others also are confused.

Actions Taken by AdCom

The revisions to the NMIS Bylaws were approved. The new Bylaws are published elsewhere in this issue of the Newsletter. They will go into effect 60 days following publication date, barring a large number of objections. A formal copy will be sent to IEEE.

It was moved, seconded and passed that the NPSS AdCom approve funds to conduct a five-year survey of member areas of interest

It was moved, seconded and passed that the NPSS AdCom authorize the PAC organizing committee to employ up to \$60,000 from PAC01, beyond the return to APS DPB and IEEE NPSS budgeted at \$62,300, for the PAC Electronic Archiving Project.

The next meeting of the IEEE NPSS AdCom will take place at the DoubleTree Hotel, Fisherman's Wharf, Monterey, CA on Saturday, July 26, 2003, following the 2003 NSREC. The Annual Meeting of the AdCom will be held on Saturday, October 25, 2003 BEFORE the NSS/MIC in Portland. OR.

Respectfully submitted, Albe Larsen

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

Company policy

If you are idle, be not solitary; if you are solitary, be not idle.

Samuel Johnson

Didn't know that!

Sir Humphrey: "I need to know everything! How else can I judge whether or not I need to know it?"

Bernard Woolley: "So that means you need to know things even when you don't need to know. You need to know them not because you need to know them, but because you need to know whether or not you need to know. And if you don't need to know you still need to know, so that you know that there is no need to know."

Yes, Minister (BBC Program)

RITC REPORT



Ronald Keyser
Chair, RISC and
NIDCOM

The Radiation Instrumentation Technical Committee (RITC) is all the members of NPSS who subscribe to the IEEE Transactions on Nuclear Science. The Radiation Instrumentation Steering Committee (RISC) is an elected committee responsible for the operation of RITC. RISC has the task of acting on behalf of the full RITC membership in organizational matters, the most important of which is planning for future Nuclear Science Symposia (NSS). Meetings of RISC are scheduled annually at the time of the NSS, with most other business conducted via email. Each summer, 5 members are elected to the RISC. If you have an interest in becoming a candidate for election to RISC or want to nominate someone else, please send me an email at RonKeyser@ieee.org

It's time once again to plan to attend the 2003 NSS-MIC meeting on Oct 19 to Oct 26 at the Doubletree Hotels Portland - Columbia River and Jantzen Island in Portland, OR. Once again, we are able to have the Room Temperature Semiconductor Detector Workshop and the Symposium on Nuclear Power Systems at the same time and place. The NSS-MIC General Chair is Ralph James; the RTSD General Co-Chairs are Ralph James and Paul Siffert; the SNPS Program Chair is Jay

Forster. The deadlines for abstract submission are as follows:

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

In addition to the sessions for these meetings, there will be several workshops and short courses before, during and after the main meeting.

For more information on the meeting times, hotels and any other details, see the website at <http://www.nss-mic.org/2003/nsshome2003.html>

One of the pleasures of the RISC is the recognition of the contributions made by our colleagues. This year the award will be the Radiation Instrumentation Outstanding Achievement Award. Please submit nominations to the Awards Committee Chairman, David Wehe at dkw@umich.edu. The nomination form is at <http://ewh.ieee.org/soc/nps/awards.htm>.

See you in Portland.

Ron Keyser, the Chair of the RISC as well as NIDCOM (see below) 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

NIDCOM REPORT

As the new chairman of the Nuclear Instruments and Detectors Committee, I wish to thank William Bugg, Mike Unterweger and Louis Costrell for all the work they have done in the past few years on the Committee. The task of the NIDCOM is to coordinate or oversee the writing of standards relating to nuclear instruments and detectors. Many of the commonly used standards in the

NPSS area are the result of work by this committee.

Currently the committee is undergoing change and will increase the scope to include standards appropriate to all areas of NPSS, not just the nuclear radiation areas.

If you know of a need for an IEEE standard in the NPSS area, please contact me at RonKeyser@ieee.org.

Inventive thought

People think of the inventor as a screwball, but no one asks the inventor what he thinks of other people.

Charles F. Kettering

It's all Greek to me!

Mathematics is the language with which God has written the universe.

Galileo Galilei

NMISTC Constitution & Bylaws Changes

Every 5 years the NMISC is required to contemplate revisions to the NMISTC constitution. The purpose is to “evaluate the effectiveness of this Constitution and Bylaws, to study the rules of governance required by the activities of the Committee at that time, and to consider writing a new Constitution and Bylaws appropriate to the existing and anticipated needs of the NMISC.” Last year I chaired a committee to do this, and am happy to say that the committee did not feel that major changes were necessary. There were, however, a few “housekeeping” changes that were desired in order to simplify the Constitution and to improve the operation of the NMISC. We therefore created a revised NMISTC Constitution that has been approved by the NMISC and the NPSS AdCom, and will go into effect unless 20 NPSS members send objections to the NMISC Chairperson (Ron Jaszczak, rjj@dec3.mc.duke.edu) within 90 days of the mailing date of this Newsletter. While the entire (revised) Constitution is printed below, I suspect that some of you may prefer the executive summary, so I list the more “major” changes below.

- Made the NMISC Vice-Chairperson position a two year position (it previously was a one year position). As the Vice-Chairperson is Chairperson-elect, this change lengthens the training period for the person who will become Chairperson. The succession is now two years

as Vice-Chairperson, two years as Chairperson, and two years as Most Recent Chairperson.

- Added the Chairperson of the RISC to the list of ex-officio members of the NMISC. This is a reciprocal relationship - the NMISC Chair is already an ex-officio member of the RISC.
- Allowed the Vice-Chairperson or the Most Recent Past Chairman to represent the NMISC at AdCom should the Chairperson be unable to do so. This conforms to IEEE and NPSS rules.
- Changed the procedure for voting for Vice-Chairman, simplifying the nomination procedure and the method for casting ballots.
- Removed the requirement to hold an annual Open Business Meeting.
- Simplified the procedure for removing or replacing NMISC members.
- Removed a bylaw that prohibited a single institution from having more than two members on the NMISC.

Bill Moses chaired the committee that prepared these proposed changes to the NMISTC Constitution and Bylaws. He is also the NPSS Vice President and can be reached at the Lawrence Berkeley National Laboratory, MS 55-121, 1 Cyclotron Road, Berkeley, CA 94720; Phone +1 510 486-4432; Fax: +1 510 486-4768; E-mail: wwwmoses@lbl.gov.



W.W. Moses
NPSS Vice President

Upon a star
Anybody who doesn't believe in dreams isn't a realist.

