Radiation Safety Information Computational Center

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Tact is the unsaid part of what you think; its opposite, the unthought part which you say.—
Henry Van Dyke

Geant4 and the SLAC Geant4 team

Geant4 [1,2] is a toolkit for the simulation of elementary particles and ions passing through and interacting with matter. It is developed and maintained by an international collaboration [3]. Geant4 is the successor of Geant3, the world-standard toolkit for HEP detector simulation and was developed with sufficient functionality and flexibility to also handle heavy ion physics, CP violation physics, cosmic ray physics, astrophysics, space science and medical applications.

Geant4 functionality includes geometry, tracking, physics models and scoring. The physics coverage includes electromagnetic, hadronic, decay and optical processes, and includes various event biasing (a.k.a. variance reduction) options. A large set of long-lived particles and an extensive set of materials and elements are also provided. The toolkit works over a wide energy range starting in some cases from 100 eV and extending in other cases to several TeV.

Geant4's design allows for easy and transparent selection of physics models, handles complex and even dynamic geometries, and allows easy adaptation for optimal use in diverse applications.

Because BaBar was the first HEP experiment to adopt Geant4 as its simulation engine, the Stanford Linear Accelerator Center (SLAC) has been heavily involved in the development of Geant4 for many years.

The SLAC Geant4 team [4] offers support and consulting for users in the U.S. for all Geant4 application domains from HENP to space science and medicine [5] and has conducted Geant4 tutorials at many locations in the U.S. [6]. The SLAC Geant4 team looks forward to collaborating with the users at Oak Ridge and throughout the U.S.

[1] *Nuclear Instruments and Methods in Physics Research* A 506 (2003) 250-303
[2] *IEEE Transactions on Nuclear Science* 53 No. 1 (2006) 270-278.
[3] http://cern.ch/geant4/
[4] http://geant4.slac.stanford.edu/
[5] http://geant4.slac.stanford.edu/g4namu/
[6] http://cerncourier.com/cws/article/cern/29747

Makoto Asai
Scientific Computing & Computing Services
Stanford Linear Accelerator Center

UT Nuclear Engineering Colloquium Archives of Dr. Alvin Weinberg

For almost a decade, Dr. Alvin Weinberg was the annual 'Kick-off Speaker' of The University of Tennessee Nuclear Engineering (UTNE) Department Colloquium Program, in which distinguished people from industry, government, and academia are invited to speak to UTNE students, faculty, and guests. The UTNE Colloquium Program occurs almost weekly throughout the academic year and is web cast in real time to anyone who has a broadband connection to the Internet (see http://www.engr.utk.edu/nuclear/colloquia/index.html). According to Dr. Lee Dodds, UTNE Department Head, "Dr. Weinberg was a nuclear pioneer who participated in the Manhattan Project and also directed the Oak Ridge National Laboratory for many years. Thus, he was the ideal choice to be our kick-off colloquium speaker each fall, and he graciously agreed to do so." Dodds continued, "Dr. Weinberg was a role model for many people including me. I first had the pleasure of meeting him when I was an 18-year old freshman at UT many years ago, and I had several occasions subsequently to interact with him, which have provided many fond memories. We have at least five of Dr. Weinberg's colloquium presentations (9-1-04, 9-3-03, 9-4-02, 9-5-01, and 9-20-00) archived on our web site at http://www.engr.utk.edu/nuclear/colloquia/Archive/. These archived presentations by Dr. Weinberg, which I consider to be priceless, are accessible by the general public anytime (24/7)."

Lee Dodds, Head
U. of Tennessee Nuclear Engr. Dept.

Changes to the Computer Code and Data Collection

CCC-553/RASCAL 3.0.5

Athey Consulting, Charles Town, West Virginia, and the U.S. Nuclear Regulatory Commission (NRC), Washington, DC, contributed a newly frozen version of the Radiological ASsessment for Consequence AnaLysis code system designated RASCAL Version 3.0.5, December 2006 release with January 2008 updates. RASCAL can estimate reactor source terms, atmospheric transport and doses resulting from radiological emergencies and can be used to assist in making protective action decisions. It was developed for the U.S. Nuclear Regulatory Commission and is designed to be used in the independent assessment of dose projections during response to radiological emergencies. Here is a brief summary of what has changed from the original RASCAL v3.0.5.

- Monitored mixtures source term—Fixed a problem with the source term generated when the measurement was taken after reactor shutdown. The code was not properly handling the decay.
- Effluent rates and concentrations source terms—Fixed a problem where the release start and stop times had to match the sample period exactly or an "insignificant source term" message was generated.

- UF6 Plume Model—Fixed a problem that resulted in zero doses for a release inside a building.
- Facility Data—Added data for the Laguna Verde nuclear power plant in Mexico to the facility database, facility help file, and site data.
- Source terms for enriched uranium releases—Fixed an issue that applies to effluent releases in which "enriched uranium" is the nuclide released. This RASCAL option would predominantly be used by fuel cycle facilities.

