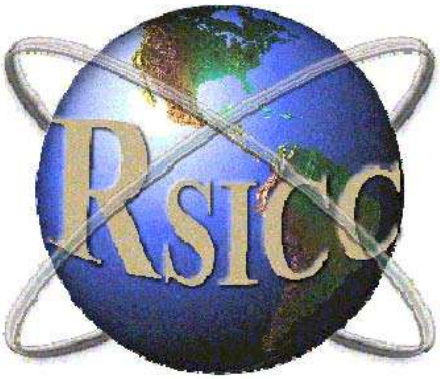
Radiation Safety Information Computational Center



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No. 579 **August 2013**

The only way to do great work is to love what you do. If you haven't found it yet, keep looking. Don't settle. – Steve Jobs

MCNP6 RELEASE ANNOUNCEMENT

RSICC is pleased to announce the much anticipated release of MCNP6. The release of the first production version of MCNP6 is a substantial revision that not only includes the merger of MCNP5 and MCNPX but includes additional capabilities that were not previously found in either code.

The package will be distributed in three DVDs. Two of the DVDs contain the data packages including the new ENDF/B-VII.1 data libraries. The third DVD contains the MCNP6 code either with or without the source code. Due to export control regulations and nuclear nonproliferation review requirements, access to the MCNP6 code is limited. For those individuals for which access to the source code is not permissible, RSICC will distribute an executable-only package (C00810MYCP01) on one DVD that contains executables for PC Windows, PC Linux, and MacOS systems, MCNPDATA, documentation,

and V&V documentation as well as the MCNP5/MCNPX executables for PC Windows and PC Linux systems along with test problems and referenced documentation. For those individuals for which access to the source code is permissible, RSICC will distribute the package C00810MNYCP00 that includes the source files for MCNP6.1, MCNP5 and MCNPX along with the aforementioned content of the executable-only version.

Due to the generous support of the MCNP Development team at Los Alamos National Laboratory and the support of the Department of Energy's National Nuclear Security Administration, RSICC is pleased to also announce that a limited number of copies of MCNP6 will be made available at no cost to those individuals that would normally be required to pay the cost recovery fee for packages from RSICC. The no cost distribution of MCNP6 will be for a limited time only and will cease once funding for this activity is no longer available. An announcement will be made on the RSICC website at that time. Individuals that are supported by RSICC's sponsors will continue to receive the code at no cost, including nuclear engineering programs at U.S. Universities.

Timothy E. Valentine
Director, Radiation Safety Information Computational Center

CHANGES TO THE RSICC CODE AND DATA COLLECTION

CCC-777/COG 11.1 Beta2
Lawrence Livermore National Laboratory, Livermore, California, contributed COG, a modern, full-featured Monte Carlo radiation transport code that provides accurate answers to complex shielding, criticality, and activation problems. COG was written to be state-of-the-art and free of physics approximations and compromises found in earlier codes. COG is fully 3-D, uses point-wise cross sections and exact angular scattering, and allows a full range of biasing options to speed up solutions for deep penetration problems. Additionally, a criticality option is available for computing Keff for assemblies of fissile materials. ENDL or ENDFB cross section libraries may be used. COG home page: http://cog.llnl.gov.

Cross section libraries are included in the package. COG can use either the LLNL ENDL-90 cross section set or the ENDFB/VI set. Analytic surfaces are used to describe geometric boundaries. Parts (volumes) are described by a method of Constructive Solid Geometry. Surface types include surfaces of up to fourth order, and pseudo-surfaces such as boxes, finite cylinders, and figures of revolution. Repeated assemblies need be defined only once. Parts are visualized in cross-section and perspective picture views. A lattice feature simplifies the specification of regular arrays of parts. Parallel processing under MPI is supported for multi-CPU systems.

Version 11.1 Beta2 is an updated version of COG11 (RSICC C00777MNYCP 00). New features in Version 11.1 include:

A hybrid approach to detector score variance reduction in criticality problems;
Production and tracking of delayed fission gammas;
A treatment of nuclear resonance fluorescence;

Simulation of radiative decay;
A number of new data libraries.

Source files are not included in this package. COG is operable on PC's running either Windows or Linux Operating Systems. COG is distributed on DVD. Included are executables for Windows and Linux, data libraries, test cases and documentation. Fortran 77, C; PCs (C00777MNYCP01).

CCC-805/HEATKAU

The King Abdulaziz University of Saudi Arabia contributed the HEATKAU Program. In the HEATKAU code, a new approach has been proposed to evaluate the decay heat power after a fission burst of a fissile nuclide for short cooling time. This method is based on the numerical solution of coupled linear differential equations that describe decays and buildups of the minor fission products (MFPs) nuclides. HEATKAU is written entirely in the MATLAB programming environment. The MATLAB data can be stored in a standard, fast and easy-access, platform- independent binary format which is easy to visualize.