Billy Wilder

Prescience

The burden will grow worse and worse as science advances, for the improvement in the art of destruction will keep pace with its advance and every year more and more will have to be devoted to costly engines of war.

Karl Marx (in 1879)

Constitution and Bylaws of the Nuclear Medical and Imaging Sciences Technical Committee of the IEEE Nuclear and Plasma Sciences Society

Constitution

Article- I - Name and Object

Section 1. The organization shall be known as the Nuclear Medical and Imaging Sciences Technical Committee of the IEEE Nuclear and Plasma Sciences Society (NPSS), hereafter referred to as the Committee.

Section 2. The Committee shall strive for the advancement of theories and applications of Nuclear Medical and Imaging Sciences and of its allied arts and sciences and maintenance of high scientific and technical standards among its members.

Section 3. The Committee shall aid in promoting close cooperation and exchange of technical information among its members and to this end shall hold meetings for the presentation and discussion of original contributions, shall assist in the publication of the Transactions on Nuclear Science (TNS) and other IEEE publications that the committee shall deem appropriate, and shall otherwise provide for the needs of its members

Article- II - Field of Interest

Section 1. The field of interest of the Committee is Nuclear Medical and Imaging Sciences, and their related technologies and applications. It shall foster publication or other dissemination of original contributions to the theories, experiments, educational methods and applications of Nuclear Medical and Imaging Sciences. Areas of technical activity will include, but not be limited to the following:

Section 2.

- 1) Radiation sources (including synchrotron radiation)
- 2) Detectors used for imaging and radiotherapy
- 3) Radiation standards and radiation monitoring for biomedical instrumentation and personnel
- 4) Theory, physics and instrumentation of medical imaging modalities including, but not restricted to:
 - a. Planar Nuclear Medicine (NM)
 - b. Single Photon Emission Computed Tomography (SPECT)
 - c. Positron Emission Tomography (PET)
 - d. Magnetic Resonance Imaging (MRI)
 - e. Magnetic Resonance Spectroscopy (MRS)
 - f. Magnetic Resonance Angiography (MRA)
 - g. Functional MRI (fMRI)
 - h. X-ray Computed Tomography (CT)
 - i. Digital Radiography (DR)
 - j. Related imaging systems and devices
- 5) Modeling and simulation of imaging detectors, devices, systems, and processes
- 6) Image analysis techniques
- 7) Image reconstruction algorithms
- 8) Quantitative imaging methods

Article- III - Membership

Section 1. Members of the Committee are members of the IEEE NPSS having an interest in Nuclear Medical Imaging.

Section 2. Affiliates may participate in the activities of the Society as provided by the IEEE Bylaws and subject to the applicable IEEE rules and regulations and to any additional limitations imposed by the Society Bylaws.

Article- IV - Administration

Section 1. The Committee shall be managed by a Nuclear Medical and Imaging Sciences Council (NMISC) consisting of elected members-at-large, plus certain ex-officio members as specified herein and in the Bylaws. The number of elected members-at-large shall be 15 members.

Section 2. The terms of office of the elected members-at-large shall be three years. Members-at-large elected to a full term may not succeed themselves, and at least one year must elapse before an individual may be re-elected to the NMISC. Election of members-at-large shall be held annually to fill vacancies for the coming year. The terms of office of the ex-officio members shall be specified in the Bylaws.

Section 3.

(a) The affairs of the Committee shall be managed by a Chairperson, as directed by the NMISC and in accordance with the powers and duties as defined thereunder and in the Bylaws. In the event of the Chairperson's absence or incapacity, his/her duties shall be performed by a Vice-Chairperson.

(b) The Chairperson shall appoint a Secretary for the NMISC. The Secretary need not be chosen from among the elected members at large.

Section 4.

(a) On alternate years a Vice-Chairperson (who shall be the Chairperson elect) is elected by the voting members of the NMISC from the eligible members-at-large of the NMISC. The term of office for the Vice-Chairperson shall be two years as Vice-Chairperson, followed by two years as Chairperson, and two years as the Most Recent Past Chairperson.

(b) Only those members-at-large having one year or more of their term as elected member-at-large remaining shall be eligible for election as Vice-Chairperson. In the event that a Vice-Chairperson is elected to take office at the beginning of the second or third year of their term as member-at-large, said term shall automatically extend until he vacates the office of Most Recent Past Chairperson. During this extension, that individual shall be considered an ex officio member with voting rights. No individual may serve two successive terms as Vice-Chairperson or two successive terms as Chairperson.

(c) In the event that neither the Chairperson or the Vice-Chairperson is able to take office as prescribed in the Bylaws, or if both are incapacitated or if both offices become vacant, the NMISC shall promptly elect an Acting Chairperson from among the members-at-large to assume the duties of Chairperson until either a Chairperson or Vice-Chairperson takes office or resumes their duties.

(d) The Vice-Chairperson will, except under circumstances deemed unusual by a majority of the voting members of NMISC, become the sole nominee for the succeeding Chairperson election.

Section 5. The Chairperson shall be an ex-officio member of all sub-committees of the NMISC.

Section 6. The Chairperson, as soon as expedient after their election, shall appoint the Chairpersons of the sub-committees provided for in the Bylaws.

Article V - Nominations and Election of NMISC Members-at-Large

Section 1. Nominating procedures shall be as prescribed in the Bylaws and shall include provision for nomination by NMISC members.

Section 2. Election of the members-at-large of the NMISC shall be as prescribed in the Bylaws.

Section 3. If a member of the NMISC does not complete their term, the NMISC Chairperson shall appoint a replacement to fill the unexpired portion of the term. When an NMISC member is appointed for a partial term, that person is eligible to run for the next full-term election to the same position.

Article VI - Meetings

Section 1. The Committee may hold meetings, conferences, symposia or conventions either alone or in cooperation with other organizations subject to applicable IEEE and NPSS rules and regulations.

Section 2. Eight voting members of the NMISC shall constitute a quorum. No member shall have more than one vote by reason of multiple offices or Committee responsibilities.

Section 3. A majority of the legal votes cast by those members of the NMISC attending a meeting shall be necessary for the conduct of its business except as otherwise provided in this constitution.

Section 4. Business of the NMISC may be handled by any written means which includes (but is not limited to) correspondence, fax or e-mail if, in the opinion of the Chairperson, matters requiring prompt action can be adequately handled in that manner. A majority of the voting members of NMISC is required to take action in such a case. Such actions are to be promptly confirmed in writing by the Chairperson to NMISC.