RASCAL runs on personal computers under Windows operating systems. The software has been tested mostly under Windows XP. Microsoft Visual Basic 6.0 and Compaq Visual Fortran 6.5 compilers were used to create the executable included in the package. No source files are distributed. Included are the referenced documents and one CD which includes executables, data, help files, and an install procedure. Source files are not included in this release. References: NUREG-1887 (August 2007) and NUREG-1889 (September 2007). Fortran 77, Basic; Pentium running Windows (C00553PC58608).

CCC-684/NRCDose 2.3.10

Chesapeake Nuclear Services, Inc., Annapolis, Maryland, contributed a corrected version of this user-friendly, 32-bit, PC-based, software interface for the LADTAP II, GASPAR II, and XOQDOQ programs which operates under all Microsoft Windows platforms. In this release of NRCDose 2.3.10, BLOCK data functionality in the GASPAR module was corrected. NRCDose includes LADTAP II, GASPAR II, and XOQDOQ with a WINDOWS interface to facilitate ease of use.

NRCDose was tested on Pentium computers under Windows XP and Windows Vista. The distributed executables were created with the Microsoft Fortran PowerStation Version 4.0 and Microsoft Visual Basic 6.0. Source files are not included, so this code system can be run only on PCs under Windows. The package is transmitted on CD in Windows format. References: "User's Guide," (May 2006); NUREG/CR 4653, PNL 5907 (March 1987); NUREG/CR 1276, ORNL/NUREG/TDMC 1 (March 17, 1980); NUREG/CR 2919 (PNL 4380) (September 1982). Fortran and Visual Basic; Pentium (C000684PC58608).

CCC-739/MVP/GMVP II

The Reactor Physics Group, Japan Atomic Energy Agency, Tokai-mura, Naka-gun, Ibaraki, Japan, through the OECD Nuclear Energy Agency Data Bank, Issy-les-Moulineaux, France, contributed MVP/GMVP II. This general purpose Monte Carlo code system can solve eigenvalue and fixed-source problems. The multigroup code GMVP can solve forward and adjoint problems for neutron, photon and neutron-photon coupled transport. The continuous-energy code MVP can solve only forward problems. Both codes can also perform time-dependent calculations. MVP/GMVP employs combinatorial geometry to describe the calculation geometry. It describes spatial regions by the combination of 3-dimensional objects (BODIes). Cross section libraries from the evaluated nuclear data (JENDL-3.3, JENDL-3.2, ENDF/B-VI.8, JEF-3.0 and JEF-2.2) generated by using the LICEM code are included in the package. The neutron cross sections in the unresolved resonance region are described by the probability table method. The neutron cross sections at arbitrary temperatures are available for MVP by just specifying the temperatures in the input data. The auxiliary code MVP-BURN implemented in the MVP/GMVP system is available for burnup calculations. Energy ranges are from 0.00005 eV to 20 MeV for neutrons and from 1 keV to 100 MeV for photons.

MVP/GMVP runs on various platforms: UNIX systems (Sun, HP, SGI, IBM, NEC, CRAY, Fujitsu, Hitachi, MIPS), Linux systems with Intel/Alpha processors, and Windows PC. This package includes pre-compiled codes and binary-form MVP libraries for Windows. The code package is transmitted on two DVDs in both Unix tar and Windows zip files. It includes documentation, Fortran source files, Windows PC executables, Unix scripts, and sample problems. Reference: JAERI-1348 (2005). Fortran 77, PCs and workstations (C00739MNYCP00).

CONFERENCES, COURSES, SYMPOSIA

RSICC attempts to keep its users and contributors advised of conferences, courses, and symposia in the field of radiation protection, transport, and shielding through this section of the newsletter. Should you be involved in the planning/organization of such events, feel free to send your announcements and calls for papers via email to riceaf@ornl.gov with "conferences" in the subject line by the 20th of each month. Please include the announcement in its native format as an attachment to the message. If the meeting is on a website, please include the url.

Every attempt is made to ensure that the links provided in the Conference and Calendar sections of this newsletter are correct and live. However, the very nature of the web creates the possibility that the links may become unavailable. In that case, please call or mail the contact provided.

THICKET-2008

THICKET-2008, sponsored by the Committee on the Safety of Nuclear Installations (CSNI) of the OECD Nuclear Energy Agency (OECD-NEA) will be held at University of Pisa, Italy, May 5–9, 2008. The purpose of the seminar is to transfer competence, knowledge and experience gained through CSNI activities in the field of thermal-hydraulics. The registration deadline is March 31, 2008. The seminar program and registration can be found on the web-site www.nea.fr/html/nsd/workshops/thicket-2008.

TRIPOLI Workshop

A training course on the Monte Carlo computer code TRIPOLI-4 will be held at OECD/NEA Headquarters from April 7–11, 2008. The new version that is being released contains cross section libraries from the latest evaluations. It also contains an interactive pre-processor for preparing geometries. The TRIPOLI-4 Course Program can be found at http://www.nea.fr/html/dbprog/Newsletter/Tripoli-4-course-programme.pdf and the Registration Form at http://www.nea.fr/html/dbprog/Newsletter/TRIPOLI-Registration-Form-Issy2008.doc.

