Radiation Safety Information Computational Center

Oak Ridge National Laboratory
POST OFFICE BOX 2008
OAK RIDGE, TENNESSEE 37831-6171

Managed by
UT-Battelle, LLC
for the U.S. Department of Energy
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phone 865-574-6176 fax 865-241-4046
email PDC@ORNL.GOV
www http://rsicc.ornl.gov/

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Let him who expects one class of society to prosper in the highest degree, while the other is in distress, try whether one side of his face can smile while the other is pinched.—Fuller

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ORNL'S Mirzadeh Wins ANS Seaborg Medal Award

Saed Mirzadeh was awarded the prestigious Seaborg Medal during the 2007 ANS Winter Meeting in Washington. Mirzadeh's research at Oak Ridge National Laboratory has led to the development of new treatments for cancer and other diseases.

Mirzadeh, internationally known for his contributions to the development of radioisotopes, led in the development of chemical processes to provide actinium-225 and its decay daughter bismuth-213 for treatment of a type of leukemia. Advanced clinical trials to treat leukemia are now underway at New York's Memorial Sloan-Kettering Cancer Center.

"Through the Nuclear Medicine Program, Dr. Mirzadeh and HFIR have played important roles in making ORNL the leading or sole U.S. supplier of many of the medical radioisotopes in use today," ORNL Director Thom Mason said. "Winning the Seaborg Medal is an exceedingly appropriate recognition of his outstanding accomplishments."

The Seaborg Medal award is named for Glenn T. Seaborg, the Nobel-prize winning nuclear chemist who co-discovered plutonium and many transuranium isotopes and chaired the U.S. Atomic Energy Commission from 1961 to 1971. It was established in 1983 to recognize the most important research contributions to the peaceful uses of nuclear energy.

Changes to the Computer Code and Data Collection

CCC-581/FOTELP-2K6

The Institute of Nuclear Sciences VINCA, Physics Laboratory Beograd, Serbia, through the NEA Data Bank, Issy-les-Moulineaux, France, contributed FOTELP-2K6, which is a new compact, general-purpose version of the previous FOTELP-2K3 code. It was designed to simulate the transport of photons, electrons and positrons through three-dimensional material and sources geometry by Monte Carlo techniques, using the subroutine PENGEOM from the PENELOPE 2006 code package. FOTELP-2K6 is suitable for numerical experiments in dosimetry, radiation protection and especially for radiotherapy dose calculations. This new version includes the routine TIMER for obtaining a starting random number and for measuring the time of simulation.

The FOTELP codes are written in double precision Fortran77. Compaq Visual Fortran 6.5 was used to create the developers' Windows executables which are included in the package. Alternately, the gnu g77 compiler can be used. FOTELP has also been run with the Mandrake 9.0 Linux g77 and Intel 9.1 compilers. The package is transmitted on a CD which contains documentation, Fortran 77 sources, Windows executable and test cases. The package is distributed in Windows and Unix/Linux formats. Reference: NET-87 (July 2006). NEADB package identifier is IAEA1388/05. Fortran 77; Linux and Windows PC (C00581MNYCP03).

PSR-374/MICROX-2

Paul Scherrer Institut, Switzerland, through the Nuclear Energy Agency Data Bank, Issy-les-Moulineaux, France, contributed this code system to prepare broad group neutron cross sections for use in diffusion and/or transport theory codes from an input library of fine group and pointwise cross sections. The MICROX-2 code can explicitly account for the overlap and interference effects between resonances in both the resonance and thermal neutron energy ranges and allows the simultaneous treatment of leakage and resonance self-shielding in doubly heterogeneous lattice cells.

A stand-alone version of MICROR is included in this package. Using data from pointwise and groupwise NJOY tapes, the MICROR reformatting program produces files containing basic nuclear data to be used by MICROX-2. MICROR edits PENDF and GENDF data files from NJOY to create FDTAP-E, GGTA-PE and GARTA-PE input files for MICROX-2. MICROR runs as a module of NJOY 89.62; the NJOY calling module is included in the package.