Section 5. The NMISC shall meet as required to conduct business and in accordance with the Bylaws.

Article VII - Amendments

Section 1. Amendments to this Constitution may be initiated by petition submitted by a two-thirds vote of the NMISC, such petition being submitted to the Ad Com of the NPSS for approval. After such approval, the proposed amendment shall be publicized in the IEEE TNS or Medical Imaging (TMI), and/or the NPSS Newsletter, with notice that it goes into effect unless 20 Committee members object within 90 days of the date of mailing of the notice. If such objections are received, a copy of the proposed amendment shall be mailed with a ballot to all members of the Committee at least 30 days before the date set for the return of the ballots; the ballots shall carry a statement of the deadline for their return to the IEEE office. When a mail vote of the entire Committee membership is made necessary, approval of the amendment by at least two-thirds of the ballots returned shall be necessary for its enactment.

Section 2. As an alternative to the procedure outlined in Section 1 above, 10 members of the Committee may submit a petition to the Ad Com of the NPSS. If approved by the NPSS Ad Com and after notification of the NMISC, the proposed amendment shall be submitted to the membership by mail ballot as described above.

Section 3. Committee Bylaws, and amendments thereto, may be adopted by two-thirds vote of the NMISC, provided that notice of the proposed Bylaw or amendment has been sent to each member of the NMISC at least a week prior to such meeting. Alternatively, a Committee Bylaw or amendment may be adopted by a two-thirds mail vote of the members of the NMISC, provided a 30-day period is provided for such responses. In either event, the proposed Bylaw or amendment shall be publicized in the NPSS TNS or TMI, and/or the NPSS Newsletter. No Bylaw or amendment shall take effect until it has been approved by the Ad Com of the NPSS.

Article VIII - Revision

Section 1. The Chairperson of the NMISC shall appoint a five-person sub-committee no later than January 1, 2007, and every five years hence to evaluate the effectiveness of this Constitution and Bylaws, to study the rules of governance required by the activities of the Committee at that time, and to consider writing a new Constitution and Bylaws appropriate to the existing and anticipated needs of the NMISC.

Bylaws

1. NMISC: Article IV of the Constitution provides that the NMISC shall consist of a number of elected members-at-large plus certain ex-officio members. The ex-officio members of the NMISC shall be (unless they are already elected members-at-large), the Chairpersons of the Functional Sub-Committees, the Chairperson of the Radiation Instrumentation Technical Committee, the Secretary, the Editors and Associate Editors of the IEEE TNS and other publications as deemed appropriate by the NMISC and such other ex-officio members as are provided for in the Constitution and Bylaws of the NPSS.

1.1 The voting members of the NMISC shall be the elected members-at-large, the Chairperson, Vice-Chairperson, and Most Recent Past Chairperson.

1.2 The NMISC shall meet at least once per year, upon dates determined by the Chairperson at least three weeks in advance of the meeting. Additional meetings may be called at the discretion of the Chairperson or upon request of at least eight voting members of the NMISC with at least three weeks notice.

1.3 The last regularly scheduled meeting in the calendar year shall be considered the Annual Meeting of the NMISC.

1.4 The Annual Meeting of the NMISC will be open to all Committee members.

2. Nomination and Election of NMISC Members: Articles IV & V of the Constitution specify the number of NMISC members-at-large, as well as the term length and restrictions. One third of the NMISC members-at-large posts are to be filled each year by election of the general membership of the Committee.

2.1 The Chairperson of the NMISC is responsible for ensuring that at least one nomination is made for each vacant post. Nominations may be made by any member of the NMISC or any member in good standing of the Committee. Self nominations are allowed.

2.2 The Individual making a nomination must determine in advance that the nominee is willing to serve if elected.

2.3 If there are more nominations than posts to be filled, those nominees receiving the highest number of votes will be elected to the vacant posts.

2.4 The Chairperson of the NMISC shall assure, before April 1, that a call for nominations is conveyed to the whole membership. Additional nominations may be submitted to the nominating committee by July 1 by members of the Committee or by members of the NMISC. Such nominations must include an expression by the nominee of willingness to serve if elected.

2.5 All nominees must be either members in any grade of IEEE and of the Nuclear Medical and Imaging Science Technical Committee or must have submitted applications for membership at the time the nominations are forwarded to IEEE Headquarters.

2.6 The Secretary shall annually arrange for the distribution to the members of the Committee on or about July 31, a ballot to elect the candidates to fill vacancies on the NMISC. The ballot shall be accompanied by a short biographical sketch of each nominee with an indication of their Nuclear Medical and Imaging Science activities and former or present IEEE activities.

2.7 Sixty days after distribution of the ballots, the IEEE Headquarters shall count and tabulate the votes received and report the results to the NMISC.

2.8 The NMISC shall submit to the Secretary of the NPSS Ad Com the names of the candidates with the largest number of votes to fill the designated vacancies.

3. Functional Committees: The NMISTC Chairperson, in concurrence with the NMISC, shall appoint the Chairpersons of the following Functional Sub-Committees:

- The Medical Imaging Conference Oversight Committee.
- Award committee for the MIC award.
- Other Sub-Committees as shall be required for the operation of the NMISTC.

3.1 The term of office of a Chairperson of a Functional Sub-Committee shall be one year, but a Functional Sub-Committee Chairperson may be re-appointed to the same position.

3.2 The Chairpersons of Functional Sub-Committees must be members of the NMISC.

3.3 The membership of the Functional Sub-Committees shall be appointed by the Chairperson of that Functional Sub-Committee. The membership and activities of the Functional Sub-Committees should be publicized to the membership of the Committee via the NPSS Newsletter, and

suggestions for Sub-Committee membership should be invited from Committee members.

3.4 Each of the Functional Sub-Committees shall submit a written report of its activities to the NMISC prior to or at the Annual Meeting.

4. Ballots: All ballots, whether for purposes of election or changes in the Constitution, shall be issued to the voting members by the Secretary pursuant to action by the NMISC. No ballot shall be counted unless unambiguously marked by a qualified voter to indicate their choice, and sent in a sealed envelope bearing the voter's name on or before the specified deadline date. This specified deadline date shall be at least thirty days subsequent to the date of the mailing of the ballots. The distribution and counting of the ballots shall be entrusted to IEEE Headquarters. The IEEE Headquarters will report the results of the election to the Secretary of NMISC, in turn, shall report the results to the NMISC.

5. Beginning of Terms of Office: All terms of office of elected Members-at-Large of the NMISC shall begin January 1 of the year immediately following their election.