No fee will be levied for participating in the training course; however the cost of meals and hotel must be covered by participants. Contact Catherine Rocher-Thromas or Cristina Lebunetelle, either by email, programs@nea.fr, or by fax + 33 1 45 24 11 09.

Spring 2008 SCALE Training Courses at ORNL

Date	Title	Description
April 7–11, 2008	KENO-VI Criticality Safety Course	Criticality safety using the generalized geometry version of KENO (includes KENO3D and Gee Wiz).

The registration fee is $2100. A $300 late fee will be applied for late registrations. A discount of $300 per each additional week will be applied for registration to multiple courses. **Class size is limited and course may be canceled if minimum enrollment is not obtained one month prior to the course**. Course fees are refundable up to one month before each class. **Note that all attendees must be registered SCALE 5 or 5.1 users.** All foreign national visitors must register a minimum of 40 days prior to the start date of the training course they plan to attend. Course descriptions may be found at http://www.ornl.gov/sci/scale/course_description.htm.

Introductory and Advanced MCNP Visual Editor Training

Date	Class	Location
May 19–23, 2008	Introduction to MCNP using the MCNP/MCNPX Visual Editor	Las Vegas, NV
July 21–25, 2008	Introduction to the Visual Editor for Advanced MCNP/MCNPX Users.	Seattle, WA
Sept. 8–12, 2008	Introduction to MCNP using the MCNP/MCNPX Visual Editor	Richland, WA
Nov. 3–7, 2008	Introduction to MCNP using the MCNP/MCNPX Visual Editor	Reno, NV

Classes are taught using the most recent (beta) version of the Visual Editor Code. Beta versions will only be available to students that own the RSICC version 5 release. Bring proof of ownership to the class.

The introductory classes combine teaching on MCNP physics, along with instructions on how to use the Visual Editor. The advanced class assumes the user has experience using MCNP or MCNPX and focuses on Visual Editor topics. Computer demonstrations and exercises will focus on creating and interrogating input files with the Visual Editor. Advanced visualization work using MCNP will also be demonstrated. Both the introductory and advanced classes will be taught on Pentium computers running Windows 2000. Attendees are encouraged to bring their own input files for viewing and modifying in the visual editor. The course description and registration information can be found at http://www.mcnpvised.com/index.html.

MCNP Class Schedule

April 7–10, 2008	Criticality Calculations with MCNP5	Los Alamos National Laboratory
May 12–16, 2008	MCNPX Intermediate Workshop	ITN, Lisbon, Portugal
June 16–20, 2008	Introduction to MCNP5 and MCNPX	Los Alamos National Laboratory

Introductory classes are for people who have little or no experience with MCNP. This class surveys the features of MCNP so the beginning user will be introduced to the capabilities of the program and will have hands-on experience at running the code to solve simple problems. Course topics include Basic Geometry, Source Definitions, Output (Tallies), Advanced Geometry (repeated structures specification), Variance Reduction Techniques, Statistical Analysis, Criticality, Plotting of Geometry and Tallies, and Neutron / Photon / Electron Physics.

Advanced classes are for people with MCNP experience who want to extend their knowledge and gain depth of understanding. Most areas of MCNP operation will be discussed in detail, with emphasis on Advanced Geometry, Advanced Variance Reduction Techniques, and other advanced features of the program. Time will be available to discuss approaches to specific problems of interest to students. Classes on specific topics are offered when there is sufficient interest. In the recent past, classes on variance reduction and on criticality have been taught.

Registration and the most current information can be found at http://mcnp-green.lanl.gov/classinformation.html.

Practical MCNP for the Health Physicist, Medical Physicist, and Rad Engineer

DATES: 23–27 June 2008
FEE: $1,800 per person
PLACE: The MESA Complex, Room 130, University of New Mexico-Los Alamos Campus

Monte Carlo type calculations are ideally suited to solving a variety of problems in radiation protection and dosimetry. The Los Alamos MCNP™ code is a general and powerful Monte Carlo transport code for photons, neutrons, and electrons, and can be safely described as the "industry standard." This course is aimed at the HP, medical physicist, and rad engineer with no prior experience with Monte Carlo techniques. The focus is almost entirely on the application of MCNP™ to solve a variety of practical problems in radiation shielding and dosimetry. The intent is to "jump start" the student toward using MCNP™ productively. With a little practice and study of the examples, many will find they are able to solve problems that have, in the past, been out of reach.

Course content: Extensive interactive practice sessions are conducted on a personal computer. Topics will include an overview of the MCNP™ code and the Monte Carlo method, input file preparation, geometry, source definition, standard MCNP tallies, interpretation of the output file, exposure and dose rate calculations, radiation shielding, photon skyshine, detector simulation and dosimetry. Students will be provided with a comprehensive class manual and a CD containing all of the practice problems. This course has been granted 32 Continuing Education Credits by the AAHP (2005-00-003), and 4.5 CM points by the American Board of Industrial Hygiene. The course is offered by the Health Physics Measurements Group at the Los Alamos National Laboratory and is co-sponsored by RSICC.