The previous MICROX-2 release was developed on 64-bit computers; this version has been adapted to run on 32-bit personal computers under Linux or Windows operating systems. The NEADB tested the code system on PCs under WINDOWS XP Professional with Lahey/Fujitsu Fortran 95 Compiler Release 5.50d (lf95) and under SuSE linux 7.2 kernel 2.4.4 with Lahey/Fujitsu Fortran 95 Compiler Release 6.10a (lf95). RSICC tested MICROX-2 under WindowsXP and Windows Vista with lf95 (versions 5.50d) and under RedHat Linux 7.3 with Lahey-Fujitsu lf95 vL6.10a. All programs must be compiled with the Lahey/Fujitsu-long -dbl options. **No executables are included in the package, so a Fortran compiler is required.** The package is transmitted on CD-ROM in a Linux compressed tar file, which includes documentation, Fortran source codes, makefiles, data files, sample problem input and output. WinZIP can be used to extract the files under Windows. References: PSI Bericht Nr. 97-11 (November 1997), TM-41-97-17 (November 1997), EIR-Beiricht Nr. 539 (December 1984). NEADB identifier is NEA 1562/02. Fortran 95; PC Linux & Windows (P00374/MNYCP/02).

PSR-541/KENO2MCNP, Version 5L

Visual Editor Consultants, Richland, Washington, and Carter Monte Carlo Analysis, Inc., Keizer, Oregon, contributed this code system to convert KENO input to MCNP format. The KENO2MCNP program was written to convert KENO V.a input files to MCNP Format. This program currently works only with KENO Va geometries and will not work with geometries that contain more than a single array.

A C++ graphical user interface was written to link Fortran routines from KENO V.a that read the material library with Fortran routines from the MCNP Visual Editor that generate the MCNP input file. Either SCALE 5.0 or SCALE 5.1 cross section files will work with this release. This version of KENO2MCNP was tested with CCC-730/MCNP5 1.40 and with CCC-725/SCALE5.0 and CCC-732/SCALE 5.1. Note that this distribution does not include either MCNP or SCALE, which are available separately through either RSICC or the NEA Data Bank.

A KENO2MCNP executable for personal computers running WindowsXP is contained in this package. The executable was created with Compaq Visual Fortran and Microsoft Visual C++ 6.0 compilers. **No source files are included**. The package is transmitted on a CD which contains documentation, a Windows executable and several test cases. Reference: Informal Report (2007). Fortran and C; Personal Computers (P00541PC58600).

DLC-229/IRDF-2002

The International Atomic Energy Agency, Nuclear Data Section, Vienna, Austria, through the OECD Nuclear Energy Agency Data Bank, Issy les-Moulineaux, France, contributed a new release of the International Reactor Dosimetry File. IRDF-2002 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.

IRDF-2002 contains recommended neutron cross-section data to be used for reactor neutron dosimetry by foil activation and subsequent neutron spectrum unfolding. It also contains selected recommended values for radiation damage cross sections and benchmark neutron spectra. This is the first time decay parameters and abundances have been presented in IRDF. The package is transmitted on one CD in a GNU-compressed Linux tar file, which contains the data library and documentation. Windows users may extract the files with WinZIP 8.0 or later. References: IAEA-TECDOC-DRAFT. NEADB identifier is IAEA-0867/04. HTML, PDF and ASCII text files; PC or Workstations (D00229MNYCP00).

Fellowship for Graduate Study in Medical Physics

The American Association of Physicists in Medicine (AAPM) is pleased to announce the availability of a Fellowship for the training of a doctoral candidate in the field of Medical Physics, a creative, expanding and rewarding profession for the young scientist about to choose a career. Most large medical centers employ medical physicists and many smaller hospitals are seeking well-trained medical physicists as well. It is estimated that there are 5,600 medical physicists practicing in the United States. The AAPM is dedicated to the advancement and support of the scientific applications of physics to the diagnosis and treatment of human disease. Distinct professional areas for the medical physicist include:

- Applications of ionizing radiation to medical diagnosis and therapy,
- Medical use of magnetic resonance imaging,
- Use of heat for cancer therapy,
- Radionuclides in medical imaging, and
- Medical uses of ultrasound.

Complete and return the application to: American Association of Physicists in Medicine, One Physics Ellipse, College Park, MD 20740-3846 (301-209-3350, fax: 301-209-0862, http://www.aapm.org. The application deadline is **April 15, 2008**. Details about the Fellowship and the application can be found at http://www.aapm.org/announcements/Fellinfo_app.pdf.

