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# Radiation Safety Information Computational Center

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[rsicc.ornl.gov](http://rsicc.ornl.gov)

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No. 480

February 2005

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*"Democracy is never a thing done. Democracy is always something that a nation must be doing."*  
Archibald MacLeish

## New Server for RSICC

The RSICC website moved to a new server the last weekend in January. The dust is still settling around our new URL. Some unexpected problems arose. We are still fine tuning the system, so there may be some minor changes over the next few days. Your links to the RSICC home page should work, but bookmarks to subdirectories and forms may not. We recommend that you use <http://rsicc.ornl.gov>. Note that the site will be down February 12 for at least 15 hours. We apologize for any inconvenience these changes may have caused.

## Obituary—Herbert Goldstein, Nuclear Scientist—RSICC Friend



Dr. Herbert Goldstein (June 26, 1922–January 12, 2005), professor emeritus of nuclear science and engineering at Columbia University, book author, and research scientist, died in New York City on January 12, 2005. He was buried in Israel.

Professor Goldstein was long recognized for his scholarship in classical mechanics and reactor shielding. His *Classical Mechanics* graduate textbook was translated into nine languages, and has been widely used as the standard text in the field since it first appeared in 1950. While a consultant for Brookhaven and Oak Ridge National Laboratories, he became interested in radiation transport and shielding. He published in 1958 (reprinted 1971)

*Fundamental Aspects of*

*Reactor Shielding*, a basic discussion of radiation sources, interaction with matter and attenuation concepts.

He became interested in the *information analysis center concept* as a means to advance the state-of-the-art of shielding at a faster pace and

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supported the Radiation Shielding Information Center (RSIC) from its beginning in 1962. He chaired an Ad Hoc Advisory Committee (Goldstein, Viktor Hampel of Livermore and Gerald Lahti of Sargent & Lundy), February 7-8, 1977, to evaluate RSIC in terms of operations and service to the nuclear industry. The findings of the study were positive and were useful in support of RSIC as a national asset to its sponsors and user community. The information center continues with extended coverage as RSICC.

Professor Goldstein's contributions to nuclear energy were honored by the U.S. Department of Energy, which awarded him the E.O. Lawrence Memorial Award in 1962.

An early member of the American Nuclear Society (ANS), Goldstein was the first vice chairman of the original Shielding Division (SD) (1961-1962) and second chairman (1962-1963). In 1977, he was honored by the division as the recipient of the ANS/SD Distinguished Service Award. He was honored as an ANS Fellow (1962), Rockwell Lifetime Achievement, ANS Radiation Protection and Shielding Division (1989), and the ANS Arthur Holly Compton Award (1989).

Dr. Goldstein was a professor of nuclear science and engineering in the School of Engineering and Applied Science at Columbia since 1961. He received the Great Teacher Award, given by the Society of Columbia Graduates, in 1976. In 1984 he was the first to hold the Thomas Alva Edison professorship at the University. Appointment to a named chair is one of the highest honors bestowed on a university scholar.

He was a Fellow of the American Physical Society, the New York Academy of Sciences, and the American Association for the Advancement of Science. He was a member of the American Association of Physics Teachers, and he was a founding member and served as president of the Association of Orthodox Jewish Scientists. He received his B.S. from City College of New York in 1940 and his Ph.D. from the Massachusetts of Technology in 1943.

He is survived by his wife Channa, his children, Penina, Aaron Meir, and Shoshanna, and ten grandchildren.

*-Betty F. Maskewitz*

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

### **CCC-684/NRC Dose 2.3.5**

**OP SYS:** Windows

**Language:** FORTRAN +  
Visual Basic

**Computers:** PC

Chesapeake Nuclear Services, Inc., and J. Stewart Bland Associates, Inc., Annapolis, Maryland, contributed a newly frozen version of this suite of NRC computer codes used for evaluating routine radioactive effluents from nuclear power plants. NRC Dose includes LADTAP II, GASPARI, and XOQDOQ with a WINDOWS interface to facilitate ease of use. It is intended for modeling routine, normal effluents under annual average environmental conditions and should not be used for accident dose assessment.