Registration is available online at: http://drambuie.lanl.gov/~esh4/mcnp.htm. Non-US citizens need to register 60 days in advance to allow for necessary visitor approvals. Make checks payable to the University of California (checks must be in U.S. dollars on a U.S. bank) and mail together with name, address, and phone number to David Seagraves, Mail Stop J573, Los Alamos National Laboratory, Group RP-2, MCNP Class, Los Alamos, NM 87545. Inquiries regarding registration and class space availability should be made to David Seagraves, 505-667-4959, fax: 505-665-7686, e-mail: dseagraves@lanl.gov. Technical questions may also be directed to Dick Olsher, 505-667-3364; e-mail: dick@lanl.gov.

Please note that this course is separate from and independent of the courses being offered by the MCNP and MCNPX Teams at LANL.

Dick Olsher

PENELOPE-2008 Training Course/Workshop

A PENELOPE-2008 Training Course / Workshop will be held June 30–July 3, 2008, at the Universitat de Barcelona in Barcelona. This course is addressed to researchers in Radiation Physics and its applications. The main objective is to provide the participants with a detailed description of the new version 2008 of PENELOPE, with an ample perspective on Monte Carlo methods for simulation of electron/photon transport. The reliability of the interaction models and the accuracy of the numerical methods and approximations implemented in the code will be discussed. Examples of simulation results and benchmark comparisons with experiment will be presented. The course will include practical sessions on the use of the generic main programs, PENCYL (cylindrical geometries) and PENMAIN (quadric geometries), and on the design of the main program for specific applications. Detailed information about the course and the registration form is available at http://www.nea.fr/html/dbprog/Newsletter/penelope-2008-Announcement.pdf and http://www.nea.fr/html/dbprog/Newsletter/penelope2008-reg.html.

International Symposium on Reactor Dosimetry

The *13th International Symposium on Reactor Dosimetry* will be held the May 25–30, 2008, in the Hotel Akersloot, 6 kilometers south of Alkmaar in the Netherlands. This Symposium has a long history and has been organized approximately every three years alternately in Europe and the United States or Japan. The Symposium theme is dosimetry for the assessment of irradiated reactor materials and reactor experiments, featuring radiation metrology techniques, data bases, and standardization.

This Symposium is jointly organized by ASTM Committee E 10 on Nuclear Technology and Applications and the European Working Group on Reactor Dosimetry (EWGRD). The 13th symposium is hosted by The Joint Research Centre, Institute for Energy, Petten. Up-to-date information is available at the website, http://safelife.jrc.nl/ISRD/.

American Nuclear Society: 2008 Annual Meeting

"Nuclear Science and Technology: Now Arriving on Main Street" is the theme for the 2008 American Nuclear Society Annual Meeting which will be held June 8–12, 2008, in Anaheim, California. It will include three embedded topical meetings which are described below.

ICAPP'08

2008 International Congress on Advances in Nuclear Power Plants (ICAPP'08) will be held June 8-12, 2008, in Anaheim, California. This congress will bring together international experts of the nuclear industry involved in the operation, development, building, regulation, and research related to nuclear power plants. The program will cover the full spectrum of nuclear power plant issues from design, deployment and construction of plants to research and development of future designs and advanced systems. Details and up-to-date information can be found by contacting 2008 International Congress on the Advances in Nuclear Power Plants (ICAPP '08), Attn: Lynne Schreiber, PO Box 116502, Gainesville, FL 32611-6502 (phone 1-352-392-9722, fax 1-352-392-8656, email: icapp@ans.org) url www.ans.org/goto/icapp08.

Nuclear Fuels and Structural Materials for the Next Generation Nuclear Reactors

Nuclear Fuels and Structural Materials for the Next Generation Nuclear Reactors, will be held June 8–12, 2008, Anaheim, California. The Generation IV International Forum has selected six advanced systems for consideration: the gas-cooled fast reactor system, lead-cooled fast reactor system, molten salt reactor system, sodium-cooled fast reactor system, supercritical water-cooled reactor system, and very-high-temperature reactor system. This embedded topical will bring together fuels and materials experts in all areas of Generation IV technologies. The ANS will publish accepted summaries in the *Transactions*. The General Chairs for the meeting are Todd Allen, University of Wisconsin, and Lance Snead, Oak Ridge National Laboratory. Additional information may be found at http://www.ans.org/meetings/index.cgi?c=n.

Isotopes for Medicine and Industry

Isotopes for Medicine and Industry will be held June 9–11, 2008, in Anaheim, California. The continuing rapid growth of radioisotopes for both medical and industrial applications is of national and international interest. The expanding applications and associated production issues surrounding the supply of research, diagnostic, therapeutic, environmental, and industrial radioisotopes will be discussed. Accepted summaries will be included in the *Transactions* CD that will be distributed at the ANS Annual Meeting. The General Chair is Wynn A. Volkert, University of Missouri, Columbia, and the Technical Program Chair is Ralph A. Butler, University of Missouri, Columbia. Additional information may be found at http://www.ans.org/meetings/index.cgi?c=n.

