Radiation Safety Information Computational Center

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Charity is injurious unless it helps the recipient to become independent of it.—
John D. Rockefeller, Jr.

RSICC AND NEADB CO-SPONSORS WORKSHOPS

RSAC-7.2 Training Workshop
Radiological Safety Analysis Computer Program Training
Presented by RSAC-7.2 Developers (Idaho National Laboratory)
at Oak Ridge National Laboratory
February 21-23, 2011
Contact: http://rsicc.ornl.gov/rsiccnew/rsac7-workshop/rsac7.htm

Joint Geant4/SWORD Workshop
Presented by Geant4 Developers (*SLAC* National Accelerator Laboratory/Lawrence Livermore National Laboratory) and SWORD Developers (Naval Research Laboratory)
at Oak Ridge National Laboratory
March 7-11, 2011
Contact: http://rsicc.ornl.gov/rsiccnew/geant4-sword-workshop/geant4-sword.htm

CHANGES TO THE RSICC CODE AND DATA COLLECTION

CCC-740/MCNP5/MCNPX

Los Alamos National Laboratory, Los Alamos, New Mexico, contributed a new version of their MCNP5 Monte Carlo N-particle code system paired with the current releases of MCNPX 2.6.0 and MCNPDATA. The package includes MCNP5 1.60, MCNPX 2.6.0, and MCNPDATA. **NOTE: there are no changes to MCNPX 2.6.0 or MCNPDATA in this package.**

MCNP5 is a general purpose Monte Carlo N–Particle code that can be used for neutron, photon, electron, or coupled neutron/photon/electron transport, including the capability to calculate eigenvalues for critical systems. Some of the new features of MCNP5-1.60 include:

- Adjoint-weighted Tallies for Point Kinetics Parameters
- Mesh Tallies for Isotopic Reaction Rates
- Greatly Increased Limits for Geometry, Tally, and Source Specifications
- Web-based Documentation
- Additional Test Suites for MCNP5
- Modifications to the Regression Test Suite
- Modifications to Criticality Test Suites
- Modifications to Shielding Validation Suite
- Enhancements to the *merge_mctal* and *merge_meshtal* Utilities
- MCNP5-1.60 Build System and Directory Structure
- Continue Runs May Use Different Number of Threads
- RAND Card Allowed in Continue Run
- Miscellaneous Enhancements/Changes
- Numerous minor Bug Fixes

The package is distributed on a single DVD for Windows or UNIX. The executable-only package C00740MNYCP05 includes executables for PC Windows, PC Linux, some Unix/Mac systems (see abstracts for details); MCNPDATA; test problems and the referenced documentation. The C00740MNYCP04 package includes the items listed above plus source codes, makefiles, build scripts, and some additional documentation and utilities for use with MCNP5. Export control regulations restrict the distribution of Fortran source code. If restrictions apply, RSICC will send the executable-only version. Please order the package you prefer, and we will honor your preference if possible. References: LA-UR-10-06235, LA-UR-10-06217, LA-UR-05611, LA-UR-03-1987 (2008), LA-CP-03-0245 (2008). LA-CP-03-0284 (2008), App. C of LA-CP-03-0284 (2008), LA-UR-08-0306, LA-09-00380 (2009), and other LANL reports. Fortran 90 and C; Windows PCs, Linux PC, Mac for MCNP5, and Sun for MCNPX [Package ID: C00740MNYCP04 (full package) and C00740MNYCP05 (executable-only package)].

CCC-761/RSAC-7.2

Idaho National Laboratory, Idaho Falls, Idaho has released the Radiological Safety Analysis Computer (RSAC) Program Version 7.2. RSAC-7.2 calculates the consequences of a release of radionuclides to the atmosphere. Users generate a fission product inventory from either reactor operating history or a nuclear criticality event. RSAC-7.2 models the effects of high-efficiency particulate air filters or other cleanup systems and calculates the decay and ingrowth during transport through processes, facilities, and the environment. Doses are calculated for inhalation, air immersion, ground surface, ingestion, and cloud gamma pathways. RSAC-7.2 is used as a tool to evaluate accident conditions in emergency response scenarios, radiological sabotage events, and safety basis accident consequences. RSAC-7.2 runs on IBM compatible computers under Windows (32 and 64 bit) operating systems. It was tested at RSICC on Intel Xeon PCs running Windows 7 and XP SP3. A Windows installer file, including documentation and test cases are transmitted on a CD. No source files are included with the distribution. Fortran 77; PC 586 (C00761PC58601).

