Radiation Safety Information Computational Center

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Well done is better than well said.—Benjamin Franklin

ATR National Scientific User Facility

The U.S. Department of Energy (DOE) designated the Advanced Test Reactor (ATR) as a National Scientific User Facility in April 2007. This designation allows the ATR to become a cornerstone of nuclear energy research and development (R&D) in the U.S. by facilitating nuclear energy R&D by universities, the commercial power industry, international organizations, and other national laboratories. The Advanced Test Reactor National Scientific User Facility (ATR NSUF) is making a portion of the Advanced Test Reactor irradiation space, as well as the Idaho National Laboratory post-irradiation examination equipment, available through competitive solicitation. A primary goal of the ATR NSUF is to satisfy customer needs relative to providing reactor services and post-irradiation examination equipment.

ATR FY 2009 Fall Solicitation

This is a very exciting year for ATR NSUF proposers. In FY 2009, the ATR NSUF will conduct two proposal calls. The first will be open from August 27–November 3, 2008. The second call will be open from November 10, 2008–June 4, 2009. We have taken the feedback from the 2008 Annual Workshop and incorporated many suggestions into the solicitation. We are also pleased to offer the capabilities of the Massachusetts Institute of Technology reactor. Information on that reactor and the research offered can be found in the "Solicitation Site" under the "Research Proposals" section of the website.

Other changes to the solicitation include:

- Both of the FY 2009 calls will offer several different types of irradiation experiments.
- The solicitations will offer proposers an opportunity to propose post irradiation examination of

materials previously irradiated by DOE fuel and material development programs.

- Strategic partnership proposals are sought from universities with facilities that build on ATR NSUF capabilities.

The ATR NSUF website is https://inlportal.inl.gov/portal/server.pt?open=512&objID=402&mode=2.

If you have any questions, please don't hesitate to contact any of the User Facility staff listed in the staff directory.

Todd Allen, Scientific Director
ATR National Scientific User Facility

2008 Edition ICSBEP Handbook Released

The September 2008 Edition of the *International Handbook of Evaluated Criticality Safety Benchmark Experiments* will be available for distribution on DVD near the end of September. Twenty-one newly approved evaluations are included in this version in addition to all previously approved evaluations. In addition to newly approved evaluations, simplified models have been added to HEU-MET-FAST-076. Editorial and technical corrections have been made to a few previously approved evaluations. Revision status of each individual evaluation is noted at the bottom of each page. A revision history table, noting specific technical revisions made to each evaluation, is included in the 'bookmark' section of each applicable evaluations pdf file, denoted as "Revisions".

Detailed Spectra / Neutron Balance data for many of the various configurations are linked to the appropriate evaluation. Additional Spectra / Neutron Balance data will be published on the Internet as they become available and will be linked to the Handbook for the 2008 publication.

Major improvements to the Database for the International Criticality Safety Benchmark Evaluation Project (DICE) have also been made, and the new version is included on the 2008 DVD along with a revised User's Manual.

There are certain restrictions on the distribution of the Handbook. Therefore, access to the Handbook must be controlled. If you are interested in obtaining the 2008 Edition of the Handbook on DVD, you may request a copy by accessing the ICSBEP Internet site (http://icsbep.inl.gov) and by completing the non-disclosure form provided.

Recipients of the DVD version of the Handbook are restricted from putting the Handbook on the World-Wide Web or distributing it to individuals outside their own organization. However, this restriction applies to the Handbook in its entirety and does not restrict contributors from making their individual evaluations available on the World-Wide Web.

The September 2008 Edition of the Handbook will also be made available on the ICSBEP Internet Site shortly after the release of the DVD version of the Handbook. A password is required to obtain access to the Handbook. You will automatically be given an option to register and obtain a password or to enter your password and obtain access to the Handbook at the ICSBEP Internet site (http://icsbep.inl.gov/hbrequest.shtml), located at the Idaho National Laboratory (INL).

J. Blair Briggs
International Criticality Safety Benchmark Evaluation Project

Obituaries

Lawrence E. Hochreiter, 67, of State College, PA, died on Wednesday, Sept. 3, 2008. He was born in Buffalo, NY. Dr. Hochreiter received a B.S. in Mechanical Engineering from the University of Buffalo, and M.S. and Ph.D degrees from the Department of Nuclear Engineering at Purdue University, where he met his wife Susan Alice Novak.