6. Election of the Vice-Chairperson of NMISC: The Vice-Chairperson of NMISC shall be nominated and elected from among the eligible members-at-large of the NMISC. A minimum of one month before the annual meeting of the NMISC, the NMISC Secretary will notify all current NMISC members of the upcoming election and solicit nominations (self-nominations are allowed). The nominations will be closed two weeks before the annual meeting of the NMISC, and the Chairperson of the NMISC is responsible for ensuring that at least one nomination for Vice-Chairperson is received by this time. The Secretary of NMISC shall announce to all voting NMISC members-at-large the identities of the candidates at least one week before the annual meeting, and also inform them of the procedure for casting a ballot if they are unable to attend the NMISC annual meeting. The vote will occur during the annual meeting of the NMISC. If there is only one candidate, then that candidate will be elected at the Annual Meeting by those NMISC members in

attendance. If there is more than one candidate, a secret ballot will be taken during the annual meeting and the Chairperson shall designate tellers to immediately count the ballots. Voting NMISC members-at-large who are not attending the annual meeting of the NMISC may submit a ballot by notifying the NMISC Secretary of their choice. The results of the vote shall be announced and the nominee receiving a majority of votes cast shall be declared elected. In the event that no candidate receives a majority of votes cast, runoff elections shall be conducted by secret ballot at the Annual meeting of NMISC among the candidates receiving the two highest number of votes until one candidate receives a majority of the votes cast. For these runoff elections, only those NMISC members in attendance may cast a vote.

7. Records: The secretary shall maintain a permanent record of all non-routine motions passed by the NMISC, written minutes of the Annual Meeting of the NMISC, a roster of all NMISC members, and a membership roster of all NMISC sub-committees. The secretary must provide a tabulation of the most recent five years of motions and a copy of the NMISTC constitution and bylaws to each newly elected member-at-large to the NMISC.

8. Alternates:

8.1 Members-at-Large: An elected Member-at-Large may designate any member in good standing of the NMISTC to represent the Member-at-Large at the NMISC meeting. The representative shall have the privilege of the floor, but may not vote on any matters coming before the NMISC.

8.2 AdCom Representation: If the NMISC Chairperson is unable to represent the NMISC at the NPSS AdCom, the Chairperson may designate the Vice-Chairperson or the Most Recent Past Chairperson as his/her alternate. This alternate has the privilege of the floor and may vote on all matters coming before AdCom.

November 5, 2002 

Ahead of the curve

I believe most assuredly that the next science to find itself in moral difficulties with its applications is biology, and if the problems of physics relative to science seem difficult, the problems of biological knowledge will be fantastic.

Richard P. Feynman (in 1964)

REPORT FROM THE COMMUNICATIONS COMMITTEE

Every two years the NPSS has a new president and as a result a new membership brochure. This brochure has now been printed and is being distributed to the conferences for inclusion in the registration packages. It will be sent out to the membership in September. If you could use some copies of the brochure for local distribution, please get in contact with me, preferably by email and with a Subject line in the email that is distinct from the ones used in junk mail! This helps avoid deletion unread!

As a new initiative this year, we have produced a single page leaflet addressed to the engineers and physicists in the charged particle accelerator field. We have done this because:

- The people in this field have a relatively low representation on our membership lists while the meeting we initiated and which is now jointly sponsored with the American Physical Society, the PAC, is one of our largest meetings. The representation of the technical fields in the administration of the NPSS is based on the membership interest profile with the result that the charged particle accelerator field is underrepresented in the administration of NPSS. This hurts both the field and NPSS.
- Many of the other societies in the IEEE represent technologies that play a role in the complex machines that are charged

particle accelerators. I believe that it can only be an advantage for the engineers and scientists of the field to be more involved in the whole IEEE.

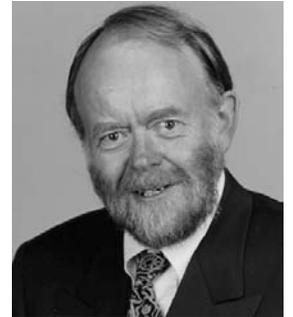
The leaflet has been distributed at the May PAC in Portland. Vern Price and the recruitment booth were there with the new brochure for those interested in exploring the NPSS and IEEE.

We do need any help that you have for content for the NPSS web site. How about a page explaining your neck of the NPSS woods? Some interesting professional and informational links? I doubt that we can link to any commercial sites without looking carefully.

As a result of the new initiatives with the web site and the brochures along with the continuing excellent meetings and publications, the NPSS can boast of the second highest retention rate of the 37 technical societies of the IEEE. We must be doing something right!

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

Peter Clout, the Communications Committee Chair, can be reached at Vista Control Systems Inc., 176 Central Park Square, Los Alamos, NM 87544-3012; Phone: +1 505 662-2484; Fax: +1 505 662-3956; E-mail: clout@vista-control.com



Peter Clout
NPSS
Communications
Committee Chair

Amnesia

Homo sapiens is the species that invents symbols in which to invest passion and authority, then forgets that the symbols are inventions.

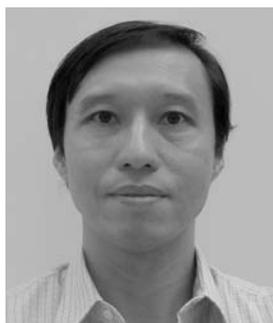
Joyce Carol Oates

AWARDS

NEW IEEE FELLOWS

Each year the IEEE Board of Directors elects no more than 0.1% of the full members to the grade of Fellow. Nominations are made by Senior Members or by Fellows and must be supported by at least six Fellows. After being reviewed and ranked by the appropriate IEEE Society the nominations are passed on to the Fellows Committee of the Board who then recommend a list of candidates for the Board's consideration. The NPSS is pleased that the following members were elected by the Board this year and extends its congratulations to all of them.

Paul K Chu



Paul K. Chu

Prof. Paul K Chu was born in Hong Kong on October 19, 1956. He received his BS in mathematics from the Ohio State University in 1977, and MS and PhD in chemistry from Cornell University in 1979 and 1982, respectively. He joined Charles Evans & Associates in California in 1982 and assumed various technical and managerial positions. After working in the United States for 8 years, he started his own company in Asia and later became a visiting faculty member in the City University of Hong Kong. He became a full-time faculty member in 1996 and is presently Professor (Chair) of Materials Engineering in the Department of Physics & Materials Science in the City University of Hong Kong. He holds concurrent professorships in four Chinese universities: Department of Computer Science in Peking University (Beijing, China) since 1997, Department of Materials Science in Fudan University (Shanghai, China) since 1994, Department of Materials Engineering in Southwest Jiaotong University (Chengdu, China) since 1998, and Southwestern Institute of Physics (Chengdu, China) since 1998. He founded his second company, Plasma Technology Ltd., in 1998 and co-founded Chengdu Pulsetech Electrical Co. Ltd. with a Chinese partner in 2001.

