



2002 IEEE
NUCLEAR SCIENCE SYMPOSIUM
and
MEDICAL IMAGING CONFERENCE
including the
SYMPOSIUM ON NUCLEAR POWER SYSTEMS

November 10-16, 2002
Norfolk Waterside Convention Center
Norfolk Marriott and Sheraton Norfolk Hotels
Norfolk, Virginia



*Call for
 Papers*

**SUBMISSIONS BY
 APRIL 19, 2002**

NSS

NUCLEAR SCIENCE SYMPOSIUM

November 12-14, 2002

Sponsored by the Nuclear and Plasma Sciences Society of the Institute of Electrical and Electronics Engineers in cooperation with the University of Pennsylvania.

The Nuclear Science Symposium (NSS) offers an outstanding opportunity for scientists and engineers in the field of nuclear science to meet with their colleagues and present new and original work on the latest developments in technology and instrumentation. Instruction 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Authors are invited to submit papers describing original, previously unpublished work in the topics areas listed below: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*
- *Data Acquisition and Analysis Systems*
- *Environmental Health and Safety Instrumentation*
- *Gas Detectors*
- *High Energy Physics Instrumentation*
- *New Radiation Detectors*
- *Nuclear Measurements and Monitoring Techniques*

- *Nuclear Power Systems*
- *Nuclear Physics Instrumentation*
- *Photo Detectors*
- *Radiation Damage Effects*
- *Scintillation Detectors*
- *Semiconductor Detectors*
- *Synchrotron and Neutron Instrumentation*

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MIC

MEDICAL IMAGING CONFERENCE

November 13-16, 2002

Sponsored by the Nuclear and Plasma Sciences Society of the Institute of Electrical and Electronics Engineers in cooperation with the University of Washington.

The Medical Imaging Conference (MIC) 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. Instruction on specialized topics will also be available through the Short Course program.

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*

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IEEE
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PLASMA SCIENCES
SOCIETY

SYMPOSIUM ON NUCLEAR POWER SYSTEMS

November 13–14, 2002

The Symposium on Nuclear Power Systems (SNPS) will again be held in conjunction with the Nuclear Science Symposium. 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*
- *A Special Annual Overview Report of Major Importance to Nuclear Power Utilities*
- *Risk Informed Regulation-Panel Session*
- *And More*

Jay Forster

SNPS Program Chair
Phone: 408.925.5090
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GE Nuclear Energy
San Jose, CA

SHORT COURSE PROGRAM

November 10–12, 2002

Courses on topical subjects in nuclear science and medical imaging will be offered in conjunction with the Symposium. Specific course titles and organizers will be provided with the registration material and will be available at the conference web site. Likely topics will include:

- *Advanced Electronics Packaging*
- *Detector Technologies for Nuclear and/or High Energy Physics*
- *Electronics for Nuclear Science*
- *Interaction of Radiation with Matter*
- *Medical Imaging Reconstruction Techniques*
- *Medical Imaging Fundamentals*
- *Tutorials on Selected Imaging Modalities*

Gary Alley

Short Course Program Chair
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Oak Ridge National Laboratory
Oak Ridge, TN

Dear Colleagues,

The 2002 IEEE Nuclear Science Symposium and Medical Imaging Conference will be held in Norfolk, Virginia, at the Norfolk Waterside Marriott and the Sheraton Norfolk Waterside Hotels. In addition, the Symposium on Nuclear Power Systems will continue to be held in conjunction with the NSS/MIC.

Norfolk is a 400 year-old seaport packed with galleries, theaters, museums, a variety of shopping options, and a wealth of military history! Norfolk sits at the center of the east coast of the United States at the base of the historic Chesapeake Bay. A trip to Norfolk can include wonderful activities ranging from attending outdoor concerts to shopping and dining at Norfolk's waterside to historical tours and cruises.

We welcome scientists and engineers in the field of nuclear science and medical imaging to participate and present original work in a variety of subject areas related to these fields. In addition, specialized topics covering a wide range of nuclear and medical technology will be presented in the Short Course Program.

I look forward to seeing you in Norfolk.