ANS News

2008 Candidates Selected

The slate of 2008 candidates has been announced:

The ANS Nominating Committee has selected as candidates for Vice President / President-Elect: *Yoon I. Chang (ANL), Thomas L. Sanders (Sandia).*

Board of Directors Candidates–-Each Board member serves a three-year term that begins and ends during an ANS Annual Meeting. The ANS Bylaws and Rules require that U.S. and non-U.S. members be proportionately represented; therefore, in the 2008 election there are four U.S. Director At-Large and one non-U.S. Director At-Large positions to be filled. Nominated to run for the U.S. Director At-Large positions are: *Yousry Y. Azmy* (Penn State), Marvin S. Fertel (NEI), *Garry A. Harris* (HTS Enterprise, LLC), *Bernadette L. Kirk* (ORNL), *Charles R. Martin* (Defense Nuclear Facilities Safety Board), *John R. McGaha* (Entergy Operations Inc.), *Jasmina L. Vujic* (University of CA / Berkeley), *Loyd A. Wright* (Southern California Edison). Nominated to run for the Non-U.S. Director At-Large - Europe/Africa - position are: *Oum Keltoum Bouhelal* (National School of Mineral Industry), *Dominique Greneche* (AREVA NP Inc).

Directors whose terms will end in June 2008 are: *Frank O. Carre, Kathryn A. McCarthy, Harold F. McFarlane, Christa E. Reed, F. Mark Reinhart,* and *Michael B. Sellman*.

In addition to Chair *Harold F. McFarlane*, members of the Nominating Committee included: Professional Divisions Chair *Donald R. Hoffman* and Local Sections Committee Chair *J. Stephen Herring, Donald E. Carlson, Mark D. DeHart, William R. Martin, Thomas F. Plunkett,* and *Dana A. Powers.*

Members have the option to Nominate by Petition. Candidates, other than individuals on the Nominating Committee's slate, may be nominated by petition for Officer and Director vacancies. The petition form and instructions are located at http://www.ans.org/about/election/candidates.html.

Ballots for the 2008-2009 election will be mailed on **February 26, 2008**. There is no balloting at the Annual Meeting; therefore, the mail ballots for the Board of Directors election must be returned and received no later than **12 noon on Tuesday, April 8, 2008**.

Special Award 2008 Topic Announced

The 2008 topic for the ANS Special Award is “Inherent and Passive Safety Features in Advanced Water Reactors.” The individual or individuals should have played an outstanding role in the necessary research and analysis and/or in the interpretation and leadership associated with furthering the overall understanding of this important effort. Nominations are due **April 1, 2008**. For more information and a nomination form go to: http://www.ans.org/goto/nad.cgi?id=1194156000-18.

ANS Fellows Announced for 2007

During the 2007 ANS/European Nuclear Society International Meeting and Nuclear Technology Expo in Washington, DC, the ANS announced that John S. Hendricks and James F. Stubbins have been awarded ANS Fellow status, the Society’s highest honor.

John S. Hendricks, a scientist for Los Alamos National Laboratory, was honored for his outstanding work and leadership in the development of the MCNP and MCNPX codes. Hendricks’ vision focuses on quality, technical contributions, strategic thinking and determination and has produced the internationally

recognized Monte Carlo Radiation Transport Codes that have had a broad and dramatic impact across the nuclear enterprise.

James F. Stubbins, a nuclear plasma and radiological engineering department head and professor at the University of Illinois, was honored for his outstanding contributions to the understanding, development and use of materials in a wide variety of nuclear applications. Stubbins has impacted fusion, fission, and spallation systems through his contributions in areas such as radiation damage and effects performance, mechanical properties and design-base performance, and corrosion monitoring and performance.

Legacy Books Available

Prof. M.M.R. Williams has now released the following three of his legacy books for free distribution for use by students and other researchers.

The Slowing Down and Thermalization of Neutrons, North-Holland Publishing Company - Amsterdam, 582 pages, 1966

Mathematical Methods in Particle Transport Theory, Butterworths, London, 430 pages, 1971

Random Processes in Nuclear Reactors, Pergamon Press, Oxford, New York, Toronto, Sydney, 243 pages, 1974

> "We would like to express our appreciation to Prof. Williams for his generous gesture in making this available. We would like to encourage especially students to acquire this CD-ROM with the 3 books. It contains also all the known "corrigenda" accessible electronically from the pages in the books." —*Enrico Sartori*, OECD NEA Data Bank

The books are stored in PDF format with bookmarks organized by chapters and sections to facilitate electronic navigation. Corrigenda for the 3 books are also provided. Each page with a correction has a hyperlink to the correction and a pointer from the corrigenda back to the original page.