NRC Dose runs on Pentium computers under Windows operating systems. The distributed executables were created with the Microsoft Fortran PowerStation Version 4.0. and Microsoft Visual Basic 6.0. The codes were tested under Windows XP and Windows 2000. Source files are not included, so this code system can be run only on PCs under Windows. The package is transmitted on CD in Windows format. References: User's Guide, (November 14, 2000, revised 2003); NUREG/CR-4653, PNL-5907 (March 1987); NUREG/CR-1276, ORNL/NUREG/TDMC-1 (March 17, 1980); NUREG/CR-2919 (PNL-4380) (September 1982). Fortran and Visual Basic; Pentium (C000684PC58604).

## CONFERENCES, COURSES, SYMPOSIA

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

Every attempt is made to ensure that the links provided in the Conference and Calendar sections of this newsletter are correct and live. However, the very nature of the web creates the possibility that the links may become unavailable. In that case, please call or mail the contact provided. Below is a condensed list of the **conferences** listed chronologically. More details (if available) are listed alphabetically following the table.

**Condensed Table of Conferences**

Name of Conference	Date and Location	Web Site	Registration/ Abstract/Paper Due Date
Waste Management '05	Feb. 27-Mar. 3, 2005 Tucson, Arizona	<a href="http://www.wmsym.org">http://www.wmsym.org</a>	na
2005 HEART Conference	Mar. 21-25, 2005 Tampa, Florida	<a href="http://erric.dasiac.com/Hear t/Heart05.pdf">http://erric.dasiac.com/Hear t/Heart05.pdf</a>	passed
AIChE Spring National Meeting	Apr. 10-14, 2005 Atlanta, Georgia	<a href="http://www.aiche.org/conferences/">http://www.aiche.org/conferences/</a>	Feb. 11, 2005
Monte Carlo 2005 Topical Meeting	Apr. 17-21, 2005 Chattanooga, Tennessee	<a href="http://MonteCarlo2005.org">http://MonteCarlo2005.org</a>	passed
Using MCNP5 for Medical Physics Applications	Apr. 17, 2005 (1-5pm) Chattanooga, Tennessee	<a href="http://montecarlo2005.org">http://montecarlo2005.org</a>	na
Twelfth International Symposium on Reactor Dosimetry	May 8-13, 2005 Gatlinburg, Tennessee	<a href="#">announcement / call for papers in pdf</a> <a href="http://reactordosimetry.com">http://reactordosimetry.com</a>	passed
2005 International Congress on Advances in Nuclear Power Plants (2005 ICAPP)	May 15-19, 2005 Seoul, Korea	<a href="http://www.icapp2005.org">http://www.icapp2005.org</a>	passed

Name of Conference	Date and Location	Web Site	Registration/ Abstract/Paper Due Date
International Nuclear Chemistry Society (INCS)	May 22-29, 2005 Kusadasi, Turkey	<a href="http://incs.ege.edu.tr/1st-INCC.html">http://incs.ege.edu.tr/1st-INCC.html</a>	passed
ANS Annual Summer Meeting	June 5-9, 2005 San Diego, California	<a href="http://www.ans.org/meetings/">http://www.ans.org/meetings/</a>	
PENELOPE	July 4-7, 2005	<a href="http://www.nea.fr/html/dbpro/Newsletter/Dec2004.htm#training">http://www.nea.fr/html/dbpro/Newsletter/Dec2004.htm#training</a>	April 30, 2005
12th International Conference on Emerging Nuclear Energy Systems (ICENES 2005)	August 21-26, 2005 Brussels, Belgium	<a href="http://www.sckcen.be/sckcen/en/activities/conf/conferences/icenes2005/index.shtml">http://www.sckcen.be/sckcen/en/activities/conf/conferences/icenes2005/index.shtml</a>	
Seventh Topical Conference on Nuclear Applications of Accelerator Technology “AccApp05”	Aug. 28-Sept. 1, 2005 Venice, Italy	<a href="http://AccApp05.infm.it">http://AccApp05.infm.it</a>	Mar. 31, 2005
230th American Chemical Society National Meeting	Aug. 28-Sept. 1, 2005 Washington, D.C.	<a href="http://www.cofc.edu/~nuclear">www.cofc.edu/~nuclear</a> (future web site)	April 2005
XIX Nuclear Physics Divisional Conference (NPDC19) of the European Physical Society	Sept. 5-9, 2005 Pavia, Italy	<a href="http://www.pv.infn.it/~npdc19">http://www.pv.infn.it/~npdc19</a>	NA
International Topical Meeting on Mathematics and Computation, Supercomputing, Reactor Physics and Nuclear Biological Applications (M&C 2005)	Sept. 12-15, 2005 Avignon, France	<a href="http://mcavignon2005.cea.fr">http://mcavignon2005.cea.fr</a>	Jan. 15, 2005
2005 NCSD Topical Meeting	Sept. 19-22, 2005 Knoxville, Tennessee	<a href="http://meetingsandconferences.com/ncsd2005/">http://meetingsandconferences.com/ncsd2005/</a>	Jan. 7, 2005
Eleventh International Topical Meeting on Nuclear Reactor Thermal Hydraulics	Oct. 2-6, 2005 Avignon, France	<a href="http://nureth11.com/">http://nureth11.com/</a>	passed