The package is transmitted on one CD with the documentation, data libraries and MATLIB executable. There are no source files included with this package. MATLAB; Windows (C00805PCX8600).

CCC-810/MCNP6.1/MCNP5/MCNPX

Los Alamos National Laboratory, Los Alamos, New Mexico, USA has contributed a new version of MCNP6. MCNP6 is simply and accurately described as the merger of MCNP5 and MCNPX capabilities, but it is much more than the sum of these two computer codes. MCNP6 is the result of five years of effort by the MCNP5 and MCNPX code development teams. These groups of people, residing in Los Alamos National Laboratory's (LANL) X Computational Physics Division, Monte Carlo Codes Group (XCP-3) and Decision Applications Division, Radiation Transport & Applications Team (D-5) respectively, have combined their code development efforts to produce the next evolution of MCNP. While maintenance and bug fixes will continue for MCNP5 1.60 and MCNPX 2.7.0 for upcoming years, new code development capabilities only will be developed and released in MCNP6. In fact, this initial release of MCNP6 contains 16 new features not previously found in either code. These new features include the abilities to import unstructured mesh geometries from the finite element code Abaqus, to transport photons down to 1.0 eV, to transport electrons down to 10.0 eV, to model complete atomic relaxation emissions, and to generate or read mesh geometries for use with the LANL discrete ordinates code PARTISN, amongst other capabilities:

- Adjoint-based sensitivity coefficients
- Geometry mesh file creation
- Unstructured mesh geometry
- Low energy photon and electron transport for atomic cross sections
- Complete photon-induced atomic relaxation
- Explicit tracking of all charged particles in magnetic fields.
- Nested *dxtran* spheres
- Uncollided secondaries
- Time bins for mesh tallies
- Enhanced photon form factors
- Surface and cell flagging are now possible with MCNP5-style mesh tallies
- Upgrade to CEM03.03 and LAQGSM03.03
- Generation of gamma rays from muonic atoms
- Pre-collision next event estimator

- Double differential particle interaction cross section generator
- Corrections

The package is distributed on three DVDs. The executable-only package, C00810MNYCP01, includes one DVD containing the MCNP6.1, MCNP5, and MCNPX executables for PC Windows, PC Linux, and MacOS systems, along with reference documents, V&V documentation, and test problems. The C00810MNYCP00 package includes one DVD containing the information listed above along with the source files for MCNP6.1, MCNP5 and MCNPX. Two additional DVDs are distributed with both packages containing the new ENDF/B-VII.1 data libraries.

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 your preference will be honored if possible. FORTRAN 90, C; Windows PCs, Linux PC, Mac for MCNP6.1 and MCNP5 and Sun for MCNPX [C00810MNYCP00 (source distribution) and C00810MNYCP01 (executable-only distribution)].

MIS-009/HOTSPOT

HOTSPOT 3.0 Health Physics Codes were contributed by the National Atmospheric Release Advisory Center, Lawrence Livermore National Laboratory, Livermore, CA. The HOTSPOT Health Physics codes were created to provide Health Physics personnel with a fast, field-portable calculational tool for evaluating accidents involving radioactive materials. HOTSPOT codes are a first-order approximation of the radiation effects associated with the atmospheric release of radioactive materials.

Four general programs, PLUME, EXPLOSION, FIRE, and RESUSPENSION, calculate a downwind assessment following the release of radioactive material resulting from a continuous or puff release, explosive release, fuel fire, or an area contamination event. Other programs deal with the release of plutonium, uranium, and tritium to expedite an initial assessment of accidents involving nuclear weapons. Additional programs deal specifically with the release of plutonium, uranium, and tritium to expedite an initial assessment of accidents involving nuclear weapons. The FIDLER program can calibrate radiation survey instruments for ground survey measurements and initial screening of personnel for possible plutonium uptake in the lung.

The package is transmitted in a ZIP file on one CD including a User's Guide, PC executables, and sample problems. No source files are included in the package. BASIC; IBM PC (M009IBMPC01).

PSR-588/STAYSL PNNL

STAYSL PNNL was recently contributed by Pacific Northwest National Laboratory, Richland, Washington. The STAYSL PNNL software suite provides a set of tools for working with neutron activation rates measured in a nuclear fission reactor, an accelerator-based neutron source, or any neutron field to determine the neutron flux spectrum through a generalized least-squares approach. This process is referred to as neutron spectral adjustment since the preferred approach is to use measured data to adjust neutron spectra provided by neutron physics calculations. The input data consist of the reaction rates based on measured activities, an initial estimate of the neutron flux spectrum, neutron activation cross sections and their associated uncertainties (covariances), and relevant correction factors. The output consists of the adjusted neutron flux spectrum and associated covariance matrix, which is useful for neutron dosimetry and radiation damage calculations.