Note to the reader: Prof. Williams owns the copyright of these books, and he authorizes the OECD/NEA Data Bank to distribute them in PDF format at no cost to requesters, in particular to students. These books on CD-ROM cannot be further copied or sold. Copies in electronic format should be requested from programs@nea.fr.

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.

ARWIF-2008

The OECD/NEA Working Party on Scientific Issues of Reactor Systems (WPRS), with the approval of the Nuclear Science Committee (NSC), has agreed to organize the fourth edition of the Workshop on "Advanced Reactors with Innovative Fuels" (ARWIF-2008). JAEA has agreed to host it at Tsuruga & Fukui, Japan. Special emphasis will be given to fast reactors. In order to underline this, a visit to the MONJU reactor will be organized. The meeting will be held February 20–22, 2008, in connection with the next WPRS meeting scheduled for February 18–19, 2008, also held in Fukui.

The Web page for ARWIF-2008 is http://www.nea.fr/html/science/meetings/ARWIF2008/. The General Chairman of the workshop is Dr. Takamasa MORI, Nuclear Science & Engineering Directorate of JAEA and member of both the OECD/NEA NSC and WPRS.

If you have not yet done so, please register and/or submit the title and a brief description of your presentation by accessing http://www.nea.fr/html/science/meetings/ARWIF2008/registration.html (deadline: **December 10, 2007**)

Analytical Benchmarks: Case Studies in Neutron Transport Theory

The Nuclear Energy Agency of the OECD has announced a course on "Analytical Benchmarks: Case Studies in Neutron Transport Theory" using the Handbook (including computer codes) to be published on "Analytical Benchmarks for Nuclear Engineering Applications (Case Studies in Neutron Transport Theory)." It will be held from 30 January–1 February 2008, at the OECD/Nuclear Energy Agency headquarters, 12 boulevard des Iles, 92130 Issy les Moulineaux, Paris

This course is intended for transport methods developers and those who teach reactor physics and transport theory. In addition, the course would be appropriate for anyone with an analytical interest in solving equations and the application of numerical methods to obtain extreme accuracy. We welcome in particular students who are working with radiation transport methods. Participants will be provided with a copy of the course text, *Analytical Benchmarks: Case Studies in Neutron Transport Theory* by B. Ganapol, in hard copy and CD-ROM with the corresponding computer codes. Participants can bring their own laptop computer with a Fortran compiler. There is **no fee** for participating in the course; however, the cost of meals and accommodation must be covered by the participant. Only a limited number of places are available. The course syllabus is available at http://www.nea.fr/html/dbprog/Newsletter/Analytical-benchmarks.pdf and the registration form is at http://www.nea.fr/html/dbprog/Newsletter/Analytic-Benchmarks-Registration-Form-Issy2008.doc. The registration deadline is **December 12, 2007**.

Spring 2008 SCALE Training Courses at ORNL

Date	Title	Description
March 31–April 4, 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
April 7–11, 2008	KENO-VI Criticality Safety Course	Criticality safety using the generalized geometry version of KENO (includes KENO3D and Gee Wiz).

The registration fee is $1800 for each course. A late fee of $300 will be applied for late registrations. A discount of $300 per each additional week will be applied for registration to multiple courses. **Class size is limited and course may be canceled if minimum enrollment is not obtained one month prior to the course**. Course fees are refundable up to one month before each class. **Note that all attendees must be registered SCALE 5 or 5.1 users.** All foreign national visitors must register 40 days prior to the start date of the training course they plan to attend. Course descriptions may be found at http://www.ornl.gov/sci/scale/course_description.htm.