## MCNP Introductory Class

A four-day introductory class for the MCNP (Monte Carlo N-Particle) transport code will be held at LANL **February 22-25, 2005**. This class will be taught by the team who develops and maintains MCNP.

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

**Costs:** Cost for the class is \$1,800. There is a \$300 discount if payment is received by February 14th, 2004. Radiation Safety Information Computational Center (RSICC) provides the code and data package and documentation after the class is over at their lowest tier price.

The class fee includes a notebook with all class viewgraphs (over 300) and handouts. Dinner the first evening is included as part of your registration fee and snacks and refreshments are provided during class breaks. Lodging will be available for roughly \$75 per night. Information will be sent by follow-up letter or email when we receive your registration information.

All classes provide interactive computer learning. Time will be available to discuss individual questions and problems with MCNP experts. To register for the class, go to <http://www-xdiv.lanl.gov/x5/MCNP/classinformation.html>.

## MCNPX Workshops

Lead Teachers: Drs. John Hendricks, Gregg McKinney, Laurie Waters

Organizer: HQC Professional Services Contact: [bill@mcnpxworkshops.com](mailto:bill@mcnpxworkshops.com)

More Information: <http://mcnpxworkshops.com> MCNPX homepage: <http://mcnpx.lanl.gov>

Feb. 28-Mar. 4	Intermediate	Mol, Belgium
June 13-17	Introductory	Santa Fe, NM
Aug. 1-5	Introductory	Seoul, Korea
Sept. 19-23	Intermediate	Boston or D.C.
Nov. 7-11	Introductory	Santa Fe, NM

MCNPX is the LANL all-particle, all-energy (eV-TeV) Monte Carlo transport code based on MCNP4C, LAHET, CEM, etc. MCNPX has been in active development since 1995 and is sponsored by the particle accelerator community. It has now become an accepted tool for a broad range of applications by nuclear engineers, physicists, and scientists. The MCNPX development effort has expanded the use of the Los Alamos tools to applications such as APT, waste transmutation, accelerator shielding and health physics, particle beam cancer therapy, space shielding and cosmic ray analysis, single event effects in semiconductors, radiography, and more detailed analysis of the effects of light and heavy ions in matter. In addition, the entire functionality of MCNP4C is retained. New variance reduction and data analysis techniques, many adapted from high-energy accelerator methodologies, have also been added, such as the extensive "mesh tally" capability which allows up to 3-d plotting of particle tracks, fluence and fluence-derived quantities, energy deposition, next event estimator generation contributions and particle sources.

The workshops include hands-on instruction, generally on PC Windows machines. Subject to participant export approval for the MCNPX beta test team, participants will be able to access the For-

tran-90 version of MCNPX 2.4, the LA150 (150 MeV) cross-section data for over 40 isotopes for incident neutrons and protons and 12 for photonuclear interactions, and a notebook of viewgraphs.

Follow-up consultation for class participants will be provided.

The classes are taught by experienced MCNPX code developers and instructors. More information on code versions and capabilities is available at MCNPX Workshops web site

<http://mcnpxworkshops.com>.