ANS News

Nominating Committee Selects 2011 Candidates

Vice President / President-Elect Candidates—The ANS Nominating Committee has selected as the candidates for Vice President / President-Elect: *Michael L. Corradini* (University of Wisconsin), and *Audeen W. Fentiman* (Purdue).

Treasurer Candidates—The Nominating Committee has selected as the candidates for Treasurer (a two-year term): *Michaele C. Brady Raap* (PNNL), and *Andrew C. Klein* (Oregon State University).

Board of Directors Candidates—The ANS Board of Directors each serve 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 2011 election, there are four U.S. Director At-Large, and one non-U.S. Director at-Large positions to be filled.

- **U.S. Director At-Large Position Candidates—**Nominated to run for the U.S. Director At-Large positions are: *Gilbert J. Brown* (University of Massachusetts-Lowell), *Jacopo Buongiorno* (MIT), *Virginia D. Cleary* (Sandia), *H. Lee Dodds* (University of Tennessee), *Alan J. Fiorente* (Bechtel), *Ray G. Gamino* (Knolls Atomic Power Lab), J*effrey S. Merrifield* (The Shaw Group), *Nick Tsoulfanidis* (University of Nevada-Reno, Ret.).
- **Non-U.S. Director At-Large Position Candidates—**Nominated to run for the Non-U.S. Director at-Large position are: *Mauro L. Bonardi* (Universita degli Studi di Milano), *Santiago San Antonio* (FORATOM).

New Clarifications Issued on Two Standards

Clarifications were just issued on ANSI/ANS-8.3-1997 (R2003), Criticality Accident Alarm System, and ANSI/ANS-19.6.1-2005, Reload Startup Physics Tests for Pressurized Water Reactors. Copies of all clarifications are available on the ANS Web site at: http://www.ans.org/goto/nad.cgi?id=1287464400-5.

Don Miller Award

This award was established in 2009 in recognition of outstanding engineering, research and development, licensing or project achievements in the fields of nuclear instrumentation and control or human-machine interface from around the world. The award is given to an individual or team who has made recognized contributions to the advancement of one or both of the fields of nuclear instrumentation and control or human-machine interface through individual or combined activities. The deadline for receipt of nominations is March 1. Additional information is available at: http://www.ans.org/goto/nad.cgi?id=1287464400-14.

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.

TRAINING

Introductory MCNP, Advanced MCNP, and Visual Editor Training

Classes are taught using the most recent (beta) version of the Visual Editor Code. All class attendees must have a valid MCNP/MCNPX RSICC license. Bring proof of receipt (letter or email) to the class.

2011 Classes		
January 24–28	Introduction to MCNP using the MCNPX Visual Editor	Seattle, WA
January 31–February 04	Intermediate MCNP Visual Editor with a special emphasis on tallies and variance reduction	Seattle, WA
March 7–11	Introduction to MCNP using the MCNPX Visual Editor	London, UK
April 11–15	Introduction to MCNP using the MCNPX Visual Editor	Las Vegas, NV
April 18–22	Intermediate MCNP Visual Editor with a special emphasis on tallies and variance reduction	Las Vegas, NV
June 6–10	Introduction to MCNP using the MCNPX Visual Editor	Anaheim, CA
June 13–17	Intermediate MCNP Visual Editor with a special emphasis on tallies and variance reduction	Anaheim, CA
September 12–16	Introduction to MCNP using the MCNPX Visual Editor	Myrtle Beach, SC
September 19–23	Intermediate MCNP Visual Editor with a special emphasis on tallies and variance reduction	Myrtle Beach, SC
October 24–28	Introduction to MCNP using the MCNPX Visual Editor	London, UK
November 7–11	Introduction to MCNP using the MCNPX Visual Editor	Las Vegas, NV
November 14–18	Intermediate MCNP Visual Editor with a special emphasis on tallies and variance reduction	Las Vegas, NV

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.

MCNPX Training

2011 Classes		
January 10–14	MCNPX Intermediate Workshop	Las Vegas, NV
Feb 28–March 4	MCNPX Intermediate Workshop	Paris, France
May 9–13	MCNPX Intermediate Workshop	Chicago, IL
September 26–30	MCNPX Intermediate Workshop	Washington DC
October 17–21	MCNPX Intermediate Workshop	London, U.K.

The MCNPX team at Los Alamos National Laboratory offers interactive workshops for training users in the capabilities of MCNPX. Three levels are offered:

- introductory (for users with 0–1 year of experience),
- intermediate (for users with 1–3 years of experience), and
- advanced (for users with more than 3 years of experience).