Introductory and Advanced MCNP Visual Editor Training

Date	Class	Location
March 24–28, 2008	Introduction to MCNP using the MCNP/MCNPX Visual Editor	Richland, WA
July 21–25, 2008	Introduction to the Visual Editor for Advanced MCNP/MCNPX Users.	Richland, WA
September 8–12, 2008	Introduction to MCNP using the MCNP/MCNPX Visual Editor	Richland, WA
November 3–7, 2008	Introduction to MCNP using the MCNP/MCNPX Visual Editor	Richland, WA

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

January 7–11, 2008	MCNPX Intermediate Workshop	UNLV, Las Vegas, NV
February 4–8, 2008	Advanced MCNP5	Los Alamos National Laboratory
April 7–10, 2008	Criticality Calculations with MCNP5	Los Alamos National Laboratory
May 12–16, 2008	MCNPX Intermediate Workshop	ITN, Lisbon, Portugal
June 16–20, 2008	Introduction to MCNP5 and MCNPX	Los Alamos National Laboratory

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

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

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

2008 HPS Midyear Meeting "Radiation-Generating Devices"

The *2008 Midyear Health Physics Society* meeting "Radiation-Generating Devices" (http://hpschapters.org/2008midyear/) will be held at Oakland Marriott Convention Center in California, January 27-30, 2008. It is sponsored by the Northern California Chapter of HPS and the HPS Accelerator Section. The meeting will present the opportunity and a forum to exchange technical information and ideas in a wide range of topics from radiation protection of accelerators, lasers and radioisotopic source devices in research, medical, industrial and homeland security applications, as well as detection instrumentation, calibration, dosimetry, biological effects of radiation to regulatory and legal concerns. The technical program will be led by experts in the field. There will be oral and postal presentations, Technical Exhibition, and a 3-day Professional Development School titled "Topics in Accelerator Health Physics" (http://hps.org/pds2008/index.html) following the meeting at the same place. The meeting topics include:

- The Health Physics Challenges of New Accelerator Initiatives
- Medical Therapy and Imaging (PET, Linacs, X-rays, etc.)
- Research Accelerators and Lasers
- Radiation-Generating Devices in Industry (radiography, ion implantation, neutron generators, food irradiation, well logging, etc.)
- Homeland Security Considerations (cargo and human imaging, active neutron interrogation, etc.)
- The Evolution of Health Physics for Radiation-Generating Devices (accelerator, medical, industrial)
- General Health Physics Topics of Radiation-Generating Devices (detection instrumentation, calibration, dosimetry, shielding, interlocks, radiation damage and activation, biological effects, field and environmental monitoring, regulatory, etc.)

Complete and updated information can be found at http://hpschapters.org/2008midyear/.

WM2008

The theme for the WM2008 is "*Phoenix Rising: Moving Forward in Waste Management.*" The conference will be held in Phoenix, Arizona, February 24–28, 2008. Papers describing research, development and operational experience over the complete spectrum of nuclear waste activities will be presented. Topics are categorized into general tracks which are listed in the Call for Papers. Check the website for updates to conference information often. Technical program questions may be directed to WM08 Program Advisory Committee Chairman Gary Benda at +1-803-345-2170 or email gbenda@wmarizona.org. For non-technical questions related to the Program, authors and speakers may contact: WM Administration at +1-520-696-0399 or papers@wmarizona.org, or WM Technical Program Coordinator Michelle Rehmann - michelle_rehmann@wmarizona.org.

International Workshop on Monte Carlo Codes

A two-day workshop devoted to some popular Monte Carlo and deterministic radiation transport codes (KENO, MCBEND, Attila and MCNP-Vised) will be held at the Birchwood Conference Centre, Risley, Warrington, Cheshire, UK, March 3–4, 2008. Presentations describing features and capabilities of each code, as well as demonstrations of real applications, will be given by key developers of the code. There will also be introductory lectures on general Monte Carlo techniques for novice users that are applicable to all radiation transport codes. An open-house session will also be held enabling delegates to demonstrate their own applications and problems (either on a laptop or poster). Questions may be directed to Paul Hulse (Paul.Hulse@sellafieldsites.com, phone +44 (0)1925 833073, or fax +44 (0)1925 833930) or Andrew Cooper (Andrew.J.Cooper@sellafieldsites.com, phone +44 (0)1925 833164 or fax +44 (0)1925 833930). Further information is available at http://www.mcneg.org.uk/

14th UK Monte Carlo User Group Meeting (MCNEG 2008)