Upon graduation he was employed by Westinghouse Nuclear Energy Systems in Pittsburgh, PA, where he became a consulting engineer, the highest technical management position in the company. While with Westinghouse, Hochreiter served as the safety analysis technical expert on the 1979 Three Mile Island accident and directed a Westinghouse analysis of the accident for the President's Commission on TMI. He directed the Westinghouse analysis team on the Zion/Indian Point 60-day study for severe accidents and initiated Westinghouse's efforts in severe accidents. While in Pittsburgh, he served as an adjunct professor at Carnegie-Mellon University teaching graduate courses in reactor engineering. He also served as an adjunct professor at Penn State and taught graduate courses in the Penn State/ Westinghouse Mechanical Engineering Program.

In 1997 he joined Penn State, University Park, as a full-time professor of Mechanical & Nuclear Engineering. He taught both undergraduate and graduate nuclear engineering courses and mentored many students. He took the lead in establishing a new distance education program offering a Master of Nuclear Engineering degree and acted as the Distance Education Student Academic Advisor.

Of the many achievement awards he received throughout his careers at Westinghouse and Penn State, he was most appreciative of the Outstanding Teacher award he received from Penn State in 2005. He loved teaching and was very proud of the awards his students received from the ANS student design competitions.

Dr. Hochreiter was appointed by the Governor of Vermont to serve on the Public Oversight Panel tasked with reviewing, on the public's behalf, the reliability assessment of the Vermont Yankee nuclear power facility which is pursing an extension of their operating license.

Memorial contributions can be made to the Department of Mechanical and Nuclear Engineering, Penn State University, 132 Reber Building, University Park, PA 16802.

Changes to the Computer Code and Data Collection

CCC-726/CNCSN

Keldysh Institute of Applied Mathematics, Moscow, Russia, contributed this code system for calculating one-, two- and three-dimensional **C**oupled **N**eutral and **C**harged particle **SN** (CNCSN) transport calculations. The system includes KATRIN, KASKAD-S and ROZ-6 to solve the multigroup transport equation for neutrons, photons and charged particles in 3D, 2D, and 1D geometries, respectively. The transport equation for charged particles can be solved with direct treatment of the continuous slowing-down (CSD) term. For 1D plane and spherical geometries, the Bolzmann-Fokker-Plank equation can be solved with direct treatment of both CSD and continuous scattering terms. The scattering anisotropy can be treated in the P_L approximation. The adjoint solution of the problem can also be obtained (for neutral particles only). The principal application is the solving of the deep-penetration transport problems, typical for radiation protection and shielding calculations. Fission problems (subcritical boundary value problem and k-eff), problems with upscattering (thermalization, etc), electron-photon and hadron cascade problems can be also solved. Numerous printed edits of the results are available and output solution/source files can be written for subsequent analysis by postprocessors. KATRIF, KASF and ROZ6F.

CNCSN includes the following codes to prepare cross sections as well as post processors.

ARVES-2.5: Preprocessor for the working macroscopic cross-section FMAC-M format for transport calculations.

MIXERM: A utility for preparing mixtures on the base of multigroup cross-section libraries in ANISN format.

CEPXS-BFP: A version of Sandia National Laboratory multigroup coupled electron-photon cross-section generating code CEPXS, adapted for solving the charged particle transport in the Boltzmann-Fokker-Planck formulation with the use of discrete ordinate method.

SADCO-2.4: Institute for High-Energy Physics modular system for generating coupled nuclear data libraries to provide high-energy particle transport calculations by multigroup method.

The codes were developed and tested on Pentium IV personal computers under Windows XP. The Fortran 90 language standard is followed closely. The included executables were created using the Intel Visual Fortran 10.1 compiler. Some routines from the IMSL library are used for estimation of spectral shape of acceleration corrections in outer iterations acceleration algorithm. Commercially available graphical software codes GRAPHER™, SURFER™ and MapViewer™ are used to visualize geometry/results of calculations. The package is transmitted on a CD in a WinZIP file that contains the referenced manuals, Fortran source, makefiles to compile/link, executables, and sample problems input/output. References: KIAM reports (2004, some updated 2007). Fortran 90, PC under Windows XP or Vista (C00726PC58600).

CCC-735/EASY-2005.1

UKAEA/EURATOM Fusion Association, Oxfordshire, United Kingdom, and CEA Cadarache, CEDEX, France, through the OECD NEA Data Bank, Issy-les-Moulineaux, France, contributed the European Activation System - EASY-2005.1. This system is a complete tool for the calculation of activation in materials exposed to neutrons. It is designed to investigate both fusion devices and accelerator based materials test facilities that will act as intense sources of high energy neutrons causing significant activation of the surrounding materials. The very general nature of the calculational method and the data libraries means that it is applicable to most situations (e.g. fission reactors or neutron sources) where materials are exposed to neutrons below 60 MeV. EASY-2005.1 consists of the inventory code FISPACT-2005.1, the EAF-2005.1 plus the EASY User Interface for Windows.