He is a member of the Hong Kong Research Grants Council (RGC) Engineering Panel, member of the Editorial Board of Nuclear Instruments and Methods in Physics Research B: Beam Interactions with Materials Atoms, guest editor of the ICOPS-2003

special issue of IEEE Transactions on Plasma Science, coordinator of the International Plasma Doping Users Group (PDUG), and voting member of the International Plasma-Based Ion Implantation Executive Committee. Prof. Chu is Fellow of IEEE, Fellow of the Hong Kong Institution of Engineers (HKIE), elected scientific member of the Bohmische Physical Society (BPS), as well as member of the American Chemical Society (ACS), American Vacuum Society



Paul Chu competing in a race.

(AVS), Materials Research Society (MRS), and Minerals, Metals & Materials Society (TMS). He served on the International Advisory Board of the IEEE International Conference on Plasma Science (ICOPS) from 1996 to 1998 and the International Organizing Committee of ICOPS 2003, and has been a member of the International Executive Committee of the International Plasma-Based Ion Implantation Workshop since 1998. He was also co-chairman of a number of international conferences such as the International Conference on Materials and Process Characterization and International Workshop on Junction Technology. Prof. Chu is a technical advisor to the National 863 Materials & Surface Engineering R&D Center in Shenzhen, China. Prof. Chu was a member of the Technical Advisory Board of Silicon Genesis Corporation in Campbell, California and is consultant with several companies in the US and Asia.

His research activities focus on plasma science and engineering, ion implantation, thin films, surface modification, materials charac-

Marketing difficulty

We've been doubling sales every 18 months. However, when you start from zero, it takes a long time.

Stephen Yeo (of Wyse)

terization, and semiconductor processing. Two of his research projects have been awarded the "Excellent" rating by the City University of Hong Kong and Hong Kong Research Grants Council. He is author or co-author of 9 book chapters, over 250 journal papers, and over 300 conference papers. He has 7 United States patents.

Prof. Chu is Manager of the varsity badminton and swimming teams of the City University of Hong Kong (CityU). The men's badminton team from CityU has won the Hong Kong inter-collegiate championship for nine straight years. As an amateur athlete, he has won more

than 100 medals in masters swimming competitions, co-held a Hong Kong masters swimming record, and has all the CityU staff swimming records in butterfly and breast stroke. He was also champion in CityU staff singles and teams badminton competitions.

Dr. Chu's Fellow citation reads *"For contributions to the understanding of plasma implantation and deposition."*

Paul Chu can be reached at the City University of Hong Kong, Department of Physics and Material Science, 83 Tat Chee Avenue, Kowloon, Hong Kong, China; Phone: +852-27887724; Fax: +852-27889549; E-mail: paul.chu@cityu.edu.hk 📧

Bruce G. Danly

Dr. Danly received the B.A. degree in physics from Haverford College, and the Ph.D. degree in physics from the Massachusetts Institute of Technology, in 1978 and 1983, respectively. From 1983 to 1995 Dr. Danly was on the research staff at the MIT Plasma Fusion Center, first as Research Scientist from 1983-1992, and then as Principal Scientist from 1992-1995. While at MIT, Dr. Danly participated in research on gyrotrons, free-electron lasers, relativistic klystrons, and other high power RF source technologies for use in plasma heating and high-gradient RF linear accelerators. In 1995, he joined the Naval Research Laboratory as Head of the High Power Devices Section, Vacuum Electronics

Branch, in the Electronics Science and Technology Division. Technologies under investigation in this branch include gyrotron amplifiers (gyroklystrons, gyrotwystrons, gyro-TWTs), free-electron lasers, TWTs, and klystrons. He has also made contributions to the development of high-power millimeter wave radar. Dr. Danly was named fellow of IEEE *"for contributions to the development of high-power millimeter-wave sources for fusion, accelerator, and defense applications."*

Bruce Danly can be reached at the US Naval Research Laboratory, Electronics Science & Technology Division, Code 6843, 4555 Overlook Avenue SW, Washington, DC 20375; Phone +1 202 767-0032; E-mail: danly@nrl.navy.mil. 📧

Gracie E. Davis

Gracie E. Davis received her B. S., M. S. and Ph. D. (1979) in electrical engineering from the University of California, Los Angeles. At the Naval Research Laboratory, her basic research on silicon-on-insulator (SOI) technology lead to selecting SIMOX (Separation by IMplanted OXYgen) as the government's radiation hardened electronics technology. Her SIMOX work was the first to demonstrate the parasitic transistor action of SOI devices and SOI's inherent hardness to total dose, dose rate, single event upset and neutron irradiation.

While at Defense Nuclear Agency, Dr. Davis developed and managed the end-to-end system-level demonstration of optical target acquisition and track file formulation, which developed Operate Through (OT) technologies for military systems. Dr. Davis lead the capture

of aboveground and underground radiation testing data for a Defense Satellite Communications Systems (DSCS) III-like satellite, focal plane arrays, materials, optics and electronics in an interactive data driven analysis tool permitting effective/affordable system-level hardening for future military systems.

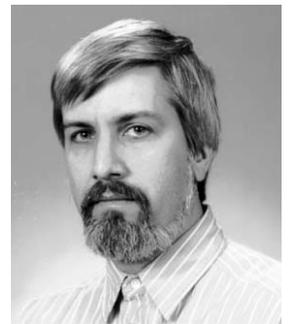
Dr. Davis worked on the IEEE Silicon on Sapphire (SOS)/SOI Workshop Committee. She initiated best paper selection while conference SOS/SOI Workshop chairperson and assisted in the transition the SOS/SOI Workshop to SOI Conference within IEEE Electron Device (ED) Society.

Dr. Davis' Fellow citation reads *"For Contributions to the development of radiation-hard electronics for military and space applications."*

Gracie Davis can be reached at Phone: +1 760 360-5564; E-mail: gedavisva@aol.com 📧

2 out of 3

To do mathematics you need paper, a pen, and a wastebasket; to do philosophy, the paper and pen are enough. Old saying



Bruce G. Danly



Gracie E. Davis

Gerd Muehllehner



Gerd Muehllehner

Gerd Muehllehner was born in 1939 in Germany and came to the United States at age 17. He attended Georgetown University (B.S.) and graduated from the University of Michigan (Ph.D.) in 1966. His doctorate is in the field of Nuclear Physics.

