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# Radiation Safety Information Computational Center

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*The development of desirable traits and characteristics—that intangible something which we style personality—is the chief work of the school.—Dr. Frank Cody*

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## Obituaries

### Betty F. Maskewitz, RSICC Co-Founder, Dies



It is with great sorrow that we announce the death of Betty F. Maskewitz on July 22; she was 90. Betty was born January 22, 1918, on Chimney Top Mountain, Hawkins County, Tennessee, to Simon and Maggie Forbes. She earned an undergraduate degree in sociology and a Teaching Certificate from Berea College, class of 1939. She and Mendel Maskewitz were married December 31, 1943, in Salt Lake City, Utah, where they were both working in the defense industry. While en route to new jobs in Ohio, they stopped over in Oak Ridge to visit with friends and decided to stay. For a while Betty made use of her teaching certificate as a teacher at Elm Grove Elementary School. She began her career at Oak Ridge National Laboratory in 1952. In the early '60s she became involved with the formation of the Radiation Shielding Information Center. Under her leadership as RSIC Director (1970–1988) the Center continued its development as a successful information analysis center (IAC), serving the international scientific community in the areas of radiation protection, radiation transport, and shielding. Through the Engineering Physics Information Centers (EPIC) from 1975 to 1988, she helped to establish IACs for computing technology for biomedical applications (BCTIC), energy-economy modeling (COMET) and carbon dioxide and climate research (CDIC, now known as CDIAC).

Betty was an active member of the American Nuclear Society (ANS), serving on both the Executive Committee and Board of Directors. She was involved in both the *Radiation Protection and Shielding* and

the *Mathematics and Computation* divisions and in the ANS Standards effort for shielding and computations. In 1982 the ANS honored her with membership grade of Fellow for outstanding accomplishment in any one of the areas of nuclear science and engineering. Betty was awarded the ANS Weinberg Medal in 2003 “In recognition of an outstanding career devoted to effectively sharing radiation shielding technology throughout the world as a means for exploiting nuclear energy for the benefit of mankind.” Though Betty retired from ORNL and RSIC (now RSICC) in 1988, she continued to consult and travel on behalf of the Center, in addition to many other community endeavors in which she participated.

Those who knew Betty in both a professional and personal capacity may say it best.

*At the 50th anniversary of the first reactor shielding symposium celebrated last April at Pine Mountain, Georgia, she called herself at the panel on “Shielding: A Look Back” a nonagenarian. Her body was frail, her mind was incredibly strong. She told me that this would be her last ‘shielding conference.’*

*Betty leaves behind an unmatched legacy. She was the ‘grand auld lady’ of international co-operation. Her maxim was generosity. Not the kind that expects a quick return, but the one, where no return is demanded, except that it should be beneficial to many for the long term.*

*She would remove the paralyzing bureaucratic or political obstacles, she aimed at the real objectives; she never lost them from her sight: procedures were just a necessary path to get there: this is an important lesson I had learned from her. I witnessed once her reaction to a mean bureaucratic response to her proposal for co-operation: that bureaucrat became suddenly an insignificant nobody; unforgettable for me!*

*Her generosity combined with friendship. Her parties at the “Shalom Vista” inviting so many friends; she would do the cooking herself using the products of Mendel’s garden (her husband), fresh and sapid, regaled by wine and then the long chats out at the porch lit by the moon late in the evening ... affinities, fun, alert to the others: unforgettable moments.*

*Enrico Sartori, NEA Data Bank*

## **BETTY IN MY LIFE**

I met my very beloved great-old friend BETTY for the first time in 1966 then in 1968 at the University of Stuttgart while I was working there on my Ph.D. thesis. At that time, in our Institute of Nuclear Energy, we were working with some modest self-developed multi-group diffusion codes. Betty, as Directrice of RSIC, made a great opening to international nuclear community and shared the sophisticated nuclear codes free of charge. So she brought to us at that time the SN-codes, DTF-4, ANISN and DOT. This has caused for us a significant jump in the quality of our calculational tools and my Ph.D. thesis was the first one using multigroup SN-codes to calculate thermionic space craft reactors (1968–1970).

Later, after my return to Turkey, our very warm communication has continued. Supported with a post-doctoral NATO fellowship, I have visited RSIC between June 1972 and March 1973, where I have prepared my habilitation thesis which was imperative to be promoted to an

associate professor. We have worked at RSIC on the comparison of multi-group diffusion and transport codes for fast reactor shielding calculations. This was a very hot topic at that time. RSIC was insisting on the necessity and importance of transport codes for shielding calculations, against the rest of the world, as it was expressed in an international shielding conference in Paris in 1972.

After my return to Turkey, I received always great support from Betty though my professional life. All my Ph.D. students and myself owe to Betty our success in the academic life to a great degree for the codes she had provided to us promptly, and always very friendly, which have enabled us to conduct research at state-of-the-art level with the most advanced calculational tools.

I was happy to meet Betty once more in summer 2005 during our 5-week's visit at RSICC.

We share the sorrow of the children and grandchildren of Betty and the RSICC staff and wish to express our condolences for my very beloved great-old friend BETTY to her family and to her friends at RSICC and all over the World.

Prof. Dr. Sümer SAHIN, Gazi Üniversitesi

*As she was to many, many of us in the nuclear field, Betty was a constant friend and a primary cohesive force to the technical community. Her ubiquitous presence was an early fact of nuclear research gatherings from my first experiences in the 1950's to last April's ICRS-11, marking 50 years of international conferences in radiation shielding. From those days to the recent past, most international meetings on nuclear subjects were platforms for her constant plea for free exchange of technical data and offers of assistance to everyone through the ORNL RSIC data center. She is an icon for international cooperation.*

*Betty was a welcome, often essential, contact for information in my own activities for these 50 years, as well as for most others in nuclear endeavors around the world.*

*I am honored to say that she was my friend and that I was privileged to serve on a panel with her at this recent meeting. We will all miss her.*

*Norman Schaeffer*

For us, shielding specialists at Kurchatov Institute, Betty was a pioneer who really opened the door to International Shielding Community in early 1990s when she visited our OR-M facility. I still remember her warm words: "You are my friends..." She made it possible to join us to radiation transport code exchange with RSICC. Almost all of these codes are still in use. I really enjoyed our meetings with Betty in Russia and USA and never forget her energy and warm-heartedness. May she rest in peace.