The list of workshops is tentative, as workshops may be added, removed, or modified throughout the year, depending on user interests. Workshops with fewer than 15 registrants on the early registration date are subject to cancellation or rescheduling.

In order to process non-U.S. citizens by the class date, non-U.S. citizens must register at least 6 weeks prior to the start of the training class. All non-U.S. citizens who reside in countries listed in the U.S. Code of Federal Regulations, Title 10, Part 810.8, are required to register at least 8 weeks prior to the start of the training class. These participants must be processed by the DOE and should not make travel arrangements until approval from DOE has been obtained.

Additional information about the courses can be found at the website, http://mcnpx.lanl.gov/. To register send an email to Randy Schwarz, indicating the workshop of interest to you.

ORAU Offers Health Physics and Radiation Safety Training

ORAU is pleased to offer the following courses. If you wish to discuss having a customized course delivered at your site, please contact Paul Frame at 865-576-3388 or Paul.Frame@orau.org.

Course	Dates
MARSSIM	January 10–14, 2011
Site Characterization in Support of Decommissioning: Planning, Implementation, and Evaluation	January 24–28, 2011
Applied Health Physics	February 28–April 1, 2011
CHP Part I Review	April 5–7, 2011
Gamma Spectroscopy	April 11–15, 2011

CONFERENCES

Advancing Tools and Solutions for Nuclear Material Detection

The 2nd National Conference on Advancing Tools and Solutions for Nuclear Material Detection will be held in Salt Lake City, UT, February 3–4, 2011. Full papers are requested by January 10, 2011, on the following topics:

- Detector & Detector Materials
- Network Systems & Algorithms
- Active Interrogation
- Nuclear Forensics
- Nuclear Safeguards
- Passive Detection
- Nuclear Data & Active Detection Technologies
- Artificial Intelligence in Homeland Security Applications
- Advanced Computational Solutions for Nuclear Material Detection
- Advanced Interactive Visualization Techniques of Interest to Material Detection for Homeland Security

A summary of the Conference will be presented in April 2011 at the ARI Workshop in Washington, DC. Further information may be obtained from Tatjana Jevremovic,Nuclear Engineering Director, University of Utah 2298 MEB, 50 South Central Drive, University of Utah, Salt Lake City, UT 84112 (phone 801-587-9696, email Tatjana.Jevremovic@utah.edu).

CONTE 2011

The 2011 Conference on Nuclear Training and Education (CONTE 2011) will be held in Jacksonville, Florida, February 6–9, 2011. General chair of the meeting is Stephen Kuczynski, Senior VP of Engineering and Technical Services, Exelon Nuclear. For further information, please visit the ANS website, http://www.new.ans.org/meetings/c_2.

NETS-2011

The Nuclear and Emerging Technologies for Space (NETS-2011) topical meeting will be held February 7–10, 2011, in Albuquerque, NM. The meeting is sponsored by the ANS Aerospace Nuclear Science and Technology Division and the ANS Trinity Section. NETS-2011 will address strategies for implementing advanced power and propulsion technologies, as well as radiation shielding protection, in support of manned and unmanned missions into space. It will provide a communications network and forum for information exchange for research and management personnel from government, industry, academia, and the national laboratory system who are involved in space nuclear activities. Registration, program, exhibit, and other information may be found on the conference website at http://anstd.ans.org/NETS2011/AboutNETS2011.htm.

WM 2011

The annual Waste Management Conference (WM 2011) will be held February 27–March 3, 2011, in Phoenix, Arizona. The conference theme is "Global Achievements and Challenges in Waste Management". Regarded as the premier international organization for the management of radioactive material and related topics, the 2011 conference attracts decision makers, project managers, and technical and procurement specialists representing the

government and private organizations from over 35 countries. In addition to the conference, two workshops are scheduled for March 3 and 4, titled "Commercial Low-Level Waste (LLW) Disposal Performance Assessment, the Safety Case, and Long-Term Monitoring " and "Joint Public Federal Workshop," respectively. Bookmark the website, http://www.wmsym.org/, to monitor the latest information with regard to the workshops, program, arrangements, etc.

PSA 2011

The 2011 Probabilistic Safety Analysis conference (PSA 2011) will be held in Wilmington, North Carolina, March 13–17, 2011. The conference is sponsored by the ANS Nuclear Installations Safety Division (NISD) and the Wilmington Area Local Section of the ANS (WLS). Bookmark and check the conference website at http://meetingsandconferences.com/psa2011/ often to remain informed about deadlines and activities.