EASY-2005 extended the upper energy range from 20 to 60 MeV so that it is capable of being used for IFMIF calculations. The EAF-2005 library contains 62,637 reactions, almost five times more than in the previous version EAF-2003 (12,617). This maintenance release, EAF-2005.1, corrects some mistakes in the initial EASY-2005 release. Also new in this release is a deuteron-induced cross section library, which can be used with EASY to enable calculations of the activation due to deuterons. EASY-2005.1 includes a new version of the FISPACT code that can use the deuteron library. FISPACT is an inventory code that has been developed for neutron-induced activation calculations for materials in fusion devices. FISPACT-2005 uses external libraries of nuclear data for all relevant nuclides to calculate the number of atoms of each species at a specified time during the irradiation or after a decay time following shutdown. The various species are formed either by a direct reaction on a starting material, by a series of reactions some of which can be on radioactive targets or by a decay or series of decays.

Executables created by the developers are included for IBM-AIX, Compaq-Alpha, SUN-Solaris, Pentium running Red Hat Linux and Windows. The package is transmitted on 1 DVD which include documents, executable files for all systems named above, source codes, Makefiles, Windows installer, data files and test cases. References: UKAEA FUS 513, UKAEA FUS 514, UKAEA FUS 515, UKAEA FUS 516, UKAEA FUS 517, and UKAEA FUS 454. Fortran and C; PC, Mac, IBM RS/6000, Sun, Compaq Alpha. (C00735MNYCP01).

CCC-744/EasyQAD, Version 1

Innovative Technology Center for Radiation Safety (iTRS) and Nuclear Reactor Analysis Laboratory at Hanyang University, Seoul, Korea, contributed EASYQAD, Version 1.0, which is a standalone Windows XP code system that facilitates gamma and neutron shielding calculations with user friendly graphical interfaces. It is used to analyze radiation shielding problems and includes:

- 8 kinds of geometry types,
- various flexible source options,
- common material library,
- various detector types.

Through intuitive windows and their interactions inside EASYQAD, the user can specify the dimensions of 3D-shapes, their material compositions, their densities, the type of radioactive sources, the locations of the sources, the type and positions of detectors. With the ease of using these sequences, shielding problems will become simpler and more clearly understandable to the analyzer. Furthermore, the error checking system can prevent users from making mistakes by automatically debugging the user inputs and giving modal dialog windows. EASYQAD is based on the AECL implementation of QAD-CGGP-A, which is a point-kernel code for calculating fast-neutron and gamma-ray penetration through various shield configurations defined by combinatorial geometry specifications. The included executables run on personal computers under Windows XP. The user interface is a MATLAB application. QAD-CGGP-A is written in Fortran 77 and compiled with MicroSoft Fortran 5.1. The package is transmitted in a WinZIP file on one CD, which contains documentation, executables for EasyQAD, MATLAB Component Runtime and QAD- CGGP-A (Version 95.2), input and output files. Reference: Informal report. MATLAB; PC (C00744PC58600).

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.

Introductory and Advanced MCNP Visual Editor Training

Date	Class	Location
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 who received the RSICC version 5 release. Bring proof of receipt (letter or email) 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

October 27–31, 2008	MCNP/MCNPX Intermediate Workshop	Munich, Germany
November 3–7, 2008	MCNP/MCNPX Intermediate Workshop: Focus on Homeland Security	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	**KENO V.a**	Criticality safety with the most widely used version of KENO
Oct. 20–24, 2008	**ORIGEN-ARP/ TRITON Course**	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	**KENO-VI/MAVRIC**	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	**TSUNAMI Sensitivity/ Uncertainty Tools Course**	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.

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, fax +33 1 45241109).

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

Operational Radiation Protection for Accelerators in Research and Medicine

Operational Radiation Protection for Accelerators in Research and Medicine will be held in Erice, Sicily (Italy), May 13–20, 2009, at the "Ettore Majorana Foundation and Centre for Scientific Culture" within the framework of the International School of Radiation Damage and Protection. The course is focused on operational radiation protection, including environmental aspects, safety systems, training and radioactive waste management at high-energy accelerators and hadron therapy facilities. Emphasis is given to all aspects of practical implementation of the principles of operational radiation protection at such facilities. The Course will provide a series of presentations given by acknowledged experts with practical experience in the field. There will be ample opportunity for in-depth discussions on current problems. Details can be found at the Webpage at http://www.cern.ch/radschool.

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) url http://www.inmm.org/events/gamma/index.cfm.

LOWRAD 2008

The 7th 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), 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) and Brian K. Hajek (Ohio State University, email 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.