Alexey Kozhevnikov, RRC Kurchatov institute

*I first met Betty in the summer of 1967 when I worked with RSIC as a summer student. She was a caring person, floating me a loan until my first paycheck and inviting me to dinner at her home on one occasion. The summer experience connected me with the Oak Ridge Associated Universities and a few scientists at ORNL and led to my switch to Nuclear Engineering as a career. After my return to ORNL as an employee, I recall being asked to fill out an RSIC survey. I dragged my feet until I received a copy on which Betty had written "Charles!!!". No other words were needed to get me to complete the survey.*

*Charles Slater, ORNL*

Betty was a genuine pioneer in the nuclear codes business and, more importantly, a charming person to everyone that knew her. She will be dearly missed by all.

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

*Betty attended many of the WIN events and often she was one of the presenters. I will always have fond memories of Betty considering me "one of the young people" in the science community. She was always so generous with everyone especially the younger generation. She was truly one of a kind and I will miss her.*

*Julie G. Ezold, ORNL*

She and Mendel made my life special.—Jane Gurney Teasley

## **Changes to the Computer Code and Data Collection**

### **[CCC-728/GENII-LIN Release 2.1](#)**

Laboratorio di Montecuccolino, Bologna University, Bologna, Italy, contributed GENII-LIN Release 2.1, a multipurpose health physics code system with an object-oriented interface based on GENII-1.485, developed at Pacific Northwest Laboratory, Richland, Washington. The GENII portion of the GENII-LIN package contains the program which was developed to incorporate the internal dosimetry models recommended by the International Commission on Radiological Protection (ICRP) into the environmental pathway analysis models used at Hanford. GENII is a coupled system of six programs (ENV, ENVIN, DOSE, INTDF, EXTDF, DITTY) and the associated data libraries that comprise the Hanford Dosimetry System (Generation II) to estimate potential radiation doses to individuals or populations from both routine and accidental releases of radionuclides to air or water and residual contamination from spills or decontamination operations.

GENII-LIN can be used for calculating radiation dose both for acute and chronic releases with options for annual dose, committed dose and accumulated dose and for evaluating exposure pathways including direct exposure via water (swimming, boat, fishing), soil (buried and surface sources) and air (semi-infinite cloud and finite cloud model), inhalation pathways and ingestion pathways. GENII-LIN keeps all the capabilities of GENII-1.485 and incorporates into the existing environmental pathway analysis models more recent internal dosimetry models recommended by the ICRP 72 and the radiological risk estimating procedures of FGR13.

GENII-LIN-2.1 is primarily a maintenance release with several bug fixes and improvements. Among them

- improved output management for a large number of nuclides;
- improved GUI with some minor bugs fixed;
- fixed two bugs of the internal dose factor generators, one of which was inherited from GENII-1.4.5 (see the README.pdf);
- build against the Qt-3.3.8;
- the Fortran compiler is now gfortran instead of g77; and
- only one installer for both 32-bit and 64-bit systems.

GENII-LIN runs under Linux on an Intel Pentium or equivalent PC; both 32- and 64-bit systems are supported. Required software includes gfortran compiler for the GENII portion of the code, and GNU C++ Compiler, g++ for the GUI portion; and Qt3 libraries by Trolltech. Included 32-bit binaries were built on a Pentium IV PC running SuSE 10.2 (Qt 3.3.8); 64-bit binaries were built on an AMD Athlon™ 64 X2 Dual Core Processor 3600+ running SuSE 10.3 (Qt 3.3.8). The package is transmitted on a CD in a GNU compressed tar file which includes source codes, executables, scripts and instructions. References: Informal paper (November 2004), PNL-6584 Vol. 1 (December 1988) and PNL-6584 Vol. 2 (November 1988). Pentium PC; Fortran; C++ (C00728PC58601).

### [CCC-742/GES-MC, Version 3.1](#)

The Radiation Department, Institute of Public Health, Cluj-Napoca, Romania, contributed the Gamma-Electron Efficiency Simulator Monte Carlo code system. GES\_MC is written entirely in Java and is based on the EGSnrc (Electron Gamma Shower) source code. Although GES\_MC is especially designed for the computation of the response function and peak efficiency for gamma detectors, it can also be used in various studies concerning photon or electron interactions with matter in any cylindrical (RZ) geometry. This application is mainly designed for computation of detector peak efficiency and detector total efficiency (whole spectrum) involved in gamma spectrometry. It can also compute the detector efficiency for beta radiation (electrons and positrons), the absorbed dose and kerma in any cylindrical (RZ) geometry, the attenuation and the scatter fraction of radiation in detector walls. It can also be used for some radiological applications such as the evaluation of scattered X radiation (secondary radiation) at a user defined distance from the patient. GES\_MC is based on the radiation transport theory and algorithms (the routines taken from EGSnrc software) developed by Stanford Linear Accelerator Center (SLAC), USA and National Research Council (NRC), Canada. The original EGSnrc system of computer codes is a general purpose package for the Monte Carlo simulation of the coupled transport of electrons and photons in an arbitrary geometry for particles with energies above a few keV up to several hundreds of GeV.

The code system was developed on personal computers and was tested at RSICC on Pentium IV with 512MB memory under the Microsoft® Windows XP™ and Vista™ operating systems. It is transmitted on a CD in a self-installing Windows file. Reference: Informal documentation (2006). Java; Pentium (C00742PC58600).

### [DLC-229/IRDF-2002](#)

The International Atomic Energy Agency, Nuclear Data Section, Vienna, Austria, and Institute Jozef Stefan, Slovenia, through the OECD Nuclear Energy Agency Data Bank, Issy-les-Moulineaux, France, contributed a library in ACE-dosimetry format generated from the pointwise IRDF-2002 data. The ACE-formatted data can be used with the MCNP family of codes. The International Reactor Dosimetry File was created to serve as a standardized, updated and benchmarked evaluated cross-section library of neutron dosimetry reactions with related uncertainty information for use in the lifetime management assessments of nuclear power reactors and other applications. The updated RSICC package contains ENDF-6 format (pointwise cross-section data) plus the newer ACE-format data. The package is

transmitted on one CD in a GNU-compressed Linux tar file which includes the data library and documentation. References: IAEA-TECDOC-DRAFT. NEADB identifiers are IAEA-0867/04 and IAEA-0867/05. HTML, PDF and ASCII text files; PC or Workstations (D00229MNYCP01).