NPAE-Kyiv2008

The *Second International Conference on Current Problems in Nuclear Physics and Atomic Energy (NPAE-Kyiv2008)* will be held June 9–15, 2008 in Kyiv, Ukraine. The first International Conference on Current Problems in Nuclear Physics and Atomic Energy (NPAE-Kyiv2006) was held in Kyiv (Ukraine) in 2006; the proceedings are available at http://www.kinr.kiev.ua/NPAE_Kyiv2006/.

This conference brings together scientists to share knowledge in current problems of nuclear physics and atomic energy. The NPAE-Kyiv2008 conference will cover the following topics:

- collective processes in atomic nuclei,
- nuclear reactions at low and high energies,
- nuclear structure and decay data,
- rare nuclear processes,
- nuclear astrophysics,
- neutron and reactor physics,
- nuclear data and data evaluation,
- problems of atomic energy,
- applied nuclear physics in medicine and industry, and
- experimental facilities and detection techniques.

The conference will consist of plenary sessions, parallel sessions, and poster sessions. Plenary sessions are composed of invited talks, and parallel sessions consist of invited talks and oral presentations selected from contributions. The working language of the conference is English.

The NPAE-Kyiv2008 conference is organized by the National Academy of Sciences of Ukraine (NASU, http://www.nas.gov.ua), the Institute for Nuclear Research of NASU, Kyiv (KINR, http://www.kinr.kiev.ua) in collaboration with Taras Shevchenko National University of Kyiv (NTSU,

http://www.univ.kiev.ua). The conference chairman is I.M. Vyshnevskyi (KINR) and the scientific secretaries are V.Yu. Denisov (KINR) and O.O.Gritzay (KINR).

The Proceedings of the Conference will be published by the Publishing Department of KINR; selected papers will be also published in *Nuclear Physics and Atomic Energy* (http://jnpae.kinr.kiev.ua).

Please address all mail and questions concerning the scientific program, publication, etc. to: Dr. Vitali Yu. Denisov or Dr. Olena O. Gritzay, Institute for Nuclear Research, Prospect Nauky, 47, Kyiv, 03680, Ukraine (email npae-kyiv2008@kinr.kiev.ua). Information on the conference may be found at the website http://www.kinr.kiev.ua/NPAE-Kyiv2008.

LAS/ANS SYMPOSIUM 2008

The Annual Meeting of the Latin American Section of the American Nuclear Society (LAS-ANS) will be held in Rio de Janeiro from June 16–20, 2008. Abstracts are due April 15. Symposium 2008 will cover the following topics:

- Energy matrix in Latin American countries and the contribution of nuclear power
- Status of NPPs under construction in Latin America
- Progress of demonstration and implementation of new-generation NPPs
- Fuel cycle and safeguards systems in Latin American countries
- Progress of technologies for irradiated nuclear fuel repositories
- Technologies and international programs towards nuclear non-proliferation
- Development of non-power nuclear applications in Latin America

Papers will be reviewed for approval by the Technical Committee. Authors are requested to submit their papers to the Chairman of the Technical Committee: Mr. Sergio Mathias, ELETRONUCLEAR - Rua da Candelária, 65, 3º andar - CEP: 20091-020 - Rio de Janeiro – Brazil: (phone 55.21 2588 7312, fax 55.21 2588 7238, email mathias@eletronuclear.gov.br). Detailed information and updates will be posted at http://www.las-ans.org.br/.

IRRMA 7

The 7th International Topical Meeting on Industrial Radiation and Radioisotope Measurement Application will take place June 22–27, 2008, in Prague, Czech Republic. It is organized to bring together scientists and engineers from around the world who are interested in radiation and radioisotope measurement applications. The first meeting in this series took place in Pinehurst, North Carolina, U.S.A. in 1988. The meeting is devoted to current trends and future issues. The scientific sessions will include invited lectures by leading experts in the field, contributed oral papers and poster presentations of contributed papers. Attendees will have an opportunity to share ideas on industrial uses of radiation and radioisotopes, and also on research and applications in related fields such as medicine, art and cultural heritage, the environment, detection of explosives and contraband, materials testing and new trends in radiation sources and detector development.

Papers recommended by the standard refereeing process will be published in the conference proceedings, in a special issue of *Applied Radiation and Isotopes*. The Chairman of the Organizing Committee is Ladislav Musílek, Czech Technical University in Prague, Faculty of Nuclear Sciences and Physical Engineering, Břehová 7, 115 19 Praha 1, Czech Republic. The program and details about the conference will be posted at http://irrma7.fjfi.cvut.cz and email may be sent to irrma7@fjfi.cvut.cz.

CAARI-2008

This year CAARI-2008 (Conference on the Application of Accelerators in Research and Industry) will be held August 10–15, 2008, in Fort Worth, Texas. CAARI-2008 brings together scientists, engineers, physicians, and industrial leaders from all over the world who use particle accelerators in their research and industrial applications. The CAARI conference can be considered a collection of symposia for topics ranging from Accelerator Technology to Ion Beam Analysis to Nanoscale Fabrication. In particular, the National and Homeland Security (NHS) topic area consists of seven sessions covering the broad use of accelerators in security applications.