The 14th UK Monte Carlo User Group Meeting (MCNEG 2008) will be held at the Birchwood Conference Centre, Risley, Warrington, Cheshire, UK, March 5–6, 2008. Aimed at users of all radiation transport codes, the MCNEG 2008 meeting provides delegates with the opportunity to present and discuss their applications and recent developments of Monte Carlo in radiotherapy, radiation protection, radioactivity, the nuclear and other industries. Questions may be directed to Paul Hulse (Paul.Hulse@sellafieldsites.com, phone +44 (0)1925 833073, or fax +44 (0)1925 833930) or Andrew Cooper (Andrew.J.Cooper@sellafieldsites.com, phone +44 (0)1925 833164 or fax +44 (0)1925 833930). Further information is available at http://www.mcneg.org.uk/

ICRS-11 and RPSD-2008

The theme for this collaboration of the 11th International Conference on Radiation Shielding (ICRS-11) and the 15th Topical Meeting of the Radiation Protection and Shielding Division (RPSD-2008) of the American Nuclear Society is *Finding Your Way through the Shielding Maze!* The conference will be held April 13–18, 2008, at Callaway Gardens in Pine Mountain, Georgia, USA. This conference explores the scientific, technological and engineering issues associated with particle and ionizing radiation shielding in its broadest context, including nuclear energy systems, accelerator facilities, space and other radiation environments. It is one of the premier international radiation shielding events, regularly drawing hundreds of the world's top scientists and engineers. The technical program will include plenary sessions, parallel oral technical sessions and poster sessions.

Technical session topics include:

- Accelerator Shielding
- Aircraft Dosimetry Issues
- Shielding Benchmarks
- Electron-Photon Data
- Monte Carlo Methods and Applications
- Medical Applications
- Nuclear Data
- Advanced Phantoms for Radiation Dosimetry
- Nuclear Modeling for Heavy Charged Particle Transport
- Activation and Transportation Characterization Calculations
- Radiation Detection and Measurements
- Residual Activity
- Radiation Metrology and Regulations
- Radiation Protection
- Regulations and Reactor Shielding
- Shielding of Spallation Sources and Related Facilities
- Radiation Protection Issues and Methods for Deep Space Exploration
- Transmutation and Storage of Radioactive Materials
- Deterministic Methods
- Hybrid Methods

- Shielding of Synchrotron Light Sources
- Dosimetry Issues

The authors of contributed work presented at the conference will be invited to submit a manuscript for inclusion in special issue(s) of the American Nuclear Society (ANS) journal, *Nuclear Technology*. All submitted papers will be subject to full peer review. Questions regarding the technical program should be addressed to: Technical Program Chair, Michele Sutton Ferenci (email michele.sutton@mindspring.com, phone 1-404 851-7077). Complete details and templates will be posted soon at http://icrs11.me.gatech.edu.

International Symposium on Reactor Dosimetry

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

• Reactor surveillance and plant life management
• Data evaluation, uncertainty analysis, and adjustment methods
• Retrospective dosimetry and decommissioning
• Dosimetry for assessment of reactor structural materials
• Neutron and gamma-ray transport calculations
• Dosimetry for core characterization and reactor physics
• Characterization of neutron and gamma ray environments
• Damage correlation and exposure parameters
• Monitoring of irradiation experiments
• Nuclear data for dosimetry
• Benchmarking, calibrations, and standards
• Fusion and high energy neutrons
• Advanced reactors and accelerator neutron sources
• Irradiation processing and testing of electronics
• Experimental techniques, new developments, and optical methods
• Neutron dosimetry for space nuclear power

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

American Nuclear Society: 2008 Annual Meeting

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

- Nuclear Science and Technology: Now Arriving on Main Street
- Nuclear Power Plant Design, Construction, and Management
- Fuel Cycle and Waste Management Technology
- Nuclear Facility and Criticality Safety
- Environmental Science and Technology

- Nonpower and Medical Applications of Radiation
- Nuclear Science and Engineering
- Advanced Energy Research and Emerging Technologies
- Education, Training, and Communication with the Public
- Nuclear Security and Emergency Response
- Professional Development

Guidelines and templates for papers submitted for the meeting and topicals can be found at http://www.ans.org/meetings/docs/2008/am2008-cfp.pdf.