## Monte Carlo 2005 Topical Meeting

Monte Carlo 2005 will be held **April 17-21, 2005**, (Sunday-Thursday). The theme of the conference is “The Monte Carlo Method: Versatility Unbounded in A Dynamic Computing World.”



The conference site is the Chattanooga Marriott and Convention Center in Chattanooga, Tennessee. The conference will be hosted by the American Nuclear Society (ANS) Oak Ridge/Knoxville Section, with ANS Radiation Protection and Shielding Division (RPSD) as the sponsoring division and Mathematics and Computations Division (MCD) as a co-sponsor. Co-sponsors also include Oak Ridge National Laboratory (ORNL), Radiation Safety Information Computational Center (RSICC) and the Organization for Economic Cooperation and Development (OECD) Nuclear Energy Agency Data Bank (NEADB).

The Monte Carlo method and its applications have been frequently addressed at several major conferences and workshops organized in recent years in the area of nuclear applications. Monte Carlo topics have included radiation shielding, radiation physics, medical physics, and high energy physics. Significant developments have taken place in computational and data issues, resulting in state-of-the-art computer codes and tools. Monte Carlo 2005 is the next in a series devoted to the topic, following Monte Carlo 2000, which was held in Lisbon, Portugal, in October 2000.

Conference topics will include: Methods Advancements (Physics) (proton transport, neutron transport, gamma transport, electron transport, heavy ion transport); Nuclear Data Advancements (proton transport, neutron transport, gamma transport, electron transport, heavy ion transport); Mathematical and Computational Advances (experiments & benchmarks, mathematical advances, computational advances, visualization); Applications (reactor, medical, accelerator, neutron science, dosimetry, shielding, fuel cycle, waste management, space & aviation, fusion, criticality safety, non-nuclear applications).

The website is <http://MonteCarlo2005.org>. Full papers are due January 21, 2005. For information contact Bernadette Kirk ([kirkbl@ornl.gov](mailto:kirkbl@ornl.gov), 865-574-6176), General Chair, or Jeff Johnson ([johnsonjo@ornl.gov](mailto:johnsonjo@ornl.gov), 865-574-5262), Technical Chair.

### Using MCNP5 for Medical Physics Applications

Sponsor: Computational Medical Physics Working Group

Cost: Free

Sunday, **April 17, 2005**, 1-5PM at the Monte Carlo 2005 Conference at the Chattanooga Convention Center, Chattanooga, Tennessee. (<http://montecarlo2005.org>)

“Using MCNP5 for Medical Physics Applications,” by Tim Goorley of the MCNP Development Team, X-5, Los Alamos National Laboratory, and Dick Olsher of the HSR - 4, Los Alamos National Laboratory.

Monte Carlo techniques are increasingly popular in many medical physics applications. This half-day tutorial focuses on how to use new and old MCNP5 features for neutron, photon and electron transport problems. The tutorial will include handouts and some demonstrations by the instructor, but not hands-on computer activities for the student. The following is a draft of the topics which will be covered:

- 1) Overview of new MCNP5 features
  - a) Mesh tallies,
  - b) Photon Doppler Broadening,
  - c) > 2.1 billion histories,
  - d) Lattice tally enhancements
- 2) Geometries and Modelling
  - a) MIRD Phantoms,
  - b) CT\_based geometries
- 3) Sources
- 4) Tallies
  - a) Calculating dose w/ different tallies,
  - b) Flux to Kerma factors (DE DF cards),
  - c) Calculating reaction rates
- 5) Misc
  - a) S(alpha, beta) neutron scattering treatment,
  - b) Simple variance reduction,
  - c) Benchmarking Studies - QUADOS,
  - d) using PTRAC file for coincident counting.

### **2005 International Congress on Advances in Nuclear Power Plants (2005 ICAPP)**

The 2005 International Congress on Advances in Nuclear Power Plants will be held from **May 15-19, 2005**, in Seoul, Korea. There is no doubt that continuing support and interest will be a crucial element for the success of the first ICAPP held in Asia.

