

IEEE
NUCLEAR SCIENCE
SYMPOSIUM
and
MEDICAL IMAGING CONFERENCE

HAWAII 2007
OCTOBER 28 - NOVEMBER 3

Final Call for Papers

ABSTRACT SUBMISSION DEADLINE:

May 11, 2007

NUCLEAR SCIENCE SYMPOSIUM

MEDICAL IMAGING CONFERENCE

SHORT COURSES

REFRESHER COURSES

INDUSTRIAL PROGRAM

ASIAN-PACIFIC PROGRAM

SPECIAL TOPIC WORKSHOPS

HILTON HAWAIIAN VILLAGE
HONOLULU, HAWAII, USA

www.nss-mic.org/2007
E-mail: nss-mic2007@jhmi.edu





Dear Friends and Colleagues,

We are writing to personally welcome you to attend the 2007 IEEE Nuclear Science Symposium (NSS) and Medical Imaging Conference (MIC). The meeting will be held on October 28 – November 3, 2007 at the Hilton Hawaiian Village Hotel in Honolulu, Hawaii, USA. For the first time, the Hawaiian site was chosen for its location as a crossroad between the US mainland and the booming Asian-Pacific region. A major objective of the joint conference is to attract and welcome new members from countries in this region to the IEEE Nuclear and Plasma Sciences Society (NPSS) and to encourage current members in this region to become more actively involved in the Society. This follows our very successful experience of holding the conference in Europe, for the first time in Lyon, France in 2000 and then in Rome, Italy in 2004. We hope the 2007 conference will provide a unique opportunity to promote and foster closer interactions and collaborations between colleagues in nuclear science and medical imaging from the Asian-Pacific countries and all over the world to further enhance its truly international character. A special session organized by our Asian-Pacific members is being planned.

The Organizing Committee is planning on a joint conference that offers state-of-the-art and up-to-date scientific information through the regular oral and poster presentations. There will be a number of topical short courses held before the meeting, and new refresher courses held during the meeting to review current topics of special interest. To support and enhance these scientific and educational activities, the Organizing Committee is working hard on an active fund raising campaign.

The Nuclear Science Symposium (NSS) 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 discuss ideas with colleagues from around the world. The program emphasizes the latest developments in technology and instrumentation and their implementation in experiments for space, accelerators, other radiation environments, and homeland security.

The Medical Imaging Conference (MIC) offers a unique forum for specialists in detector technologies to interact and exchange ideas with imaging scientists and experts in various biomedical technologies. It is an excellent venue for communication and discussion of novel medical and biomedical imaging technologies and their range of use. The program emphasizes the latest developments in detector technologies, instrumentation, image processing and reconstruction methods, and simulation tools and modeling techniques for x-ray CT, PET/CT and SPECT/CT and for application to clinical diagnostic radiology, small animal imaging, drug development and other biomedical research.

A commercial exhibit featuring state-of-art products and services from a wide range of vendors will take place during the main part of the meeting. Also, a companion program will provide daily tours to the many attractions and activities in and around Honolulu and Oahu Island during the conference.

On behalf of the organizing committee, we extend our warmest welcome to you and encourage you to make plans now to attend this exciting joint conference of the IEEE Nuclear and Plasma Sciences Society. We look forward to welcoming you to beautiful Honolulu, Hawaii.

General Chair:

Benjamin M. W. Tsui
Johns Hopkins University
JHOC 4263, 601 N. Caroline Street
Baltimore, MD 21287-0859, USA
Phone: +1 443-287-4025 / Fax: +1 410-614-1977
E-mail: nss-mic2007@jhmi.edu

Deputy General Chair:

Ronald J. Jaszcak
Duke University Medical Center
DUMC-3949
Durham, NC 27710, USA
Phone: +1 919-684-7685 / Fax: +1 919-684-7122
E-mail: rjj@dec3.duhs.duke.edu

October 29 – November 2, 2007 Nuclear Science Symposium

The Nuclear Science Symposium (NSS) 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 discuss with colleagues from around the world. The program emphasizes the latest developments in technology and instrumentation and their implementation in experiments for space, accelerators, other radiation environments, and homeland security. Topical workshops cover areas of specific interest. Within the framework of an educational scientific program. Short courses are organized focusing on topics of interest for the scientific community. Authors are invited to submit papers describing original unpublished works in the topics areas listed.