After working for more than 10 years in industry in the field of Nuclear Medicine instrumentation at Searle Radiographics (now part of Siemens), he joined the Department of Radiology at the University of Pennsylvania, Philadelphia in 1979. During his tenure at the U. of Pennsylvania he was active in the development of instrumentation and techniques for Positron Emission Tomography (PET) used for imaging tumors and other metabolically active processes in vivo. After successfully devel-

oping a PET scanner at the University, he and his wife started a small company in Philadelphia, which merged in 1999 with ADAC Laboratories and more recently with Philips Medical Systems.

He continues to be active in research and development and continues his collaboration with a team of researchers at the University of Pennsylvania.

Gerd Muehllehner's Fellow citation reads *"For contributions to positron emission tomography instrumentation and image reconstruction techniques."*

Gerd Muehllehner can be reached at Philips Medical Systems, 3619 Market Street, Philadelphia, PA 19104; Phone +1 215 243-2601; E-mail: gerd.muehllehner@philips.com. 

Tadashi Nishimura

Tadashi Nishimura received his B.S., M.S. and Ph.D. degrees in electrical engineering from Osaka University in 1972, 1975, and 1978, respectively. In 1978, he joined Mitsubishi Electric Corporation, LSI Laboratory.

His research and development activities are in the field of SOI, bulk Si CMOS devices and memory devices, especially as to the SOI device/process technologies he has devoted himself more than 20 years.

In 1978 he started the research and development of ion implantation technology for CMOS device fabrication and he contributed to develop 64k DRAM and 16k SRAM and to transfer them to the manufacturing site. In addition from 1979, he started the research and development of SOI technology by using laser recrystallization technology to form a thin SOI layer and to fabricate CMOS transistors. From 1986 he added to the thin film SOI CMOS technology development by using SIMOX in his SOI activity. From 1981 to 1990, he engaged in the National Project, Three Dimensional ICs, under the management of MITI (Ministry of International Trade and Industry). At the same time he managed the polysilicon TFT technology development for an advanced

low power/high density SRAM and it was successfully implemented in 4MSRAM and 8M SRAM that played an important role in the recent mobile phone market. From 1996 he managed the advanced process and simulation technologies, such as ArF lithography, Cu/low-k interconnect, BST high-k dielectric material for DRAM capacitors and TCAD. These technologies are used for 0.10um generation CMOS logic and embedded devices.

Presently he is the managing officer and the deputy executive general manager of the LSI Manufacturing Technology Unit, Renesas Technology Corporation. He was a visiting professor at Hiroshima University in 1990 and also a visiting professor at Osaka University in 1996 and 1997. Dr. Nishimura is a member of the Institute of Electronics and Communication Engineers of Japan, the Japan Society of Applied Physics, and the IEEE Electron Devices Society.

Tadashi Nishimura's Fellow citation reads *"for leadership in the development of advanced CMOS devices and process technologies."*

Dr. Nishimura can be reached at the Renesas Technology Corporation, LSI Manufacturing Unit, 4-1 Mizuhara Itami Hyogo, Hyogo 666-8641, Japan: E-mail nishimura@renesas.com 

Dead right!
The only species
that do not
change are the
extinct species.

Bob Truett

Pavel Rehak

Pavel Rehak, a physicist at the U.S. Department of Energy's Brookhaven National Laboratory, has been named a Fellow of the Institute of Electrical and Electronics Engineers (IEEE). IEEE is a non-profit, technical professional association that is a leading authority in technical areas ranging from computer engineering to biomedical technology to aerospace.

"I am very honored to be elected as an IEEE Fellow of this prestigious institution," Rehak said. "This nomination represents a very nice recognition of my past technical and professional achievements, which would not have been possible without the support and help of my colleagues at Brookhaven, the Max Planck Institute for Physics in Munich, CERN — the European Laboratory for Particle Physics — and last but not least, the Polytechnic Institute of Milan."

The honor of being named a Fellow is reserved each year to no more than one-tenth percent of the total voting institute membership. IEEE offers Fellowships to members of the organization with an "extraordinary record of accomplishments in any IEEE field of interest," as stated on the IEEE web site. Rehak, who was one of 260 members of IEEE chosen as Fellows for 2003, was cited for "*contributions to the theory and development of particle and photon detectors.*"

Rehak invented a device called the silicon drift detector with Emilio Gatti, a physicist at the Polytechnic Institute in Milan, Italy. This device has been used in many high-energy physics experiments — the most recent ones being the STAR detector at Brookhaven's Rela-

tivistic Heavy Ion Collider (RHIC) and the future ALICE experiment at CERN — to detect charged particles. Silicon drift detectors are also used in electron microscopes to determine the nature of atoms in materials, and in astronomical projects such as the European Space Agency's X-ray Multi-Mirror Newton (XMM Newton) satellite, the most powerful x-ray telescope ever placed in orbit.

Rehak's silicon detectors won him a BNL Distinguished Research and Development Award, the highest honor in the Laboratory's employee awards program, in 1997, and an IEEE Region I Award for contributions to particle physics research in 1999.

Rehak holds two Ph.D.s in physics: one from Charles University in Czechoslovakia, and the other from the Scuola Normale Superiore in Pisa, Italy. After working as a visiting scientist in the Kernforschungszentrum (Center for Nuclear Physics) in Karlsruhe, Germany, from 1972 to 1973, and as an assistant professor at Yale University from 1973 to 1976, he joined Brookhaven Lab in 1976, first in the Physics Department from 1976 to 1995, and then in the Instrumentation Division since 1995. Rehak holds three patents and has authored more than 180 publications in refereed scientific journals.

Editor's note: This article originally appeared as a Brookhaven National Laboratory news release.

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Pavel Rehak

Robert E. Reinovsky

Robert E. Reinovsky received his masters degree in electrical engineering in 1971 and his PhD in 1973 from Rensselaer Polytechnic Institute in the Electrophysics Department where his dissertation work focused on diagnostics for magnetically confined fusion plasmas.