The ICAPP has grown in stature since the first congress was held in 2002 to share ideas and visions for advances in nuclear power plants among operators, researchers and scholars. The 2005 ICAPP will attract the attention of the world's nuclear experts with many outstanding presentations of new developments and approaches in various studies and industrial projects. Please take the opportunity to share the results of your latest studies at the 2005 ICAPP. To ensure a successful congress, the 2005 ICAPP will consist of invited plenary sessions and topical technical sessions, as follows:

1. Water-Cooled Reactor Programs and Issues,
2. High Temperature Gas-Cooled Reactors,
3. Long-Term Reactor Programs and Strategies,
4. Operations, Performance and Reliability Management,
5. Plant Safety Assessment and Regulatory Issues,
6. Thermal Hydraulic Analysis and Testing,
7. Core and Fuel Cycle Concepts and Experiments,
8. Materials and Structural Issues,
9. Nuclear Energy and Sustainability including Hydrogen, Desalination and Other Applications, and
10. Near-Term Deployment.

Visit the website <http://www.icapp2005.org> to find out more about the 2005 ICAPP in Seoul.

### **Electron-Photon Transport Modelling with PENELOPE-2005 - Physics, Code Structure and Operation**

PENELOPE is being updated to include several new features and an updated database. An advanced training course/workshop entitled "Electron-Photon Transport Modelling with PENELOPE-2005 - Physics, Code Structure and Operation" is scheduled for 4–7 July 2005, at the Facultat de Física (ECM), Universitat de Barcelona, Diagonal 647, 08028 BARCELONA, Spain.

This course is addressed to researchers in radiation physics and its applications. The main objective is to provide the participants with a detailed description of PENELOPE-2005 with an ample perspective on Monte Carlo methods for simulation of electron/photon transport. The reliability of the interaction models and the accuracy of the numerical methods and approximations implemented in the code will be discussed. Examples of simulation results and benchmark comparisons with experiment will be presented. The course will include practical sessions on the use of the generic main programs, PENCYL (cylindrical geometries) and PENMAIN (quadric geometries), and on the design of the main program for specific applications.

Accommodation at the facilities of the University will be available and the weather is known to be very pleasant then. The deadline for registration is **30 April 2005**. Links to the syllabus and registration form may be found at <http://www.nea.fr/html/dbprog/Newsletter/Dec2004.htm#training>.

### **International Topical Meeting on Mathematics and Computation, Supercomputing, Reactor Physics and Nuclear and Biological Applications**

The International Topical Meeting on Mathematics and Computation, Supercomputing, Reactor Physics and Nuclear and Biological Applications will be held at the 'Palais des Papes,' Avignon, France, **September 12-15, 2005**.

The meeting offers an environment for interdisciplinary exchange among research in the nuclear field and comprises 19 General Technical sessions and 13 Invited Technical sessions. Details on the sessions and on the organization of the meeting are given at the web site: <http://mcavignon2005 cea.fr/>.

Papers are solicited in all areas of computational and mathematical methods and related disciplines including reactor physics, material sciences, shielding, fluid-dynamics, medical and biological applications, environmental sciences, fundamental mathematics and benchmarking.

We are now less than one year from the meeting dates and our web has been opened for the submission of extended summaries (1000 words < 1500 words). The deadline for summary submission is January 15, 2005.

Instructions on summary submission are given in the web pages under the 'Authors' button.

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

DATES: **June 6 -10, 2005** (4.5 days)

FEE: \$1,450 per person

PLACE: The MESA Complex, Room 130, University of New Mexico-Los Alamos Campus

Monte Carlo calculations are ideally suited to solving a variety of problems in radiation protection and dosimetry. This course is aimed at the health physicist, 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. Extensive interactive practice sessions are conducted on personal computers. 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 diskette containing all of the practice problems. This course has been granted 32 Continuing Education Credits by the AAHP, 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>. 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: Los Alamos National Laboratory, Group HSR-4, MCNP Class, David Seagraves, Mail Stop J573, 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](mailto:dseagraves@lanl.gov). Technical questions may be directed to Dick Olsher, 505-667-3364; e-mail: [dick@lanl.gov](mailto: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.