## People News

### **Mihalczo receives INMM distinguished service award**

The Institute of Nuclear Materials Management has awarded UT-Battelle Corporate Fellow **John T. Mihalczo** the Distinguished Service Award for his long-term contributions to the nuclear materials management profession. The INMM cited his invention and development of many technologies during his 50-year tenure at the Oak Ridge National Laboratory, including a widely used noise analysis measurement method that bears his name.

John has contributed to the field of nuclear material management, both at home and internationally, through research and education. He has served on numerous governmental panels, in addition to serving as session chair or invited seminar speaker at many international meetings and universities. At the award presentation John was praised for his outstanding reputation as a student mentor, "...working unselfishly to make them excel and advance in their areas of interest and the cutting edge of advanced nuclear science and state-of-the-art measurements." The INMM Distinguished Service Award was presented during the annual meeting.

Others presented with the Distinguished Service Award include:

**Howard O. Menlove** for "leadership and scientific contributions in the development of nuclear measurement techniques and instruments used worldwide in nuclear materials safeguards and nonproliferation applications."

**Pete V. Domenici**, Senator of New Mexico, for "long term leadership in support of the security of nuclear materials worldwide, the peaceful uses of nuclear technology, and the advancement of world peace through strengthening the nonproliferation regime."

**Bernd Richter** for "leadership and scientific contributions to the development of advanced containment and surveillance systems and other technological innovations in international nuclear materials safeguards."

At the same meeting, ORNL Nuclear Science and Technology Division intern **Nathan Rowe** placed second in the student paper competition and won a \$500 scholarship for his talk, "Distributed Radiation Monitoring via a Secure Wireless Sensor Platform."

### **ANS Fellows**

**Jacques Bouchard** for "outstanding leadership in designing France's new strategy for future nuclear energy systems, which has deeply influenced the international Generation IV and Global Nuclear Energy Partnership initiatives, for his outstanding contributions as chairman of the Generation IV International Forum toward the sustainable development of nuclear energy worldwide, and for his contributions as president of the French Nuclear Society (SFEN) toward furthering the collaboration between ANS and SFEN." Bouchard, the former head to the Nuclear Energy Division of France's Commissariat à l'Énergie Atomique, has been a member of ANS since 2001 and is currently a special advisor to CEA's chairman and serves as chairman of the Generation IV International Forum.

**Kord S. Smith** for "significant fundamental contributions to reactor analysis methods in three dimensional core simulations. Many of his methods, particularly the analytic nodal methods and nodal homogenization theory, are widely adopted in modern core analysis codes. His systematic implementation and successful commercialization of the methods advanced LWR core design methodology." Smith has been a member of ANS since 1981 and received the ANS Young Member

Engineering Achievement Award in 1986. He is vice president of technical development for Studsvik Scandpower Inc. in Idaho.

**Cheryl Boggess** has been elected for a four-year term as president of Women in Nuclear Global, an organization of more than 2800 women working in nuclear radiation fields and radiation applications. Cheryl is a senior project manager and principal engineer at Westinghouse Electric.

## ANS News

### Celebrating 50

Two local sections celebrated 50-year anniversaries. The **Washington, D.C. Section**, now chaired by Herb Massie, celebrated with a dinner meeting on March 25. The guest speaker, ANS President Donald Hirtz, presented the anniversary certificate and made a presentation titled, "A Time for New Generation." The **Eastern Washington Section** also celebrated at a dinner meeting on May 21. ANS Vice-President/President-Elect Dr. William Burchill presented the anniversary certificate to Richard Stout, the current Section Chair.

### Excelsior College Granted Section Charter

Excelsior College received its official [Student Section](#) Charter on April 17, 2008. The Student Sections Committee of the ANS recommended that the charter be granted during the November 2007 ANS meeting. Dr. Burchill made the formal presentation of the charter and also spoke about "The U.S. Nuclear Renaissance and the Challenges it Presents." Excelsior College Student Section is the only "virtual" student section in the ANS. Meetings are held online, affording members, many of whom are already working in the nuclear field, to network and participate in expert-led online discussions of nuclear-related issues.

### JRR-3 Designated an Historic Landmark

The ANS recognized JRR-3 in Japan as the 69<sup>th</sup> recipient of the Nuclear Historic Landmark Award. The plaque commemorating the ward was presented to Toshio Okazake, president of the Japan Atomic Energy Agency, by ANS President Donald Hintz during an April visit to Tokyo. The inscription reads: "JRR-3 has contributed to the establishment of nuclear technology in Japan. As a high-performance research reactor, JRR-3 has advanced neutron science through stable and successful operation for more than 40 years." Though JRR-3 was the third reactor built in Japan, it is the first designed, fabricated, and constructed using Japanese technology.

## 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](mailto: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.

## Introductory and Advanced MCNP Visual Editor Training

Date	Class	Location
Sept. 8–12, 2008	<a href="#">Introduction to MCNP using the MCNP/MCNPX Visual Editor</a>	Richland, WA
Nov. 3–7, 2008	<a href="#">Introduction to MCNP using the MCNP/MCNPX Visual Editor</a>	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

Sept. 29–Oct. 3, 2008	<a href="#">Introduction to MCNP5 and MCNPX</a>	Los Alamos National Laboratory
October 27–31, 2008	<a href="#">MCNP/MCNPX Intermediate Workshop</a>	Munich, Germany
November 3–7, 2008	<a href="#">MCNP/MCNPX Intermediate Workshop: Focus on Homeland Security</a>	Washington, DC

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>.

### SCALE Training Courses at ORNL

Date	Title	Description
Oct. 13–17, 2008	<b>KENO V.a</b>	Criticality safety with the most widely used version of KENO
Oct. 20–24, 2008	<b>ORIGEN-ARP/ TRITON Course</b>	ORIGEN-ARP: Isotopic depletion/decay and source terms using latest version of ORIGEN TRITON: 2-D reactor physics analysis using NEWT

Oct. 27–31, 2008	<b>KENO-VI/MAVRIC</b>	KENO-VI: Criticality safety using the generalized geometry version of KENO MAVRIC: 3-D automated variance reduction for deep-penetration and complex shielding problems
Nov. 3–7, 2008	<b>TSUNAMI Sensitivity/ Uncertainty Tools Course</b>	1-D and 3-D sensitivity/uncertainty analysis using XSDRNPM

The registration fee is \$1800 for each course. A late fee of \$300 will be applied after September 13. 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](http://www.ornl.gov/sci/scale/course_description.htm).