From 1974–1986, Bob worked at the AF Weapons Laboratory (now the AF Research Laboratory) in plasma and pulsed power physics. At the AFWL, his principal interests were high-density plasma z-pinch implo-

sions, radiation processes, plasma diagnostics, and pulsed power physics. Bob was responsible for developing and building four generations of the world-class SHIVA family of high-current, low-impedance pulsed power systems, and for developing and demonstrating world record fuse opening switch performance using these systems.

Techniques in ultra-high current, high explosive pulsed power developed in Los Alamos, starting in the 1950's, caught his imagination. Bob joined Los Alamos National



Robert E. Reinovsky

Pointed observation

Mr. Ambassador, my pappa always told me, never play leapfrog with a unicorn.

Lane Kirkland

Laboratory in 1986 to continue work applying these techniques to high energy density physics and high energy density hydrodynamic problems in plasmas and condensed matter; and to compact pulsed power systems for national defense. Bob led the explosive pulsed power group at Los Alamos from 1990 to 1993 and then joined the Los Alamos High Energy Density Physics program as Project Leader for the Athena pulsed power project and then as Chief Scientist and Deputy Program Manager. Since 1998 he has been the Program Manager for the Pulsed Power Hydrodynamics (PPH) program, which sponsors the development and construction of the Atlas pulsed power system and the Atlas program of liner driven hydrodynamics experiments.

The end of the Cold War and the dissolution of the Soviet Union in 1991 raised significant national security issues about the stability of the Russian nuclear weapons laboratories and about the future of the world-class scientific

staff of those institutions. Bob joined with a few Los Alamos colleagues to establish an active program of unclassified, basic, joint scientific work with these scientists. These efforts, starting in 1992 with pulsed power technology, have grown into a vigorous DOE program of joint activities in the areas of pulsed power, material dynamics and computational mathematics for the mutual benefit of both nations.

Bob is a Fellow of the IEEE, has been elected an Academician in the International Academy of Informatization, and has been awarded the Sakharov Medal by the All Russian Scientific Research Institute of Experimental Physics. His IEEE Fellow citation reads "For contributions to pulse power science and technology."

Bob Reinovsky can be reached at the Los Alamos National Laboratory, Pulse Power Hydrodynamics, MS D420, P.O. Box 1663, Los Alamos, NM 87545; Phone: +1 505 667-8214; Fax: +1 505 665-2828; E-mail: bobr@lanl.gov. ☐

Norman F. Roderick



Norman F. Roderick

Norman F. Roderick is Professor in the Department of Chemical and Nuclear Engineering at the University of New Mexico. He received a B.S. in Engineering Science from the U.S. Air Force Academy in 1962, and a M.S. and Ph. D. in Aerospace Engineering from The University of Michigan in 1964 and 1971 respectively. He started teaching at the University of New Mexico as an Adjunct Professor in 1978 while assigned to the Air Force Weapons Laboratory, and joined the faculty on a full time basis in 1982 after he retired from the Air Force. Prior to coming to UNM he was involved in research and development in aerospace engineering, rocket propulsion, plasma physics, and nuclear weapons effects simulation while in the Air Force. He also taught in the Aeronautics Department at the USAF Academy from 1971 to 1975. His present research inter-

ests are in theoretical and computational plasma physics related to producing and understanding high energy density plasmas, and in the application of plasmas for space power and propulsion. Specific areas include the dynamics and stability of high power Z pinches; high power plasma radiation sources and inertial confinement fusion; electromagnetically imploded solid liners and magnetized target fusion; and advanced spacecraft power and propulsion.

Dr. Roderick's Fellow citation reads "For contributions to the modeling and understanding of high energy density plasmas."

Norman Roderick can be reached at the University of New Mexico, Department of Chemical and Nuclear Engineering, Farris Engineering Center, Albuquerque, NM 87131-0001; Phone +1 505 277-2209; Fax: +1 505 277-5433; E-mail: roderick@unm.edu. ☐

Duck!

The terror is in the anticipation, not the bang.

Alfred Hitchcock

Keith Symon and Stephen Milton Win Particle Science and Technology Award for 2003

Since 1963, the IEEE Nuclear and Plasma Sciences Society has sponsored the biannual Particle Accelerator Conference. The 2003 PAC met in Portland, Oregon from May 12-16. Since 1989, a Particle Science and Technology Award has been presented at PAC to honor outstanding contributions to particle accelerator technology. The 2003 winners are Dr. Keith Symon, Emeritus Professor of Physics at the University of Wisconsin, Madison and Dr. Stephen Milton, Senior Scientist at Argonne National Laboratory.

Dr. Symon obtained a Ph.D. in 1948 from Harvard University. After that he was on the faculty in the Physics Department of Wayne University, Detroit, MI, from 1947-1955. Then he joined the faculty of the Physics Department of the University of Wisconsin-Madison. In 1990 he was made Emeritus Professor of Physics.

At the same time he was a staff member of the Midwestern Universities Research Association (MURA), 1956-67 and then technical director, 1957-60. He was chairman Argonne Accelerator Users Group, 1961-62 and acting director Madison Academic Computing Center, 1982-83 and acting director, UW-Madison Synchrotron Radiation Center, 1983-85.

He has been a most productive research physicist working in the areas of the design of particle accelerators and plasma physics. Besides inventing FFAG accelerators he developed the smooth approximation method for approximating the solutions of differential equations with periodically varying coefficients, formalized the theory of radio-frequency acceleration in fixed field accelerators, and contributed, greatly, to the development of colliding beam techniques. He was among the first to develop the theory of collective instabilities in accelerators. (A subject that spawned a thousand papers.) He also contributed to the linearized analysis of inhomogeneous plasma equilibria and developed a method of bit pushing and distribution pushing techniques for the numerical solution of the equations employed in both plasma physics and the study of collective instabilities in accelerators (the Vlasov equation).

He was an outstanding supervisor of graduate students, having been the major professor

for 20 graduate students gaining Ph.D.s from the UW-Madison. He was author of *Mechanics*, a popular undergraduate textbook, Addison-Wesley, 1953, 3rd Ed., 1971.

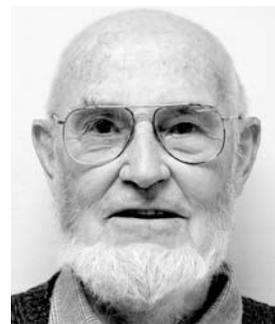
Dr. Symon is cited "For many fundamental accelerator concepts which include invention of Fixed Field Alternating Gradient Accelerators (FFAG), most notably incorporated into spiral sector cyclotrons; for defining a formalism describing motion under the influence of RF as required for stacking and other particle manipulations; and for techniques for analyzing collective instabilities."