### **Nuclear Applications of Accelerator Technology “AccApp05”**

The forthcoming International Topical Meeting on Nuclear Applications of Accelerator Technology (AccApp'05) is the seventh in a series of international meetings of the Accelerator Applications Division of the ANS. It is scheduled for **August 28-September 1, 2005**, on the Island of San Servolo, Venice, Italy. The purpose of AccApp'05 is to provide an international forum for presenting and discussing the use of particle accelerator technology for a variety of applications. It is intended to focus on a wide area of applications including, spallation neutron sources, isotope production, medical therapy, nuclear waste transmutation, energy production, high power accelerators under construction and future projects, material issues in a particle environment, nuclear data and experiments, codes and models for particle transport, system engineering, thermo hydraulics, contraband detection and radiation protection. For more information see: <http://www.nea.fr/listsmh/satif/pdf00004.pdf>.

### **Eleventh International Topical Meeting on Nuclear Reactor Thermal Hydraulics**

NURETH is the foremost international technical meeting on nuclear technology thermal hydraulics. The NURETH-11 meeting will be held in the historic Palace of the Popes in Avignon, France, **October 2-6, 2005**. For more information please go to <http://nureth11.com/>.

### **Reactor Dosimetry - 12th International Symposium**

Approximately every three years the ASTM International Committee E10 on Nuclear Technology and Applications and the European Working Group on Reactor Dosimetry organize a symposium on reactor dosimetry. The 12th International Symposium on Reactor Dosimetry will be held in Gatlinburg, Tennessee, **May 8-13, 2005**. This symposium will be of interest to anyone involved in reactor dosimetry, including researchers, manufacturers and representatives from industry, utilities and regulatory agencies. The symposium theme is dosimetry for the assessment of irradiated reactor materials and reactor experiments, featuring radiation metrology techniques, data bases and standardization. Additional information on paper submittal and specific focus topics can be obtained by visiting the Symposium's web site <http://www.reactordosimetry.com>. In addition to the 100 to 120 oral and poster papers on the topics given on the web site, the symposium will feature six informal round-table workshops and two introductory level tutorials. The workshops will focus on discussions of problems, conflicts, recommendations, news and ideas. The workshop titles for the 12th Symposium will be: Accelerators and Fusion, Adjustments Methods and Uncertainties, Cross Section Files and Uncertainties, LWR Surveillance Dosimetry, Radiation Damage Correlations, and Test and Research Facilities. The two introductory level tutorials will be held in parallel and will address the topics of “Radiation Effects in Reactor Materials” and “Neutron Scattering Applications in Material Science.” This symposium is a must-attend meeting for those serious about the field of radiation dosimetry and will offer the opportunity for sharing ideas and discussions with colleagues in the field of radiation dosimetry. This meeting will also be ideal for those new to the field who want to be up to date on dosimetry related issues.

# CALENDAR

## February 2005

*Waste Management '05*, Feb. 27-Mar. 3, 2005, Tucson, AZ. Contact: Michelle Rehmann (Tech. Program Cord., tel 520-696-0399; email [michelle\\_rehmann@wmarizona.org](mailto:michelle_rehmann@wmarizona.org); url [www.wmsym.org](http://www.wmsym.org)).

*MCNPX Intermediate Workshop*, Feb. 28-Mar. 4, 2005, Mol, Belgium. Contact: Bill Hamilton (tel 505-455-0312, email [bill@mcnpworkshops.com](mailto:bill@mcnpworkshops.com), url <http://mcnpworkshops.com> for details).

## March 2005

*Forty-First Annual Meeting of the National Council on Radiation Protection and Measurements*, Mar. 30-31, 2005, Arlington, VA. Additional information: <http://www.ncrp.com>.

## April 2005

*AIChE Spring National Meeting*, Apr. 10-14, 2005, Atlanta, GA. Contact: James J. Laidler (630-252-4479, fax 630-972-4479, email [laidler@cmt.anl.gov](mailto:laidler@cmt.anl.gov) url <http://www.aiche.org/conferences/>).

*Monte Carlo 2005 Topical Meeting*, Apr. 17-21, 2005, Chattanooga, TN. Contact: Bernadette Kirk (tel 865-574-6176, fax 865-241-4046, email [kirkbl@ornl.gov](mailto:kirkbl@ornl.gov), url <http://MonteCarlo2005.org>).