ICAPP'08

2008 International Congress on Advances in Nuclear Power Plants (ICAPP'08) will be held June 8-12, 2008, in Anaheim, California. This congress will bring together international experts of the nuclear industry involved in the operation, development, building, regulation, and research related to nuclear power plants. The program will cover the full spectrum of nuclear power plant issues from design, deployment and construction of plants to research and development of future designs and advanced systems. Topics include:

- Water-Cooled Reactor Programs and Issues
- High-Temperature Gas-Cooled Reactors
- LMFR & Longer Term Reactor Programs
- Operation, Performance & Reliability Management
- Plant Safety Assessment and Regulatory Issues
- Thermal Hydraulics Analysis and Testing
- Fuel Cycle and Waste Management
- Materials and Structural Issues
- Nuclear Energy and Sustainability
- Near-Term Deployment
- Reactor Physics and Analysis
- Innovative and Space Reactor Systems

Details and up-to-date information can be found by contacting 2008 International Congress on the Advances in Nuclear Power Plants (ICAPP '08), Attn: Lynne Schreiber, PO Box 116502, Gainesville, FL 32611-6502 (phone 1-352-392-9722, fax 1-352-392-8656, email: icapp@ans.org) url www.ans.org/goto/icapp08.

Nuclear Fuels and Structural Materials for the Next Generation Nuclear Reactors

Nuclear Fuels and Structural Materials for the Next Generation Nuclear Reactors, will be held June 8–12, 2008, Anaheim, California. The Generation IV International Forum has selected six advanced systems for consideration: the gas-cooled fast reactor system, lead-cooled fast reactor system, molten salt reactor system, sodium-cooled fast reactor system, supercritical water-cooled reactor system, and very-high-temperature reactor system. This embedded topical will bring together fuels and materials experts in all areas of Generation IV technologies.

Summaries describing work that is new, significant, and relevant to Generation IV fuels and materials development are due January 11, 2008, on the following topics:

- Fuels and Materials for Very High Temperature Reactors (VHTR)
- Fuels and Materials for Gas-cooled Fast Reactors (GFR)

- Fuels and Materials for Supercritical Water-cooled Reactors (SCWR)
- Fuels and Materials for Lead-cooled Fast Reactors (LFR)
- Fuels and Materials for Sodium-cooled Fast Reactors (SFR)
- Fuels and Materials for Molten Salt-cooled Reactors (MSR)
- High-Temperature Design Methodology
- Microstructural Modeling
- Materials for Radiation Service

The ANS will publish accepted summaries in the *Transactions*. The General Chairs for the meeting are Todd Allen, University of Wisconsin, and Lance Snead, Oak Ridge National Laboratory.

Isotopes for Medicine and Industry

Isotopes for Medicine and Industry, will be held June 9–11, 2008, in Anaheim, California. The continuing rapid growth of radioisotopes for both medical and industrial applications is of national and international interest. The expanding applications and associated production issues surrounding the supply of research, diagnostic, therapeutic, environmental, and industrial radioisotopes will be discussed.

Summaries, due by January 11, 2008, are expected to describe work that is new, significant and relevant to the conference topics which are:

- Applications in Nuclear Medicine—Diagnostics
- Reactor Production of Medical Isotopes
- Application of Environmental and Industrial Isotopes
- Applications in Nuclear Medicine—Therapeutics
- Reactor Production of Research and Industrial Isotopes
- Cyclotron Production of Biomedical Tracers
- Radiochemistry
- High Energy Accelerator/Cyclotron Production of Isotopes
- Distribution and Transportation Issues
- Production and Application of Alpha Emitters
- R&D and Standards Needs for Future Applications in Industry
- Manpower and Education

Summaries must be submitted electronically to http://www.ans.org/meetings/epsr/. Accepted summaries will be included in the *Transactions* CD that will be distributed at the ANS Annual Meeting.

The General Chair is Wynn A. Volkert, University of Missouri, Columbia, and the Technical Program Chair is Ralph A. Butler, University of Missouri, Columbia.

NPAE-Kyiv2008

The *Second International Conference on Current Problems in Nuclear Physics and Atomic Energy (NPAE-Kyiv2008)* will be held June 9–15, 2008 in Kyiv, Ukraine.

The first International Conference on Current Problems in Nuclear Physics and Atomic Energy (NPAE-Kyiv2006) was held in Kyiv (Ukraine) in 2006; the proceedings are available at http://www.kinr.kiev.ua/NPAE_Kyiv2006/.