As the Chair for the session "Physics and Modeling for NHS," I would like to encourage you to attend and present a paper at CAARI-2008 this summer. Note that the CAARI website is already open and accepting abstracts for contributed papers. The deadline for abstracts is April 28, 2008. More information about the conference can found at http://www.caari.com.

Sara Pozzi
Dept. of Nuclear Engineering & Radiological Sciences
University of Michigan

PHYSOR'08

The International Conference on the Physics of Reactors (PHYSOR'08) will be held at the Kursaal Conference Center, Interlaken, Switzerland, September 14–19, 2008. The conference theme is "Nuclear Power: A Sustainable Resource," and is jointly organized by the Paul Scherer Institut and the Swiss Nuclear Society. This international conference follows the tradition of the earlier PHYSOR meetings and seeks to provide a forum for worldwide experts in reactor physics, nuclear power plant analysis and related technologies. Relevant information may be found at http://www.physor2008.ch/.

18th Topical Meeting on the Technology of Fusion Energy

The 18th Topical Meeting on the Technology of Fusion Energy (18th TOFE) will be held in San Francisco, California, September 28–October 2, 2008. The TOFE meeting provides a forum for sharing the exciting progress made in fusion research as well as presenting the future plans for national and worldwide fusion programs. The conference is sponsored by the American Nuclear Society (ANS), Northern California Section of the ANS, Lawrence Livermore National Laboratory, and the Atomic Energy Society of Japan. The call for papers has been issued and abstracts on the following topics may be submitted beginning on March 1, 2008.

- NIF, ITER and other experimental devices
- Material and component testing facilities
- Magnets
- Next step facilities & Demo
- Diagnostics
- Power plant studies
- First walls, blankets & shields
- Alternate, non-electric applications
- IFE driver and chamber technology
- Plasma engineering, heating and control
- IFE target design, fabrication and injection
- Divertors and other high heat flux components
- Tritium breeding, handling and processing
- Nuclear analysis and experiments
- Safety and environment
- Computational tools and validation experiments
- Materials development and modeling
- Fabrication, assembly and maintenance
- Power conversion and conditioning

For additional information, please contact the General Chair: Jeff Latkowski, 18th TOFE Meeting, 4435 First Street #155, Livermore, CA 94551 (phone 925-423-9378, fax 925-424-6401, email: latkowski@llnl.gov). Check the website, http://www.18th-tofe.com/, frequently for updated information, registration information, etc.

IRPA 12

The 12th International Congress of the International Radiation Protection Association (IRPA 12), will take place in Buenos Aires, Argentina, October 19–24, 2008. To support the Congress motto, "strengthening radiation protection worldwide" the scientific areas and topics are divided into three parts:

Part 1: Epistemological Basis of Radiation Protection
1. Characterisation of Radiation Exposure
2. Biological Effects of Radiation Exposure

Part 2: Radiation Protection Paradigm
1. Developing the Radiation Protection Framework
2. Developing Protection Policies, Criteria, Methods and Culture
3. Emergency Planning, Preparedness and Response

Part 3: Radiation Protection and Safety in Practice
1. Nuclear Installations
2. NIRs
3. Medicine
4. NORM in Industry
5. Other Applications and Practices

All information regarding registration, technical program, etc., may be found at the website, www.irpa12.org.ar. Questions regarding all aspects of the Congress may be addressed to secretariat@irpa12.org.ar.

LOWRAD 2008

The 7th International Meeting on the Effects of Low Doses of Radiation in Biological Systems: New Perspectives on Human Exposure will be held in Lisbon, Portugal, November 27–29, 2008. The meeting is being organized by members of the Radiobiology group of the Department of Radiological Protection and Nuclear Safety of the Portuguese Nuclear and Technological Institute. Topics include:

- Epidemiology of occupational and environmental low dose exposure
- Novel biomarkers for population screening in low dose exposures
- Non-targeted effects
- Computer simulation and modelling for low dose radiation risk
- Genetic susceptibility
- Radioecology
- Low dose and protracted exposure effects
- Validity of the linear non-threshold model
- Hormesis and adaptive response
- Microenvironment modulation of radiation response
- Radioactive waste management
- Micro-array and proteomic analysis
- DNA repair and misrepair
- Radioprotectors and radiosensitizers
- Molecular and biophysical approaches to radiation-induced carcinogenesis
- Non-genetic effects of radiation
- Genomic and chromosomal instability
- Long term effects of the medical applications of radiation
- Microdosimetry and nanodosimetry

The deadline for abstract submission is **April 30, 2008**. Submission via the website will be available soon. Contact Margarida Goulart de Medeiros (phone +351 21 994 6347, fax +351 21 994 1995), Octávia Monteiro Gil (phone +351 21 994 6344, fax +351 21 994 1995), or Secretariat, Luisa Oliveira (email lowrad2008@itn.pt), Nuclear and Technological Institute Department of Radiological Protection and Nuclear Safety Estrada Nacional 10, 2686 - 953 Sacavém, Portugal. Watch the website, http://www.lowrad2008.itn.pt/index.html, for abstract submission and up-to-date information.