## **OECD/NEA Data Bank Hosts SCALE TSUNAMI Training Course**

OECD/NEA Data Bank is hosting a training course October, 13–17, 2008, on sensitivity and uncertainty analysis using the SCALE TSUNAMI sequence at the KFKI Atomic Energy Research Institute, located at 1121 Budapest, Konkoly Thege út 29-33. The course is open to participants in uncertainty analysis in modeling (UAM) and others from the OECD/NEA member countries who wish to get training in this important area of application. This is also held in support of the first phase of the activity of the UAM concerned with neutronics in reactor cores, <http://www.nea.fr/html/science/egrsltb/UAM/>, and the numerous other activities in areas of multi-scale/multi-physics activities, radiation shielding and criticality margin assessments.

In addition to providing hands-on training with the TSUNAMI code sequence, the course will provide perspectives for developments that will soon be available. The teachers of the course are well known experts involved with the development of these methods at the Oak Ridge National Laboratory. The course is organized by the OECD NEA Data Bank, together with the SCALE development team and with the support of the Radiation Safety Information Computational Center.

The deadline for registration is **August 31, 2008**. The number of participants is limited to about 20. For more information access the [syllabus](#) and then fill in the [Registration Form](#). You may also contact Cristina Lebunetelle, OECD/Nuclear Energy Agency Data Bank (email: [programs@nea.fr](mailto:programs@nea.fr), fax +33 1 45241109).

Registered participants will receive further information on request or after the registration deadline.

## **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 (18<sup>th</sup> 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. 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](mailto:latkowski@llnl.gov)). Check the website, <http://www.18th-tofe.com/>, frequently for updated information, registration information, etc.

## **6th Joint INMM/ESARDA Workshop**

“Meeting Safeguards Challenges in an Expanding Nuclear World” is the theme for the 6<sup>th</sup> Joint INMM/ESARDA Workshop, October 6–9, 2008, at the International House of Japan in Roppongi, Tokyo. The Workshop is organized by the Institute of Nuclear Materials Management (INMM) International Safeguards Division and Japan and Korea INMM Chapters, and the European Safeguards R&D Association (ESARDA).

The Workshop will address in depth the current issues in international safeguards and the nonproliferation regime, under the following main themes.

- safeguards implementation and state evaluation,
- technical progress: the safeguards toolbox,
- safeguards and nonproliferation policy and institutional issues, and
- academic and applied safeguards and nonproliferation programs in Asia, Europe and the United States.

The Workshop will have opening and closing plenary sessions and two days of parallel working group sessions. Four working groups will address the Workshop themes. Experts will introduce the particular topics in each Working Group with time allotted for full discussion. The Working Group Chairs will present the Working Group results at the Closing Plenary session.

For more information, contact: Jim Larrimore, Workshop Co-Chair, Chair, INMM International Safeguards Division (phone (+1) 858-509-9604, fax (+1) 858-509-2890, email [JamesLarrimore@san.rr.com](mailto:JamesLarrimore@san.rr.com)) or Gotthard Stein, Workshop Co-Chair, Vice-Chair, INMM International Safeguards Division (phone (+49) 228-676988, fax (+49) 2461-61-2496, email [g.stein@fz-juelich.de](mailto:g.stein@fz-juelich.de)). The url for the Workshop is <http://www.inmm.org/events/esarda08.cfm>.



The Paul Scherrer Institut, Villigen PSI in collaboration with Oak Ridge National Laboratory (ORNL) has scheduled the First International Workshop on Accelerator Radiation Induced Activation for October 13–17, 2008, in Villigen, Switzerland.

This workshop seeks to bring together scientists and engineers interested in problems of radionuclide transmutation in various applications at accelerator facilities. While the primary focus will be on computational methods to calculate radionuclide buildup and depletion and on experimental benchmarks for comparison, the workshop will also include discussion of transmutation systems, nuclear data and

practical applications. The workshop should appeal to those interested in neutron- and accelerator-induced activation; radioactive waste generation, transmutation and burnup; medical isotope production; and radionuclide production in accelerator-driven physics facilities.

Topics include:

- calculation methods (e.g. monte carlo methods, buildup and decay codes),
- nuclear data (e. g. activation cross sections, nuclear reaction codes, decay data bases, cross section measurements), and
- experimental validation and applications (e.g. benchmark experiments, practical application in radiation protection, etc.).

To express your interest in attending the workshop send an e-mail to [ARIA'08](mailto:ARIA'08). See <http://aria.web.psi.ch> or contact Daniela Lerch, Secretary (phone +41 56 310 33 82, email [daniela.lerch@psi.ch](mailto:daniela.lerch@psi.ch)) for further information.

## **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](http://www.irpa12.org.ar). Questions regarding all aspects of the Congress may be addressed to [secretariat@irpa12.org.ar](mailto:secretariat@irpa12.org.ar).

## **5th Workshop on Neutron Measurements, Evaluations and Applications Nuclear Data for Sustainable Nuclear Energy**

The 5th Workshop on Neutron Measurements, Evaluations and Applications Nuclear Data for Sustainable Nuclear Energy will be held October 27–29, 2008, in Ljubljana, Slovenia. The aim of the workshop is to provide a comprehensive overview of nuclear data production methods and their relation to the data needs for applications with potential economic impact. Contributions should highlight state-of-the-art and new developments of relevance for meeting the requirements on nuclear data associated with advanced reactor systems. Data users are invited to present comprehensive views on data needs.

In order to enhance the potential for high-quality networking, experts worldwide are invited to attend and the participation of post doctoral fellows and Ph.D. students who wish to present their work is encouraged.

Workshop topics include:

- advanced reactor concepts—Generation IV, GNEP,
- accelerator driven systems,
- advanced fuel cycles,
- measurements,
- evaluations, and
- benchmarking, testing and adjustments.