MTAA 13

Texas A&M will host the 2011 Modern Trends in Activation Analysis (MTAA-13) Conference March 13–18, 2011—fifty years after the first MTAA conference also hosted by what was then the A&M College of Texas. The scope of the conference will include activation analysis methodology, methodological enhancements, applications of activation analysis to the fields of energy, environment, biology and medicine, geology, archaeology, homeland security, etc. However, this conference will broaden the subject matter somewhat in that it will invite and entertain contributed presentations from all areas of nuclear analytical methods as well as competing technologies.

Conference organizers will provide incentives to selected potential attendees in the form of travel awards. We anticipate making up to twelve awards to students and another twelve to young scientists who submit applications. Awardees will be expected to participate in the meeting by submission of abstracts and manuscripts to the proceedings. While financial need will be considered, recipients will be those considered by the conference organizers to be most likely to provide meaningful participation and future advancement of the science. Details concerning application procedures and criteria for selection will appear in subsequent announcements as well as the conference website.

Make sure you are on the conference contact list by completing the form found at: https://tti.tamu.edu/conferences/mtaa13/registration_interest.htm. Information on the conference will be posted to http://tti.tamu.edu/conferences/mtaa13/. You may also contact William D. (Dennis) James, Center for Chemical Characterization and Analysis, Texas A&M University, 3144 TAMU, College Station, TX 77843-3144 (phone 979 845-7630, email wd-james@tamu.edu).

ICAPP

The 2011 International Congress on Advances in Nuclear Power Plants (ICAPP 2011) will be held May 2–5, 2011, in Nice, France. Participants in the conference will benefit from the opportunity to meet experts of the nuclear industry and to review the recent evolution in reactor physics, thermal-hydraulics, materials, operation and maintenance, safety and licensing of new nuclear power plants. Information regarding the conference will be posted at the website, https://www.sfen.fr/index.php/plain_site/icapp_international_congress_on_advances_in_npps. You may also contact Sylvie Delaplace at icapp2011@sfen.fr.

MC 2011

The 2011 International Conference on Mathematics and Computational Methods applied to Nuclear Science and Engineering (MC 2011) will be held in Rio de Janeiro, May 8–12, 2011. The conference will provide an international forum for scientists to present their most recent work and exchange ideas on a powerful class of methodologies extensively used for solving mathematical models of physical phenomena and processes applied to nuclear science and engineering. One of the aims is to promote new research tools and procedures that help link mathematics, applied sciences and technology. Therefore, MC 2011 will offer an opportunity for direct information exchange between participants from both academia and industry. The interdisciplinary technical program will consist of plenary sessions, workshops, parallel oral presentation sessions and poster sessions on the following topics:

- Accelerator & subcritical systems
- Advanced nuclear reactor concepts
- Atmospheric and ocean radiative transfer
- Computational fluid dynamics & thermal hydraulics
- Deterministic & stochastic neutral and charged particle transport modeling
- High-fidelity multiphysics simulations
- Medical physics
- Nuclear chemistry
- Nuclear criticality safety
- Nuclear data evaluation & application
- Nuclear fuel cycle
- Nuclear fuels
- Nuclear geophysics
- Nuclear materials sciences
- Nuclear non-proliferation and homeland security
- Nuclear production of hydrogen
- Nuclear radiation shielding & dosimetry
- Nuclear reactor analysis
- Optimization, data assimilation & artificial intelligence
- Plasma physics/fusion
- Radiobiology
- Structural mechanics
- Uncertainty quantification
- Verification & validation

General Chair of the meeting is Cassiano de Oliveira (cassiano@unm.edu). Bookmark the conference website, http://www.mc2011.org, to keep abreast of conference information.

ISRD-14

The 14th International Symposium on Reactor Dosimetry (ISRD-14) will be held May 22–27, 2011, at the Omni Mount Washington Resort, Bretton Woods, New Hampshire. This Symposium is held approximately every three years to provide a forum for the interchange of state-of-the-art techniques, data bases and standardization of radiation metrology. The Symposium will be of value to those involved in reactor dosimetry, including researchers, manufacturers and representatives from industry, utilities and regulatory agencies. The Symposium is jointly sponsored by ASTM International and the European Working Group on Reactor Dosimetry (EWGRD). It is organized by ASTM Committee E10 on Nuclear Technology and Applications.