Ren-Yuan Zhu
NSS Program Chair

California Institute of Technology
256-48 CALTECH
Pasadena, CA 91125

E-mail: nss2007@caltech.edu
Phone: +1 626-395-6661
Fax: +1 626-795-3951

Liyuan Zhang
NSS Deputy Program Chair

California Institute of Technology
256-48 CALTECH
Pasadena, CA 91125

E-mail: nss2007@caltech.edu
Phone: +1 626-395-6618
Fax: +1 626-795-3951

- Instrumentation for Homeland Security
- Analog and Digital Circuits
- Astrophysics and Space Instrumentation
- Data Acquisition and Analysis Systems
- Environmental Health and Safety Instrumentation
- Gaseous Detectors
- High Energy and Nuclear Physics Instrumentation
- Nuclear Measurements and Monitoring Techniques
- Photodetectors and Radiation Imaging
- Radiation Damage Effects
- Scintillators and Scintillation Detectors
- Solid State Tracking Detectors
- New Solid State Detectors
- Synchrotron Radiation Instrumentation
- Trigger and Front-End Systems
- Instrumentation for Medical and Biological Research
- Accelerators and Beam Line Instrumentation
- Computing and Software for Experiments
- Neutron Imaging and Radiography

October 31 – November 3, 2007 Medical Imaging Conference

The Medical Imaging Conference (MIC) is the longest standing and most respected international scientific meeting on the physics, engineering and mathematical aspects of x-ray and nuclear medicine based imaging. Each year significant innovations in all forms of medical and biomedical imaging are presented at the MIC. The MIC offers a unique forum for specialists in detector technologies to interact and exchange ideas with imaging scientists and experts in various biomedical technologies. The MIC is an excellent venue for communication and discussion of novel medical and biomedical imaging technologies and uses. Authors are invited to submit papers describing original and innovative contributions to the field of biomedical imaging in the topic areas listed.



Eric C. Frey
MIC Program Chair

Johns Hopkins University
601 N. Caroline Street / JHOC 4263
Baltimore, MD 21287-0859

E-mail: mic2007@jhmi.edu
Phone: +1 443-287-2426
Fax: +1 410-614-1977

Magnus Dahlbom
MIC Deputy Program Chair

David Geffen School of Medicine at
UCLA
650 Charles Young Drive South
Los Angeles, CA 90095

E-mail: mic2007@jhmi.edu
Phone: +1 310-206-8273
Fax: +1 310-206-4899

- PET and PET/CT Instrumentation
- SPECT and SPECT/CT Instrumentation
- X-ray CT Instrumentation
- PET and PET/CT Reconstruction
- SPECT and SPECT/CT Reconstruction
- X-ray CT Reconstruction
- Small Animal Imagers and Imaging
- Multi-modality Imagers and Imaging
- Application-Specific Imagers and Imaging
- Simulation Tools and Modeling
- Acquisition and Processing of Dynamic Data
- Quantitative Imaging and Compensation Techniques
- Image Processing, Evaluation and Quality Assessment
- Scintillator-Based Detection/Imaging Technologies
- Semiconductor Detection/Imaging Technologies
- X-ray and CT Technologies and Techniques
- Non-Ionizing Imaging Technologies and Techniques
- Clinical and Research Applications of Biomedical Imaging
- Imaging in Drug Development and Biological Research

Short Course Program

In depth half-day and full-day courses on topical subjects in science and medical imaging will be offered prior to the Conference. Topics will include:

NSS SHORT COURSES:

- Nuclear Science for Homeland Security
- Radiation Detection and Measurement
- Integrated Circuit Front Ends for Nuclear Pulse Processing

MIC SHORT COURSES:

- Programming and Medical Applications Using Graphics Hardware
- Image Quality
- Molecular Biology
- Statistical Methods for Image Reconstruction
- Dynamic Imaging in Emission Computed Tomography
- Physics and Design of Detectors for PET and SPECT

Please visit the conference website www.nss-mic.org/2007 for updated information

Stephen E. Derenzo

NSS Short Course Program Chair
Lawrence Berkeley National Laboratory
Berkeley, California, USA
Tel: +1 510-486-4097
Fax: +1 510-486-4768
Email: sederenzo@lbl.gov

Grant T. Gullberg

MIC Short Course Program Chair
Lawrence Berkeley National Laboratory
Berkeley, California, USA
Tel: +1 510-486-7483
Fax: +1 510-486-4768
Email: GTGullberg@lbl.gov

New Refresher Course Program

Refresher courses will be offered for the first time during the conference. They are short lectures designed to provide reviews of current topics that interest most participants. Topics will include:

NSS REFRESHER COURSES:

- Improving Gas Detectors: Why and How
- Digital Designs with FPGAs: Examples and Resource Saving Tips

MIC REFRESHER COURSES:

2-4 Refresher Courses and 1-2 Focused Courses on topics related to the meeting scheduled for outside of normal session times.

Please visit the conference website www.nss-mic.org/2007 for updated information.