**September 15, 2008**, is the deadline for submitting abstracts. Details regarding the submission of abstracts and other information related to the workshop may be found at <http://candide.nri.cz/nemea.php>. Contact Carmen Cabanillas Platero, European Commission, Joint Research Centre, Institute for Reference Materials and Measurements, Retieseweg 111, B-2440 Geel, Belgium (phone +32 (0)14 571 411, fax+32 (0)14 571 862, email [jrc-irmm-nemea-5@ec.europa.eu](mailto:jrc-irmm-nemea-5@ec.europa.eu)).

### [International Workshop on Gamma Spectrometry Analysis Codes for U and Pu Isotopics](#)

The Oak Ridge National Laboratory will host a joint INMM/ESARDA workshop, “International Workshop on Gamma Spectrometry Analysis Codes for U and Pu Isotopics,” November 3–7, 2008. The objective of the workshop is to provide an international forum for code developers, commercial distributors and end users to interface and develop solutions to many of the programmatic and technical issues associated with each of the codes capabilities, limitations, applicability, sustainability, and version control. Featured codes include FRAM, MGA, MGAU, NaIGEM, WinU235, WinUF6 and U235HI. Other codes may also be included. The workshop will also provide an international forum for discussing development of an internationally accepted standard test method for such codes. For more information contact Alena Zhernosek (phone 865-241-2552, email [zhernosekav@ornl.gov](mailto:zhernosekav@ornl.gov)) url <http://www.inmm.org/events/gamma/index.cfm>.

### [LOWRAD 2008](#)

The 7<sup>th</sup> International Meeting on the Effects of Low Doses of Radiation in Biological Systems: New Perspectives on Human Exposure (LOWRAD 2008) 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, and
- microdosimetry and nanodosimetry.

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](mailto: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.

## CONTE 2009

The Conference on Nuclear Training and Education, CONTE 2009, an American Nuclear Society Topical Meeting, will be held February 8–11, 2009, in Jacksonville, Florida. Titled “Education, Training & Workforce Development—The Global Path to the Nuclear Energy Future,” participants will learn about:

- current nuclear energy issues and challenges,
- new education & training techniques,
- workforce development strategies,
- emerging nuclear power options,
- benchmarking,
- knowledge retention, and
- successful methods to address these challenges.

Information about the conference will be posted on the webpage at <http://www.ans.org/meetings/calendar.cgi?d=2-8-2009>. The program co-chairs are Kent W. Hamlin (INPO, email [HamlinKW@INPO.org](mailto:HamlinKW@INPO.org)) and Brian K. Hajek (Ohio State University, email [hajek.1@osu.edu](mailto:hajek.1@osu.edu)).



## WM2009

WM2009 will be held March 1–5, 2009, in Phoenix, Arizona. This series of Waste Management (WM) Symposia is internationally recognized as the premier annual conference of the nuclear waste management industry. WM2009 will include papers describing research, development and operational experience over the complete spectrum of nuclear waste activities. Proposed topics are categorized into general tracks:

- Crosscutting policies, programs and technologies (CPPT),
- High-level radioactive wastes (HLW), spent nuclear fuel (SNF) and long-lived alpha/transuranic radioactive waste (TRU)
- Low-level waste (LLW), intermediate level waste (ILW), mixed waste (MW), NORM & TENORM
- Nuclear power plant (NPP) waste management (operational waste management and NPP spent nuclear fuel (SNF))
- Packaging and transportation (PAT)
- Decontamination & decommissioning (D&D)
- Environmental remediation (ER)
- Public communications, involvement, education and training (CE&T)
- Security, safety and safeguards (SS&S)
- Unassigned, late abstracts, and the non-paper poster session (MISC)

The deadline for submitting an abstract is **Thursday, August 28, 2008**. Abstracts may be submitted online at [http://www.x-cd.com/wm/author\\_login.cfm](http://www.x-cd.com/wm/author_login.cfm).

WM2009 also offers a student poster competition with a cash award for the best poster. No full abstract or paper is required for student posters. Submit a 50-word summary of your studies/research work and present it in the WM2009 Student Poster Competition on Monday, **March 2, 2009**. The deadline for submitting student posters is **Friday, January 30, 2009**. Every student presenting a student poster is eligible to receive **free registration and housing** for WM2009. Transportation support may also be available through donations to the [Roy G. Post Foundation](#). Current news about the conference can be found at the website, [http://www.wmsym.org/html/wm\\_conference.cfm](http://www.wmsym.org/html/wm_conference.cfm).

## **Advances in Nuclear Fuel Management IV**

Advances in Nuclear Fuel Management IV will be held April 12–15, 2009, in Hilton Head, South Carolina. The meeting is a forum for addressing a broad spectrum of front-end nuclear fuel management activities, within the context of reactor physics and fuel cycle economics. Topics will range from methods development and verification to design and implementation of new in-core fuel products and strategies.

A list of technical sessions follows.

- addressing practical design constraints on fuel management
- advanced fuel assembly and burnable absorber designs
- advanced fuel management and multi-dimensional burnup analysis
- advances in reactor stability
- automated and interactive fuel management design and optimization tools
- error quantification of core simulation capabilities
- experiences and advances in on-line core monitoring
- extended fuel cycles and economic analysis
- fuel and core design based on thorium cycles
- fuel cycle core design for advanced reactor concepts
- fuel temperature feedback for steady-state and transients
- generation of cross section libraries and whole core transport calculations
- generation-iv design concepts
- high enrichment >5wt% uo<sub>2</sub> studies
- innovative core loading strategies and methods
- management, design, and operation issues of advanced reactor fuels
- model comparisons against measured reactor power data
- monte carlo-based depletion and full core analysis: new developments and issues
- mox utilization in reactors
- nodal and lattice physics methods
- nuclear data needs to enhance core simulation fidelity
- reactor-based plutonium disposition
- research reactor topics—fuel management practices
- simulation and study of advanced nuclear fuel cycles
- utilities experience in reload design and licensing
- utilization of zero power physics tests and core follow data to enhance core simulation fidelity
- validation of core analysis tools for fuel management

The deadline for electronic submission of papers is **October 31, 2008**. General Chair for the conference is John Siphers, Progress Energy (phone 919-546-4032, email [john.siphers@pgnmail.com](mailto:john.siphers@pgnmail.com)) and the Technical Program Co-chairs are Ivan Maldonado, University of Tennessee (phone 865-974-7562, email [imaldona@utk.edu](mailto:imaldona@utk.edu)) and Atul Karve, Global Nuclear Fuel, (phone 910-675-5802, email [atul.karve@gnf.com](mailto:atul.karve@gnf.com)). Additional details are posted at the conference web site: <http://anfm2009.org>.