The Symposium theme is dosimetry for the assessment of irradiated reactor materials and reactor experiments, featuring radiation metrology techniques, data bases and standardization. The Symposium will be organized into oral and poster presentations, as well as informal round-table workshops. The meeting language will be English. Papers accepted for presentation at the symposium will be published in the on-line *Journal of ASTM International*. Bookmark the conference website, http://www.reactordosimetry.com/, to remain current with conference information.

CALENDAR

January 2011

First International Course, Nuclear Criticality-Safety, January 17—28, 2011, Saclay, France. Contact: Nadia Nowacki (nadia.nowacki@cea.fr).

February 2011

2nd National Conference on Advancing Tools and Solutions for Nuclear Material Detection, Feb. 3–4, 2011, Salt Lake City, UT. Contact: Tatjana Jevremovic,Nuclear Engineering Director, University of Utah 2298 MEB, 50 South Central Drive, University of Utah, Salt Lake City, UT 84112 (phone 801-587-9696, email Tatjana.Jevremovic@utah.edu).

Conference on Nuclear Training and Education (CONTE 2011), Feb. 6–9, 2011, Jacksonville, Florida. Contact: Stephen Kuczynski, Senior VP of Engineering and Technical Services, Exelon Nuclear. The website is www.ans.org/meetings.

Nuclear and Emerging Technologies for Space 2011 (NETS 2011), Feb. 7–10, 2011, Albuquerque, NM. The website is http://anstd.ans.org/NETS2011/AboutNETS2011.htm.

RSAC-7-2 Training Course, February 21–23, 2011, Oak Ridge National Laboratory, Oak Ridge, TN. Contact: http://rsicc.ornl.gov/rsiccnew/rsac7-workshop/rsac7.htm.

March 2011

Geant4/SWORD Training Course, March 7–11, 2011, Oak Ridge National Laboratory, Oak Ridge, TN. Contact: http://rsicc.ornl.gov/rsiccnew/geant4-sword-workshop/geant4-sword.htm.

International Topical Meeting on Probabilistic Safety Assessment and Analysis (PSA 2011), March 13–17, 2011, Hilton Wilmington Riverside, Wilmington, NC. Meeting information: http://www.ans.org/goto/nad.cgi?id=1273208400-24.

Modern Trends in Activation Analysis (MTAA-13), March 13–18, 2011, College Station, TX. Contact: William D. (Dennis) James, Center for Chemical Characterization and Analysis, Texas A&M University, 3144 TAMU, College Station, TX 77843-3144 (phone 979 845-7630, email wd-james@tamu.edu) url: http://tti.tamu.edu/conferences/mtaa13/.

April 2011

AccApp '11 - Tenth International Topical Meeting on Nuclear Applications of Accelerators, April 3–7, 2011, Knoxville, TN. Contact: Conference Chair, Phil Ferguson, Oak Ridge National Laboratory (phone 865-241-5702, email fergusonpd@ornl.gov) url: http://accapp11.org.

May 2011

MC 2011, May 8–12, 2011, Rio de Janeiro, Brazil. Meeting information: http://www.mc2011.org/.

International Symposium on Reactor Dosimetry (ISRD-14), May 22–27, 2011, Bretton Woods, New Hampshire. Contact: Dr. David W. Vehar, Sandia National Laboratories (dwvehar@sandia.gov) url http://www.reactordosimetry.com/.

June 2011

Workshop on Activation Data (Kopeck), June 1–3, 2011, Charles University in Prague, Czech Republic. Contact: Jean-Christophe.Sublet@ccfe.ac.uk, url http://www.ccfe.ac.uk/EASY_workshops.aspx.

ANS Annual Meeting, June 26–30, 2011, Hollywood, FL. The website is http://www.new.ans.org/meetings.

Industrial Radiation and Radioisotope Measurement Applications (IRRMA-8), June 26–July 1, 2011, Kansas City, MO. Contact: William L. Dunn, Kansas State University (email dunn@k-state.edu) url http://www.dce.k-state.edu/conf/irrma/.

September 2011

22nd International Conference on Transport Theory (ICTT-22), Sept. 11–15, 2011, Portland, Oregon. Contact: Todd Palmer, Technical Program Chair, Oregon State University (palmerts@ne.orst.edu).

October 2011

2011 ANS Winter Meeting and Nuclear Technology Expo, Oct. 30–Nov. 3, 2011, Washington, DC. The website is http://www.new.ans.org/meetings/c_1.