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.

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% uo2 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) and the Technical Program Co-chairs are Ivan Maldonado, University of Tennessee (phone 865-974-7562, email imaldona@utk.edu) and Atul Karve, Global Nuclear Fuel, (phone 910-675-5802, email 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 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).

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. 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.

2009 ANS Annual Meeting

Advancing Nuclear Technology for a Greater Tomorrow is the theme for the 2009 ANS Annual Meeting which be held in Atlanta, Georgia, June 14–18. Summaries describing work that is new, significant, and relevant to the nuclear industry may be submitted beginning November 1 in response to the Call for Papers. Summaries must be submitted electronically using Adobe Acrobat (PDF) files and original Microsoft Word documents and the ANS Electronic Submission System. Summaries not based on the ANS Template will be rejected. General Chair for the meeting is Jeffrey T. Gasser (Southern Nuclear Operating Company; the Technical Program Chair is Bojan Petrovic (Georgia Institute of Technology).

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 or fax: 351 21 994 1995. Check the website, http://www.itn.pt/icenes2009/, frequently for new and updated information.

Radiation Shielding for Medical Installations

The Training Course on Radiation Shielding for Medical Installations (RSMI 2009) will be held July 19–21, 2009, in Ericeira, Portugal. This education and training initiative on shielding methodologies for medical imaging and therapy facilities will provide you with:

- The latest information on medical radiation shielding design from a rare collection of shielding experts and professionals who will be available to provide their special insights into this field, including practical design tips which cannot be found in any formal reports, and observed common shielding mistakes (some very serious) to be avoided. Included will be diagnostic x-ray imaging (Conventional, Interventional, CT, Digital, etc.); nuclear medicine (including PET/CT), and the latest in radiotherapy shielding design (including IMRT, Cyberknife, Tomotherapy, neutrons, and unique solutions to space limitations). These experts include the authors of the latest NCRP shielding design recommendations from the USA (NCRP reports #147 and #151 on Medical X-ray Imaging and Radiation Therapy Shielding Design), as well as the authors of current European shielding guideline documents as described in the list of speakers on this site.

- Assess trends and needs in view of the rapid technological evolution in CT, PET, Radiation Therapy (IMRT, IGRT, and other emerging and advanced techniques) as well as in other medical applications of ionizing radiations.

A set of satellite meetings on specific radiation protection, radiation dosimetry and radiation shielding topics, as well as tutorials on topics of interest to the participants, will be organized around the meeting.

If you are a shielding designer (expert or otherwise), or an aspiring designer, this conference is one "not to be missed." Even the shielding experts on the program are looking forward to this rare opportunity to exchange ideas and shielding philosophies with each other, as well as with the attendees. It goes without saying that the charming atmosphere of Ericeira, a fishermen's village near Lisbon with Portuguese hospitality will certainly contribute to make of RSMI 2009 an outstanding event.

Bob Dixon and Pedro Vaz
on behalf of the organizers and lecturers

GLOBAL 2009

GLOBAL 2009 will be held in Paris, September 6–11, 2009. It will be the 9th 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). Stay up to date with current news about the conference at 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 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).

CALENDAR

October 2008

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) 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, url 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.

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) 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.

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, 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.

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) 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), 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) and Brian K. Hajek (Ohio State University, email 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, url 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), or Technical Program Co-chairs Ivan Maldonado (phone 865-974-7562, email imaldona@utk.edu) and Atul Karve (phone 910-675-5802, email 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) url http://local.ans.org/ne-ny/topical_2009_neny.html.

Operational Radiation Protection for Accelerators in Research and Medicine, May 13–20, 2009, Sicily (Italy). Contact: http://www.cern.ch/radschool.

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) or Michael Lassmann (Lassmann_M@klinik.uni-wuerzburg.de) url www.snm.org.

2009 ANS Annual Meeting, "Advancing Nuclear Technology for a Greater Tomorrow," June 14–18, 2009, Atlanta, GA. Contact: http://www.ans.org/meetings/index.cgi?c=n.

http://www.ans.org/goto/nad.cgi?id=1220677200-20

14th International Conference on Emerging Nuclear Energy Systems (ICENES-2009), June 29–July 3, 2009, Ericeira, Portugal. Contact: Conference Secretariat at 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; url http://www.inmm.org.

Radiation Shielding in Medical Installations 2009 (RSM2009), July 19–21, 2009, Ericeira, Portugal. Contact: rsmi2009@itn.pt (phone (+351) 21-994 6292, fax (+351) 21-994 1995) url http://www.rsmi2009.itn.pt/contact.html.

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) url 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, 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) url http://www.neudos11.tlabs.ac.za.