## 2009 International Conference on Advances in Mathematics, Computational Methods, and Reactor Physics

The 2009 International Conference on Advances in Mathematics, Computational Methods, and Reactor Physics will be held May 3–7, 2009, in Saratoga Springs, New York. The Conference will provide an international forum to present and discuss recent research in mathematical modeling and computing as applied to nuclear engineering and particle transport. This conference is part of a series of topical meetings organized by the Mathematics and Computation Division of the American Nuclear Society and returns to Saratoga Springs, New York—the site of the 1997 conference in this series. The technical program will consist of plenary sessions, parallel oral presentation sessions, and poster sessions. There will also be one or more workshops.

The call for papers has been issued soliciting work in all areas of computational and mathematical methods for analysis of nuclear systems as well as from related disciplines including reactor physics, materials science, shielding, fluid dynamics, medical and biological applications, environmental sciences, fundamental mathematics, and benchmarking. Subject categories include:

- deterministic transport theory methods,
- monte carlo transport theory methods,
- hybrid methods in particle transport,
- perturbation and variational methods,
- computational fluid dynamics,
- computational environmental science,
- nuclear data methods and analysis,
- criticality and safety analysis,
- computational materials science,
- high-performance / large-scale computing,
- high-impact software design,
- characteristic and diffusion theory methods,
- nuclear reactor analysis,
- reactor kinetics methods,
- accelerators and subcritical systems,
- computational plasma physics,
- radiation protection and shielding,
- methods for advanced reactor concepts,
- optimization methods,
- computer codes and benchmarks (poster session),
- multi-physics simulation methods,
- computational medical physics, and
- verification and validation methods.

A 1500-word summary must be submitted to the conference electronically no later than **September 30, 2008**, in order to ensure that it is included in the review process. Check the conference website [http://local.ans.org/ne-ny/topical\\_2009\\_neny.html](http://local.ans.org/ne-ny/topical_2009_neny.html) for instructions for submitting your work for consideration and for general conference information. General chair of the conference is Ray Gamino ([ray.g.gamino@lmco.com](mailto:ray.g.gamino@lmco.com)).

## **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, and
- 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](http://www.snm.org). A future announcement will provide instructions for submitting abstracts. George Sgouros ([gsgouros@jhmi.edu](mailto:gsgouros@jhmi.edu)) is Vice-chair of the organizing Committee and Michael Lassmann ([Lassmann\\_M@klinik.uni-wuerzburg.de](mailto:Lassmann_M@klinik.uni-wuerzburg.de)) is Chair of the Committee.

### **ICENES-2009**

The 14th International Conference on Emerging Nuclear Energy Systems (ICENES-2009) will be held June 29–July 3, 2009, in Ericeira, Portugal. The main objective of the ICENES series is to provide an international forum for scientists, engineers, industry leaders, policy makers, decision makers and young professionals to present and discuss various advanced, innovative and non-conventional nuclear energy production systems. A new dimension of ICENES2009 will extend the forum to include innovative non-nuclear technologies, such as hydrogen energy, solar energy, deep space exploration, etc. A special new field in ICENES 2009 will be the discussion and proposals of new tools for a more efficient way to organize R&D in nuclear energy and related fields, and to boost international cooperation. ICENES2009 takes place in a special moment, at the dawn of a new era for nuclear energy, marked by the nuclear energy “renaissance” and following a major step forward towards the development and implementation of nuclear fusion energy, with the recent decision to build ITER.

Conference topics include:

- advanced fission systems and fuel cycles,
- fusion energy systems,
- radiation protection & shielding,
- nuclear physics unusual applications,
- new nuclear medicine applications,
- nuclear and solar space power and propulsion,
- nuclear hydrogen production & the hydrogen economy,
- sustainability issues: society, energy, environment,
- energy policy: the nuclear and renewable mix, and
- R&D organization and cooperation: new tools for new challenges.

Papers on hydrogen, solar and other alternative energies as natural and mutual complements of nuclear energy in a sustainable development framework are strongly encouraged as are new proposals on how to focus R&D programs in a more efficient way. For more information contact the Conference Secretariat at [icenes2009@itn.pt](mailto:icenes2009@itn.pt) or fax: 351 21 994 1995. Check the website, <http://www.itn.pt/icenes2009/>, frequently for new and updated information.

### **GLOBAL 2009**

GLOBAL 2009 will be held in Paris, September 6–11, 2009. It will be the 9<sup>th</sup> in the series of world meetings held bi-annually on the nuclear fuel cycle (NFC) that began in 1993 in Seattle. The series has since been established as an international forum for experts to provide an overall review of the status and

new trends of research applications and policies related to the nuclear fuel cycle (NFC). GLOBAL 2009 will highlight the technical challenges and successes involved in closing the NFC and recycling long lived nuclear waste. It will also be an excellent occasion to review and discuss social and regulatory aspects as well as national plans and international policies affecting the future of nuclear energy. This meeting will provide a forum for the exchange of the newest ideas and developments related to the initiatives related to establishing an acceptable, reliable and universal international non proliferation regime.

The technical program will consist of invited plenary and focused in-depth technical sessions organized along specific areas of technical interests listed below.

- Front end of the fuel cycle
- Current spent nuclear fuel recycling
- Waste management technologies and strategies
- Concepts for transportation and interim storage of spent fuels and conditioned waste
- Nuclear waste repository developments
- Advanced technologies for fuel recycling including partitioning of specific radionuclides
- Advances in reactor cores design and in-core fuel management
- Transmutation systems for long lived radionuclides
- Developments in nuclear non proliferation technology, policy and implementation
- Sustainable fuel cycle options and nuclear material management
- Dismantling, decommissioning and material management
- Crosscutting issues, policies and programs

Abstracts may be submitted online by **December 15, 2008**. Instructions for submission may be found at <http://www.inspi.ufl.edu/global2009/papers/submission.html>. The contact for the conference is Sylvie Delaplace, SFEN, 5 rue des Morillons, F75015 PARIS (phone +33-(0)1-53-58-32-16, fax +33-(0)1-53-58-32-11, email [global2009@sfen.fr](mailto:global2009@sfen.fr)). Stay up to date with current news about the conference at [https://www.sfen.fr/index.php/plain\\_site/global\\_2009/general\\_scope\\_overview](https://www.sfen.fr/index.php/plain_site/global_2009/general_scope_overview).