Radionuclide Therapy and Radiopharmaceutical Dosimetry

The 3rd International Symposium on Radionuclide Therapy and Radiopharmaceutical Dosimetry and Workshop on Alpha-Emitting Radionuclides in Therapy will convene June 13–17, 2009, in Toronto, Canada, in conjunction with the 2009 Society of Nuclear Medicine (SNM) Annual Meeting, which is being planned. This symposium follows the successful first (Helsinki 2004) and second (Athens 2006) symposiums. This 2009 RTRD Symposium will blend with SNM sessions in oncology, radiopharmaceutical chemistry, radiobiology and dosimetry. The workshop will highlight current progress in the use of alpha-emitters for cancer therapy, continuing a series of successful alpha-emitter workshops. Symposium topics will include:

- Data collection and quantitative imaging
- Biodistribution and pharmacokinetics
- Clinical dosimetry and treatment planning
- Alpha emitters in cancer therapy
- Auger electron emitters
- Radiobiological studies
- Therapy of skeletal metastases and bone pain palliation

All announcements and mailings for the Symposium will be electronic and by website postings. Those who wish to participate in the Symposium must register with SNM to attend the Annual Meeting. Separate Symposium registration will not be offered. Registration, housing, local arrangements, transportation, and other logistical arrangements will be handled by SNM. Local arrangement details will be available at a later date on the SNM website at: www.snm.org. A future announcement will provide instructions for submitting abstracts. George Sgouros (gsgouros@jhmi.edu) is Vice-chair of the organizing Committee and Michael Lassmann (Lassmann_M@klinik.uni-wuerzburg.de) is Chair of the Committee.

CALENDAR

April 2008

Criticality Calculations with MCNP5, April 7–10, 2008, Los Alamos National Laboratory. Contact: nbutner@lanl.gov, url http://mcnpx.lanl.gov/.

KENO-VI Criticality Safety Course, April 7–11, 2008, Oak Ridge National Laboratory, Oak Ridge, TN. Contact: http://www.ornl.gov/sci/scale/course_description.htm.

TRIPOLI-4 will be held at OECD/NEA Headquarters from April 7–11, 2008, Contact: Catherine Rocher-Thromas or Cristina Lebunetelle, (email, programs@nea.fr, fax + 33 1 45 24 11 09), url http://www.nea.fr/html/dbprog/Newsletter/TRIPOLI-Registration-Form-Issy2008.doc.

11th International Conference on Radiation Shielding (ICRS-11) and the 15th Topical Meeting of the Radiation Protection and Shielding Division (RPSD-2008) of the American Nuclear Society, April 13–18, 2008, Callaway Gardens, Pine Mountain, Georgia. Contact: General Chair, Nolan Hertel, Georgia Institute of Technology (email nolan.hertel@me.gatech.edu) or General Co-Chair, Pedro Vaz, ITN, Portugal (email pedrovaz@itn.pt) url http://icrs11.me.gatech.edu/index.htm.

May 2008

Intermediate MCNPX, May 12–16, 2008, Lisbon, Portugal. Contact: **nbutner@lanl.gov**, url **http://mcnpx.lanl.gov/**.

Geant4 Training Course, May 19–23, 2008, Oak Ridge National Laboratory, Oak Ridge, TN. Contact: http://rsicc.ornl.gov/rsiccnew/geant4.htm.

Introduction to MCNP using the MCNP/MCNPX Visual Editor, May 19–23, 2008, Richland, WA. Contact: http://www.mcnpvised.com/index.html.

13th International Symposium on Reactor Dosimetry, May 25–30, 2008, Alkmaar in the Netherlands. Contact: the website at http://safelife.jrc.nl/ISRD/.

June 2008

American Nuclear Society: 2008 Annual Meeting, "Nuclear Science and Technology: Now Arriving on Main Street," June 8–12, 2008, Anaheim, California. The call for papers can be found at http://www.ans.org/meetings/docs/2008/am2008-cfp.pdf.

2008 International Congress on Advances in Nuclear Power Plants (ICAPP'08), June 8–12, 2008, Anaheim, California. Information can be found at http://www.inspi.ufl.edu/icapp08/index.html.

Nuclear Fuels and Structural Materials for the Next Generation Nuclear Reactors, June 8–12, 2008, Anaheim, California. Contact: Todd Allen, University of Wisconsin, 529 Engineering Research Building, 1500 Engineering Dr., Madison, WI 53706 (phone 608-265-4083, email allen@engr.wisc.edu).

Isotopes for Medicine and Industry, June 9–12, 2008, Anaheim, California. Contact: Wynn A. Volkert, University of Missouri, Room 330 Hadley Hall, Columbia, MO 65211 (phone 573-882-6759, email VolkertW@health.missouri.edu).