Dr. Milton obtained a Ph.D. in 1990 from Cornell University. After a post-doctoral position at the Paul Scherrer Institute in Switzerland from 1990-92, he held various positions at Argonne National Laboratory. He currently serves as ANL LCLS Project Director. The Linac Coherent Light Source (LCLS) project will construct an x-ray free-electron laser at the Stanford Linear Accelerator Center (SLAC). At Argonne, Dr. Milton will direct efforts that will create the undulator and associated systems component of the LCLS.

As part of the team that built and commissioned the Argonne Advanced Photon Source (APS), Dr. Milton was manager for the Injector Synchrotron Ring. He then led the effort to create the Low Energy Undulator Test Line (LEUTL) and simultaneously was group leader of the APS Accelerator Physics Group. Using the LEUTL facility, a Free Electron Laser employing self-amplified spontaneous emission (SASE) was created. At this facility they first demonstrated lasing to saturation of a visible and ultraviolet SASE FEL. This FEL is now regularly operated and tunable down to 130 nm.

Dr. Milton is cited "For contributions to coherent radiation sources especially his leading role in achieving saturated operation at visible and ultraviolet wavelengths in a self-amplified spontaneous emission free-electron laser."

This article was prepared by Bruce Brown, the Chair of the NPSS Particle Accelerator and Technology Committee. He can be reached at the Fermi National Accelerator Laboratory, MS 221, P.O. Box 500, Batavia, IL 60510; Phone: +1 630 840-4404; Fax: +1 630 840-6311; E-mail: bcbrown@fnal.gov.



Keith Symon



Stephen Milton

PUBLICATIONS

PARTICLE ACCELERATOR ARTICLES



Alan Todd

In celebration of 20 years of the biennial IEEE Particle Accelerator Conference (PAC) beginning in 1963, Drs. Patrick O'Shea (University of Maryland), Alan Todd (Advanced Energy Systems) and Sandra Biedron (MAX-Laboratory and Advanced Photon Source) will be preparing a number of articles relating to particle accelerators. The 2003 Particle Accelerator Conference (PAC) is being held in Portland, Oregon from 12-16 May. More information on PAC can be found at <http://www-conf.slac.stanford.edu/pac03/>

The first in the series of short informative articles will be on accelerator-based light

sources including free-electron lasers, energy-recovery linear accelerators, and synchrotron storage rings. In following issues, there will be features on high-energy and nuclear physics machines, neutron sources and commercial accelerator applications.

Alan Todd is a former elected member of AdCom. He can be reached at Advanced Energy Systems, P.O. Box 7455, 501 Forrester Road, Suite 316, Princeton, NJ 08543-7455; Phone: +1 609 514-0316; Fax: +1 609 514-0318; E-mail: alan_todd@mail.aesys.net

SPECIAL TOPIC ISSUES FOR THE IEEE TRANSACTIONS ON PLASMA SCIENCE

Scheduled Special Topic issues of the *IEEE Transactions on Plasma Science* are the following:

Feb. 2003 Special Issue on Plenary and Invited papers from ICOPS-2002
Guest Editor: Professor Clarence E. Capjack (University of Alberta, Edmonton Alberta Canada), Already Published

Aug. 2003 Special Issue on the Modeling & Simulation of Collisional or Near-Collisionless Low Temperature Plasmas
Guest Editors: Professor Demetre Economou (University of Houston, Houston TX USA)
Dr. Meyya Meyyappan (NASA Ames Research Center, Moffett Field CA USA),
Professor Toshiaki Makabe (Keio University, Yokohama Japan)

Oct. 2003 Special Issue on Vacuum Discharge Plasmas
Guest Editors: Dr. Kenneth W. Struve (Sandia National Laboratories, Albuquerque, NM USA)
Professor Raymond Boxman (Tel Aviv University, Tel Aviv, Israel)
Dr. Ekkehard Schade (ABB Corporate Research Ltd. Baden

Switzerland)
Dr. Rene P.P. Smeets (Eindhoven University of Technology, Eindhoven, The Netherlands)

Dec. 2003 Special Issue on Space Plasmas
Guest Editors: Dr. Anthony Peratt (Los Alamos National Laboratory, Los Alamos NM USA)
Karl-Gunne Falthammar (The Royal Institute of Technology, Stockholm Sweden)

Dec. 2003 Special Issue on Pseudospark Physics and Applications
Guest Editors: Professor Martin Gundersen (University of Southern California, Los Angeles CA, USA)
Dr. Werner Hartmann (SIEMENS AG - Corporate Technology - Erlangen GERMANY)

Feb. 2004 Special Issue on Plenary and Invited papers from ICOPS-2003
Guest Editor: Professor Sang Hee Hong (Seoul National University, Seoul, South Korea)

Apr. 2004 Special Issue on Physics of Dusty Plasmas
Guest Editors: Dr. Alexei Ivlev (Max Planck Inst fur extraterrestrische Physik, Garching-bei-Munchen Germany)



Steven J. Gitomer
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- Apr. 2004 Special Issue of Selected Contributed Oral Papers from ICOPS 2003
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 Dr. David K. Abe (Naval Research Laboratory, Washington DC USA)
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 Professor Daniel N. Baker (University of Colorado, Boulder CO USA)
 Dr. K. Koutroumbas (National Observatory of Athens, Athens Greece)
- Aug. 2004 Special Issue on Non-thermal Medical/Biological Applications of Ionized Gases and Electromagnetic Fields
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 Dr. Walter R. Rogers (Air Force Research Laboratory, Brooks AFB TX USA)
 Dr. Andrei Pakhomov (Air Force Research Laboratory, Brooks AFB TX USA)
- Oct. 2004 Special Issue on Pulsed Power Science and Technology
Guest Editors: Dr. James Dickens (Texas Tech University, Lubbock TX USA)
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 Dr. Jane Lehr (Sandia National Laboratories).

If you have any questions about these special issues or about TPS in general please get in touch with Steven J. Gitomer, the editor of TPS. He can be reached at the Safeguards Systems Group, Los Alamos National Laboratory, Mail Stop E541, Los Alamos, NM 87545; Phone: +1 505 667-4352; Fax: +1 505-667-0966; E-mail: sgitomer@lanl.gov

Home on the range

In the United States there is more space where nobody is than where anybody is. That is what makes America what it is.

Gertrude Stein

Agreeing to disagree

We are of like mind on a lot of things, we just speak our minds differently.

Jim Hart

Occupation

A learned man is an idler who kills time with study.

George Bernard Shaw

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