### **NCSD 2009**

NCSD 2009, the topical meeting of the ANS Nuclear Criticality Safety Division, will be held September 13–17, 2009, in Richland, Washington. The theme for the meeting is *Realism, Robustness, and the Nuclear Renaissance*. Electronic submission of abstracts will open January 9, 2009, for work that falls within the following topics:

- Realism and Criticality Safety—Input data, Cross sections, Modeling, Accident scenarios
- Applications and Realism— Benchmark selection, Tsunami and other methods, Sub-critical Measurements, Burn-up credit applications
- Robustness in controls—Development of criticality controls, Requirements documents (DOE, NRC), Standards role, Implementation of criticality controls, Examples, International experience
- Ready for the Renaissance—Status and scope of GNEP, Criticality safety needs for the fuel cycle (enrichment, fabrication, transportation, storage and disposal), Harvesting existing benchmark data (fuel cycle and nuclear data), In-situ measurements, Criticality safety and engineering design, Use of computers in operations controls, People needs, training and education

Contact the Technical Program Chairman, David Erickson at [David\\_G\\_Erickson@rl.gov](mailto:David_G_Erickson@rl.gov) if you have questions about the abstract requirements that might not be covered at the meeting website, <http://www.ncsd2009.com/>.

## NEUDOS-11

The 11th Neutron and Ion Dosimetry Symposium (NEUDOS-11), hosted by the Laboratory for Accelerator-Based Sciences (iThemba LABS), will be held October 12–16, 2009, in Capetown, South Africa. The Symposium is being held under the auspices of the European Dosimetry Group (EURADOS). All previous Symposia in the series, which began in 1972, have been held in Western Europe.

A full and diverse scientific program will be offered which will encompass the complete range of neutron and ion dosimetry topics. In addition, both oral and poster “young investigators” sessions will be held. At these sessions presentations on any topic related to the dosimetry of any radiation modality (i.e., not limited to neutron or ion dosimetry) can be presented.

Check the website, <http://www.neudos11.tlabs.ac.za>, frequently for new information. You may also contact Dr. D. Jones / Ms. N. Haasbroek, iThemba LABS, P O Box 722, Somerset West 7129, South Africa (phone +27 21 843 1259 / 1032, fax +27 21 843 3525, email [Neudos11@tlabs.ac.za](mailto:Neudos11@tlabs.ac.za)).

## CALENDAR

### September 2008

2008 IHLRW, “Steps Toward Reality for Safe Disposal,” Sept. 7–11, 2008, Knoxville, TN. Contact: ANS Registrar (phone 708-579-8316, email: [registrar@ans.org](mailto:registrar@ans.org)) url <http://www.ans.org/meetings/calendar.cgi?d=9-7-2008>.

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

MACCS2 user workshop, Sept. 8, 2008, Bethesda, MD. Contact: Larry L. Humphries, Sandia National Laboratory (email [llhumph@sandia.gov](mailto:llhumph@sandia.gov)) url <http://melcor.sandia.gov/>.

MELCOR user workshop, Sept. 9–15, 2008, Bethesda, MD. Contact: Larry L. Humphries, Sandia National Laboratory (email [llhumph@sandia.gov](mailto:llhumph@sandia.gov)) url <http://melcor.sandia.gov/>.

PHYSOR'08, Sept. 14–19, 2008, Interlaken, Switzerland. Contact: [info@physor2008.ch](mailto: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, CA. 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@lnl.gov](mailto:latkowski@lnl.gov)) url <http://www.18th-tofe.com/>.

### October 2008

6th Joint INMM/ESARDA Workshop, Oct. 6–9, 2008, Roppongi, Tokyo. Contact: Jim Larrimore, Workshop Co-Chair, Chair, INMM International Safeguards Division (phone +1 858-509-9604, fax +1 858-509-2890, email [JamesLarrimore@san.rr.com](mailto:JamesLarrimore@san.rr.com)) or Gotthard Stein, Workshop Co-Chair, Vice-Chair, INMM International Safeguards Division (phone +49 228-676988, fax +49 2461-61-2496, email [g.stein@fz-juelich.de](mailto:g.stein@fz-juelich.de)). url <http://www.inmm.org/events/esarda08.cfm>.

ARIA 2008, Oct. 13–17, 2008, Villigen, Switzerland. Contact: Daniela Lerch, Secretary (phone +41 56 310 33 82, email [daniela.lerch@psi.ch](mailto:daniela.lerch@psi.ch)) url <http://aria.web.psi.ch>.

SCALE 5.1 TSUNAMI Training Course, October 13–17, 2008, Budapest, Hungary. Contact: Cristina Lebunetelle, OECD/Nuclear Energy Agency Data Bank (email: [programs@nea.fr](mailto:programs@nea.fr), fax +33 1 45241109).

SCALE Training Course–KENO Va, Oct 13–17, 2008, Oak Ridge National Laboratory, Oak Ridge, TN. Contact: [http://www.ornl.gov/sci/scale/course\\_description.htm](http://www.ornl.gov/sci/scale/course_description.htm).

16<sup>th</sup> Pacific Basin Nuclear Conference (16PBNC), October 13-18, 2008, Aomori, Japan. Contact: [info@pbnc2008.org](mailto:info@pbnc2008.org), url <http://www.pbnc2008.org/>.

3D S.UN.COP 2008, Oct. 13–31, 2008, at the Institute for Energy (IE) of JRC, in Petten, The Netherlands. Contact: Alessandro Petruzzi ([a.petruzzi@ing.unipi.it](mailto:a.petruzzi@ing.unipi.it)) url <http://dimnp.ing.unipi.it/3dsuncop>.

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

SCALE Training Course– ORIGEN-ARP/TRITON, Oct. 20–24, 2008, Oak Ridge National Laboratory, Oak Ridge, TN. Contact: [http://www.ornl.gov/sci/scale/course\\_description.htm](http://www.ornl.gov/sci/scale/course_description.htm).