Special Asian-Pacific Program

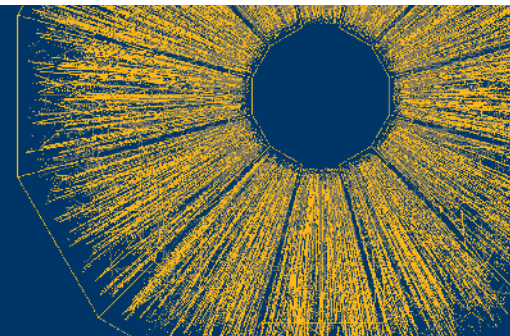
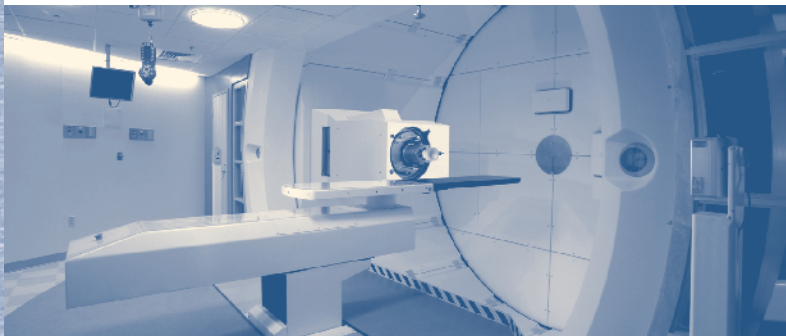
Following the success of holding the NSS/MIC conference in Europe, a major reason of holding the conference in Hawaii is to reach out to our colleagues in the fast growing Asia and the South Pacific region. A special Asian-Pacific Program is being planned to provide a forum for the participants to learn about the great deal of scientific research and technological development in the Asian-Pacific region that is of great interest to the nuclear science, medical physics and medical imaging community. It will provide an opportunity for a meeting between colleagues in the east and west to promote scientific exchange and for broadening our involvement in a more international scientific community.

Anatoly B. Rozenfeld

Asian-Pacific Program Chair
Centre for Medical Radiation Physics
Faculty of Engineering
University of Wollongong
Wollongong NSW 2522 Australia
Tel: +61 2-42214574
Fax: +61 2-42215474
Email: anatoly@uow.edu.au

Special Session on Technology Transfer

In the special session on Technology Transfer professionals and top experts from the field will share their experience and present examples of great success stories within our community where “just an idea” or “small invention” lead to a new commercial product, spin-off, or a new company. Conference participants will have an opportunity to enquire and learn about the necessary steps for such success paths. Technology Transfer Office professionals and experts will provide information concerning intellectual property, patents, seed money, venture capital and other forms of start-up funding. Detailed information can be found on the conference website www.nss-mic.org/2007.



Abstract Submission Deadline: May 11, 2007

Conference Paper Submission

Authors are invited to submit their abstracts electronically to the NSS or MIC Program Chair via the conference website (www.nss-mic.org/2007). Please indicate whether you desire an oral or a poster presentation. Oral presentations will be exclusively electronic (no slides or overheads). A summary describing the important features of the paper and with supporting data must be submitted electronically with each abstract. The summary has no predetermined layout, but must be a PDF document having 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 to make sure that it properly describes the relevance and important conclusions of the submitted work. As an aid to the reviewing of the papers, please indicate which conference topic (selected from the list on the respective conference home page) most closely represents the subject area of the paper. All abstracts and summaries received will be reviewed by the NSS and MIC Program Chairs and their committees. The accepted abstracts and summaries will be sorted between oral and poster presentations and assigned a location within the conference schedule.

Publications

All papers presented at the NSS, MIC and Workshops will be published in the Conference Record provided they are received at or before November 16, 2007. In addition, all authors are encouraged to submit their papers to the IEEE Transactions on Nuclear Science. Authors of medical imaging may alternatively choose to submit their manuscripts to the IEEE Transactions on Medical Imaging. All Transaction papers will be subject to a formal review process. Detailed information on paper publication will be provided to authors of accepted papers.



Industrial Program

Vendors with products and services related to the NSS and MIC are invited to participate in the Industrial Program, which comprises an exhibition and an integrated program of technical seminars. An exhibition area central to conference activities will be provided to display the latest in products and innovations. Interested vendors should contact:

Ron Keyser
Industrial Program Chair
ORTEC
Oak Ridge, Tennessee, USA
Tel: +1 865-483-2146
Fax: +1 865-481-2438
Email: Ron.Keyser@ametec.com

Companion Program

Honolulu and the Hawaii Islands offer a broad variety of cultural, historical, natural and tourist attractions. The companion program will offer daily trips to places of interest during the entire conference. Also, pre-conference and post-conference tours are offered to Kauai and the Island of Hawaii. Details of the Companion Program and registration will be posted to the conference website www.nss-mic.org/2007.

Kathy Gullberg
Nancy Jaszczak
Companion Program Co-Chairs
Email: kathy.gullberg@gmail.com
njj@spect.com



Traveling to Honolulu, Hawaii

A formal letter of invitation for visa purposes can be downloaded from, and more information on Honolulu, Hawaii, hotel accommodations and general travel information can be found on the conference website www.nss-mic.org/2007.

welcome