2nd International Conference on Current Problems in Nuclear Physics and Atomic Energy (NPAE-Kyiv2008), June 9–15, 2008, Kyiv, Ukraine. Contact: Dr. Vitali Yu. Denisov or Dr. Olena O. Gritzay, Institute for Nuclear Research, Prospect Nauky, 47, Kyiv, 03680, Ukraine (email npae-kyiv2008@kinr.kiev.ua) url http://www.kinr.kiev.ua/NPAE-Kyiv2008.

Introduction to MCNP5 and MCNPX, June 16–20, 2008, Los Alamos National Laboratory. Contact: nbutner@lanl.gov, url http://mcnpx.lanl.gov/.

LAS / ANS SYMPOSIUM 2008, June 16–20, 2008, Rio de Janeiro. Contact: Mr. Sergio Mathias, ELETRONUCLEAR - Rua da Candelária, 65, 3º andar - CEP: 20091-020 - Rio de Janeiro – Brazil: (phone 55.21 2588 7312, fax 55.21 2588 7238, email mathias@eletronuclear.gov.br). Detailed information and updates will be posted at http://www.las-ans.org.br/.

7th International Topical Meeting on Industrial Radiation and Radioisotope Measurement Application, June 22–27, 2008, Prague, Czech Republic. Contact: E-mail: irrma7@fjfi.cvut.cz (phone only if absolutely necessary 420 224358246, Ms. Niederlová) url http://irrma7.fjfi.cvut.cz/.

Practical MCNP for the Health Physicist, Medical Physicist, and Rad Engineer, June 23–27, 2008, University of New Mexico-Los Alamos Campus. Contact: David Seagraves (phone 505-667-4959, fax 505-665-7686, e-mail dseagraves@lanl.gov) url http://drambuie.lanl.gov/~esh4/mcnp.htm.

PENELOPE-2008 Training Course / Workshop, June 30– July 3, 2008, Universitat de Barcelona, Barcelona. Contact: OECD/Nuclear Energy Agency Data Bank (email programs@nea.fr, fax +33 1 45241109), url http://www.nea.fr/html/dbprog/Newsletter/penelope-2008-Announcement.pdf.

July 2008

Introduction to the Visual Editor for Advanced MCNP/MCNPX Users, July 21–25, 2008, Richland, WA. Contact: http://www.mcnpvised.com/index.html.

August 2008

CAARI-2008, August 10–15, 2008, Fort Worth, Texas. Contact: Ms. Margaret Hall, Conference Secretary, CAARI-2008, University of North Texas, PO Box 311427, Denton, Texas 76203-1427 USA (phone 940-565-3250, fax 940-565-2227, email caari@unt.edu) url www.caari.com.

September 2008

Introduction to MCNP using the MCNP/MCNPX Visual Editor, Sept. 8–12, 2008, Richland, WA. Contact: http://www.mcnpvised.com/index.html.

PHYSOR'08, Sept. 14–19, 2008, Interlaken, Switzerland. Contact: info@physor2008.ch, url http://www.physor2008.ch/.

18th Topical Meeting on the Technology of Fusion Energy (18th TOFE), Sept. 28–Oct. 2, 2008, San Francisco, California. Contact: General Chair: Jeff Latkowski, 18th TOFE Meeting, 4435 First Street #155, Livermore, CA 94551 (phone 925-423-9378, fax 925-424-6401, email: latkowski@llnl.gov) url http://www.18th-tofe.com/.

October 2008

12th International Congress of the International Radiation Protection Association (IRPA 12), Oct. 19–24, 2008, Buenos Aires, Argentina. Contact: secretariat@irpa12.org.ar, url www.irpa12.org.ar.

November 2008

13th International Conference on Neutron Capture Therapy, Nov. 3–7, 2008, Florence, Italy. Contact: ICNCT-13 Secretary General (icnct-13@pv.infn.it) url http://www.pv.infn.it/icnct-13/.

Introduction to MCNP using the MCNP/MCNPX Visual Editor, Nov. 3–7, 2008, Richland, WA. Contact: http://www.mcnpvised.com/index.html.

LOWRAD 2008, Nov. 27–29, 2008 Lisbon, Portugal. Contact: Margarida Goulart de Medeiros (phone +351 21 994 6347, fax +351 21 994 1995), Octávia Monteiro Gil (phone +351 21 994 6344, fax +351 21 994 1995), or Secretariat, Luisa Oliveira (email lowrad2008@itn.pt), Nuclear and Technological Institute Department of Radiological Protection and Nuclear Safety Estrada Nacional 10, 2686 - 953 Sacavém, Portugal. url http://www.lowrad2008.itn.pt/index.html.

June 2009

3rd International Symposium on Radionuclide Therapy and Radiopharmaceutical Dosimetry and Workshop on Alpha-Emitting Radionuclides in Therapy, June 13–17, 2009, Toronto, Canada. Contact: George Sgouros (gsgouros@jhmi.edu) orMichael Lassmann (Lassmann_M@klinik.uni-wuerzburg.de) url www.snm.org.