5th Workshop on Neutron Measurements, Evaluations and Applications Nuclear Data for Sustainable Nuclear Energy, Oct. 27–29, 2008, Ljubljana, Slovenia. Contact: Carmen Cabanillas Platero European Commission Joint Research Centre, Retieseweg 111, B-2440 Geel, Belgium (phone +32 (0)14 571 411, fax+32 (0)14 571 862, email [jrc-irmm-nemea-5@ec.europa.eu](mailto:jrc-irmm-nemea-5@ec.europa.eu)) url <http://candide.nri.cz/nemea.php>.

SCALE Training Course– KENO-VI/MAVRIC, Oct. 27–31, 2008, Oak Ridge National Laboratory, Oak Ridge, TN. Contact: [http://www.ornl.gov/sci/scale/course\\_description.htm](http://www.ornl.gov/sci/scale/course_description.htm).

### November 2008

13<sup>th</sup> International Conference on Neutron Capture Therapy, Nov. 3–7, 2008, Florence, Italy. Contact: ICNCT-13 Secretary General ([icnct-13@pv.infn.it](mailto: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, Reno, NV. Contact: <http://www.mcnpvised.com/index.html>.

SCALE Training Course– TSUNAMI Sensitivity/Uncertainty Tools Course, Nov. 3–7, 2008, Oak Ridge National Laboratory, Oak Ridge, TN. Contact: [http://www.ornl.gov/sci/scale/course\\_description.htm](http://www.ornl.gov/sci/scale/course_description.htm).

International Workshop on Gamma Spectrometry Analysis Codes for U and Pu Isotopics, Nov. 3–7, 2008, Oak Ridge National Laboratory, Oak Ridge, TN. Contact: Alena Zhernosek (phone 865-241-2552, email [zhernosekav@ornl.gov](mailto:zhernosekav@ornl.gov)) url <http://www.inmm.org/events/gamma/index.cfm>.

American Nuclear Society: 2008 Winter Meeting, “Nuclear Power—Ready, Steady, Go,” Nov. 9–13, 2008, Reno, NV. Contact: <http://www.ans.org/meetings/index.cgi?c=n>.

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](mailto:lowrad2008@itn.pt)), Nuclear and Technological Institute Department of Radiological Protection and Nuclear Safety Estrada Nacional 10, 2686 - 953 Sacavém, Portuga., url <http://www.lowrad2008.itn.pt/index.html>.

### February 2009

CONTE 2009, Feb. 8–11, 2009, Jacksonville, FL. Contact: Kent W Hamlin (INPO, email [HamlinKW@INPO.org](mailto:HamlinKW@INPO.org)) and Brian K. Hajek (Ohio State University, email [hajek.1@osu.edu](mailto:hajek.1@osu.edu)) url <http://www.ans.org/meetings/calendar.cgi?d=2-8-2009>.

### March 2009

WM2009, March 1–5, 2009, Phoenix, Arizona. Contact: WMS Administration at 1-520-696-0399 or email at [papers@wmarizona.org](mailto:papers@wmarizona.org), url [http://www.wmsym.org/html/wm\\_conference.cfm](http://www.wmsym.org/html/wm_conference.cfm).

### April 2009

Advances in Nuclear Fuel Management IV, April 12–15, 2009, Hilton Head, SC. Contact: General Chair John Siphers (phone 919-546-4032, email [john.siphers@pgnmail.com](mailto:john.siphers@pgnmail.com)), or Technical Program Co-chairs Ivan Maldonado (phone 865-974-7562, email [imaldona@utk.edu](mailto:imaldona@utk.edu)) and Atul Karve (phone 910-675-5802, email [atul.karve@gnf.com](mailto:atul.karve@gnf.com)) url <http://anfm2009.org>.

### **May 2009**

2009 International Conference on Advances in Mathematics, Computational Methods, and Reactor Physics, May 3–7, 2009, Saratoga Springs, NY. Contact: Ray Gamino ([ray.g.gamino@lmco.com](mailto:ray.g.gamino@lmco.com)) url [http://local.ans.org/ne-ny/topical\\_2009\\_neny.html](http://local.ans.org/ne-ny/topical_2009_neny.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](mailto:gsgouros@jhmi.edu)) or Michael Lassmann ([Lassmann\\_M@klinik.uni-wuerzburg.de](mailto:Lassmann_M@klinik.uni-wuerzburg.de)) url [www.snm.org](http://www.snm.org).

14th International Conference on Emerging Nuclear Energy Systems (ICENES-2009), June 29–July 3, 2009, Ericeira, Portugal. Contact: Conference Secretariat at [icenes2009@itn.pt](mailto:icenes2009@itn.pt) (fax: 351 21 994 1995) url <http://www.itn.pt/icenes2009/>.

### **July 2009**

50th INMM Annual Meeting, July 12-16, 2009, Tucson, Arizona. Contact: phone 847-480-9573, fax: 847-480-9282, email: [inmm@inmm.org](mailto:inmm@inmm.org); url <http://www.inmm.org>.

### **September 2009**

GLOBAL 2009, Sept. 6–11, 2009, Paris. Contact: Sylvie Delaplace, SFEN, 5 rue des Morillons, F75015 PARIS (phone +33-(0)1-53-58-32-16, fax +33-(0)1-53-58-32-11, email [global2009@sfen.fr](mailto:global2009@sfen.fr)) url [https://www.sfen.fr/index.php/plain\\_site/global\\_2009/general\\_scope\\_overview](https://www.sfen.fr/index.php/plain_site/global_2009/general_scope_overview).

NCSD 2009, Sept. 13–17, 2009, Richland, Washington. Contact: Technical Program Chairman, David Erickson at [David\\_G\\_Erickson@rl.gov](mailto:David_G_Erickson@rl.gov), url <http://www.ncsd2009.com/>.

### **October 2009**

NEUDOS-11, October 12–16, 2009, Capetown, South Africa. Contact: Dr D Jones / Ms N. Haasbroek, iThemba LABS, P O Box 722, Somerset West 7129, South Africa (phone +27 21 843 1259 / 1032, fax +27 21 843 3525, email [Neudos11@tlabs.ac.za](mailto:Neudos11@tlabs.ac.za)) url <http://www.neudos11.tlabs.ac.za>.