## May 2005

*12th International Symposium on Reactor Dosimetry*, May 8-13, 2005, Gatlinburg, TN. Contact: Dr. James M. Adams (tel 301-975-6205, fax 301-926-1604, url <http://reactordosimetry.com>).

*Radiation Transport Calculations Using the EGS Monte Carlo System*, May 9-13, 2005, Ottawa, Canada. Contact: Nikki Dignard (tel 613-520-4388, fax 613-520-4389, email [NikkiDignard@pigeon.carleton.ca](mailto:NikkiDignard@pigeon.carleton.ca), url <http://www.physics.carleton.ca/~drogers/EGScore05/>).

*1st International Nuclear Chemistry Society (INCS)*, May 22-29, 2005, Kusadasi, Turkey. For more information: <http://incs.ege.edu.tr/1st-INCC.html>.

## June 2005

*ANS Annual Summer Meeting*, June 5-9, 2005, San Diego, CA. For more information: url <http://www.ans.org/meetings/>.

*MCNPX Introductory Workshop*, June 13-17, 2005, Santa Fe, NM. Contact: Bill Hamilton (tel 505-455-0312, email [bill@mcnpworkshops.com](mailto:bill@mcnpworkshops.com), url <http://mcnpworkshops.com> for details).

## July 2005

*PENELOPE-2005 Training Course*, July 4-7, 2005, Barcelona, Spain. <http://www.nea.fr/html/dbprog/Newsletter/Dec2004.htm#training>.

## August 2005

*MCNPX Workshop*, Aug. 1-5, 2005, Seoul, Korea. Contact: Bill Hamilton (tel 505-455-0312, email [bill@mcnpworkshops.com](mailto:bill@mcnpworkshops.com), url <http://mcnpworkshops.com> for details).

*12th International Conference on Emerging Nuclear Energy Systems (ICENES 2005)*, Aug. 21-26, 2005, Brussels, Belgium. For more information: <http://www.sckcen.be/sckcen%5Fen/activities/conf/conferences/icenes2005/>.

*Seventh Topical Conference on Nuclear Applications of Accelerator Technology "AccApp05"*, Aug. 28-Sept. 1, 2005, Venice, Italy. For more information: <http://www.nea.fr/lists/mh/satif/pdf00004.pdf>.

## September 2005

*XIX Nuclear Physics Divisional Conference (NPDC19) of the European Physical Society*, Sept. 5-9, 2005, Pavia, Italy. Contact: Saverio Altieri (email [saverio.altieri@pv.infn.it](mailto:saverio.altieri@pv.infn.it), url <http://www.pv.infn.it/~npdc19>).

*International Topical Meeting on Mathematics and Computation, Supercomputing, Reactor Physics and Nuclear Biological Applications (M&C 2005)*, Sept. 12-15, 2005, Avignon, France. Contact: Dr. Richard Sanchez (email [avignon2005@drnsac.cea.fr](mailto:avignon2005@drnsac.cea.fr); url <http://mcavignon2005.cea.fr>).

*MCNPX Intermediate Workshop*, Sept. 19-23, 2005,  
Boston, MA, or Washington, D.C. Contact: Bill  
Hamilton (tel 505-455-0312, email  
[bill@mcnpxworkshops.com](mailto:bill@mcnpxworkshops.com), url  
<http://mcnpxworkshops.com> for details).

*2005 NCSD Topical Meeting*, Sept. 19-22, 2005,  
Knoxville, TN. For more information:  
<http://meetingsandconferences.com/ncsd2005/>.

#### **October 2005**

*Eleventh International Topical Meeting on Nuclear  
Reactor Thermal Hydraulics*, Oct. 2-6, 2005,  
Avignon, France. For more information:  
<http://nureth11.com>, [nureth11@cea.fr](mailto:nureth11@cea.fr).

#### **November 2005**

*MCNPX Introductory Workshop*, Nov. 7-11, 2005,  
Santa Fe, NM. Contact: Bill Hamilton (tel 505-455-  
0312, email [bill@mcnpxworkshops.com](mailto:bill@mcnpxworkshops.com), url  
<http://mcnpxworkshops.com> for details).