Joel Karp

General Chairman
Phone: 215.662.3073
E-mail: karp@rad.upenn.edu

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www.nss-mic.org

INSTRUCTIONS AND INTERESTS

Conference Paper Submissions

All submissions will be required to be submitted electronically to the appropriate Program Chair. Instructions for electronic paper submission will be given at the conference web site (<http://www.nss-mic.org>), along with information on how to prepare abstracts and summaries in the appropriate format. Please indicate whether you desire an oral presentation or a poster presentation. Authors encountering questions or problems in submitting their papers should contact the respective Program Chair.

All NSS, MIC and SNPS abstract and summaries submissions must be received by April 19, 2002.

Abstract

Abstracts shall be submitted electronically via the conference web site and must fit within a 11.5 x 10 cm block when printed.

Summary

A summary describing the important features of the paper must accompany each abstract. The Summary shall have a maximum length

of two pages including figures and tables. Since the summary will be the basis for paper selection, care should be taken in its preparation such that it properly describes the relevance and important conclusions of the work. As an aid to the Papers Review Committee, please indicate which conference topic from the previous lists most closely represents the subject area of the paper.

Publications

All papers presented at the NSS and MIC will be published in the Conference Record provided they are received at the conference. In addition, NSS and MIC authors may submit their papers to a special conference issue of the IEEE Transactions on Nuclear Science. Medical Imaging authors may alternatively choose to submit their manuscripts to the IEEE Transactions on Medical Imaging, however, there will not be an issue dedicated to conference papers. All Transaction papers will be subject to a formal review process. Detailed information on paper publication will be provided to authors of accepted papers.

Conference Web Site Information

Further details on paper submission, as well as other items related to the conference, will be available at the conference web site: <http://www.nss-mic.org>.

Exhibits

Vendors with products and services relevant to the NSS, MIC and Nuclear Power Systems are encouraged to participate in the conference. An exhibition area central to conference activities will be provided to display the latest in products and innovations. Interested vendors should contact:

Ms. Faye Pastor, Show Manager
Trade Associates Incorporated
9426 Stewartown Road, Suite 1A
Gaithersburg, MD 20879-1453 USA

Phone: 301.519.1610 • Fax: 301.519.8552

Companion Program

Norfolk and its surroundings offer a broad variety of cultural, cosmopolitan, natural and historic attractions. The companion program will offer daily trips to places of interest for everyone.

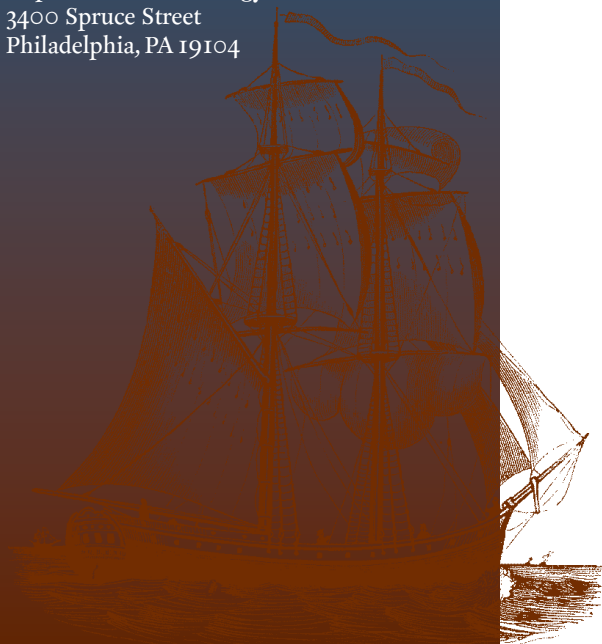
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*Abstract
Deadline*

APRIL 19, 2002

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**RADIATION DETECTORS AND ELECTRONICS:
APPLICATIONS IN PHYSICS, INDUSTRY, SPACE
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**PHYSICS, ENGINEERING AND MATHEMATICAL
ASPECTS OF MEDICAL IMAGING**

**INDUSTRIAL PROGRAM INCLUDING AN
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- *Short Courses*
- *Oral Presentations*
- *Poster Sessions*
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www.nss-mic.org



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