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

- collective processes in atomic nuclei,
- nuclear reactions at low and high energies,
- nuclear structure and decay data,

• rare nuclear processes,
• nuclear astrophysics,
• neutron and reactor physics,
• nuclear data and data evaluation,
• problems of atomic energy,
• applied nuclear physics in medicine and industry, and
• experimental facilities and detection techniques.

One-page abstracts are due via email to npae-kyiv2008@kinr.kiev.ua by March 1, 2008. The conference will consist of plenary sessions, parallel sessions, and poster sessions. Plenary sessions are composed of invited talks, and parallel sessions consist of invited talks and oral presentations selected from contributions. The working language of the conference is English.

The NPAE-Kyiv2008 conference is organized by the National Academy of Sciences of Ukraine (NASU, http://www.nas.gov.ua), the Institute for Nuclear Research of NASU, Kyiv (KINR, http://www.kinr.kiev.ua) in collaboration with Taras Shevchenko National University of Kyiv (NTSU, http://www.univ.kiev.ua). The conference chairman is I.M. Vyshnevskyi (KINR) and the scientific secretaries are V.Yu. Denisov (KINR) and O.O.Gritzay (KINR).

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

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

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

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

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

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

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

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

Dick Olsher

Fourth Annual WNU Summer Institute

The World Nuclear University's fourth annual Summer Institute (WNU-SI) will be held July 5–August 15, 2008, at McMaster University in Ontario, Canada. The WNU is a global partnership aimed at strengthening education and leadership in nuclear science and technology. The WNU partnership includes IAEA, WANO, NEA-OECD, and WNA (the WNU's four "Founding Supporters"), as well as leading institutions of nuclear learning around the world. The Summer Institute, a demanding six-week leadership development program for outstanding young professionals in the nuclear field, is held in a different country each year with 90–100 "WNU Fellows" from over 30 nations participating. WNU Fellows are selected every December from hundreds of applicants. Information about the requirements for consideration and the application form may be found at http://www.world-nuclear-university.org/html/summer_institute/index.htm. The deadline for receipt of applications is November 30, 2007.

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 Scherrer 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.

Main topic areas include:

– neutronics calculations and experiments,
– reactor analysis methods,
– fuel and core design,
– fuel cycle physics,
– advanced systems,
– nuclear power and sustainable development,
– reactor materials challenges,
– nuclear safety analysis and multiphysics,
– experimental facilities for safety research, and
– biomedical and other non-power applications.

Relevant information may be found at http://www.physor2008.ch/.

CALENDAR

January 2008

Intermediate MCNPX, January 7–11, 2008, Las Vegas, NV. Contact: nbutner@lanl.gov, url http://mcnpx.lanl.gov/.

2008 Midyear Health Physics Society meeting "Radiation-Generating Machines," Jan. 27–30, 2008, Oakland, California. Information and registration can be found at http://hpschapters.org/2008midyear.

February 2008

Advanced MCNP5, February 4–8, 2008, Los Alamos National Laboratory, Los Alamos, NM. Contact: nbutner@lanl.gov, url http://mcnpx.lanl.gov/.

WM2008, Feb. 24–28, 2008, Phoenix, AZ. Contact: WM08 Program Advisory Committee Chairman Gary Benda (phone 803-345-2170 or email gbenda@wmarizona.org) url http://www.wmsym.org/html/wm_conference.cfm.

March 2008

International Workshop on Monte Carlo Codes, March 3–4, 2008, Birchwood Conference Centre, Risley, Warrington, Cheshire UK. Contact: Paul Hulse (Paul.Hulse@sellafieldsites.com, phone +44 (0)1925 833073, or fax +44 (0)1925 833930) or Andrew Cooper (Andrew.J.Cooper@sellafieldsites.com, phone +44 (0)1925 833164 or fax +44 (0)1925 833930) url http://www.mcneg.org.uk/.

April 2008

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

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

May 2008

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

June 2008

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

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

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

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

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

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

August 2008

World Nuclear University's 4th Annual Summer Institute (WNU-SI), July 5–August 15, 2008, at McMaster University in Ontario, Canada. Information is available at http://www.world-nuclear-university.org/html/summer_institute/index.htm.

September 2008

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

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/.