The package is distributed on a CD with a compressed zip file including an installation file,

documentation, and test cases. No source code is included with the package. Fortran, Excel; PC – Windows, XP (P00589PCX8600).

SCIENCE EDUCATION PROGRAMS AT OAK RIDGE NATIONAL LABORATORY

Looking for an internship or post graduate opportunity at Oak Ridge National Laboratory? The Science Education Programs at Oak Ridge National Laboratory provide paid opportunities for undergraduates, grad students, recent graduates, and faculty to participate in high-quality research alongside world-class scientists to solve real-world problems. Opportunities are available for internships and co-ops, research appointments, and sabbaticals.

You can access all available opportunities through the website at http://www.orau.org/ornl. The Talent and Opportunity System allows you to create a profile, and then answer only 5 or 6 questions for each program or job posting for which you apply.

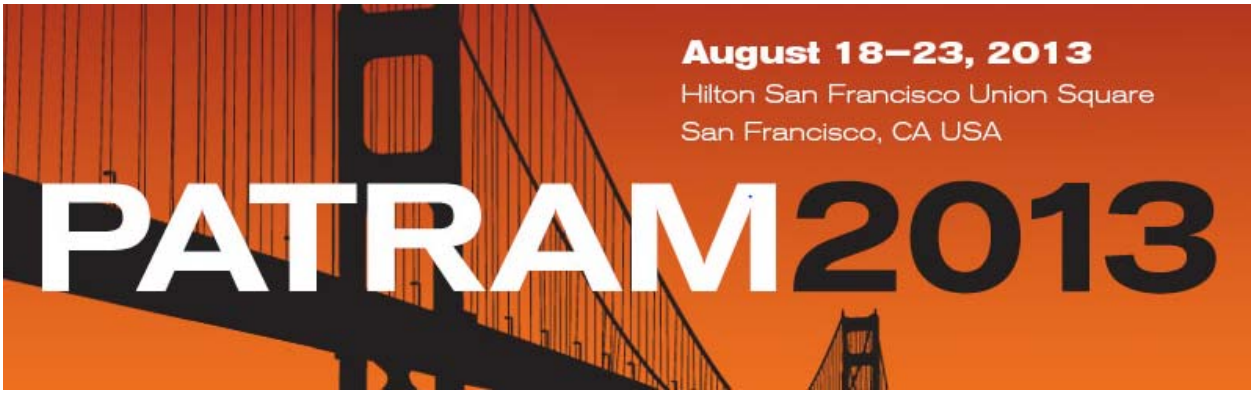
All levels of participants from undergraduates to faculty are encouraged to publish research papers with their mentors. Please browse through the Research Profiles on the different participants and their research experiences at the right hand side of the bottom of the web site listed above. Also, there is a video of research participants at ORNL sharing their thoughts on how access to world-class research facilities and staff has catapulted their careers in science and technology. You can find it on YouTube at http://ow.ly/2EQLz.

CONFERENCES, TRAINING 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 arwoodjw@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. Please provide a website address for the event if one is available.

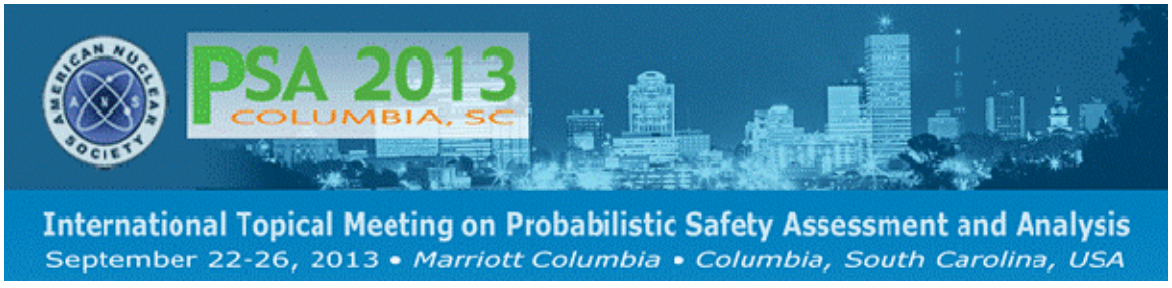
Every attempt is made to ensure that the links provided in the Conference and Calendar sections of this newsletter are correct; however, if the links become unavailable, please call the point of contact for the event.

CONFERENCES



2013 INMM Packaging and Transportation of Radioactive Materials Conference (PATRAM)

The 2013 INMM Packaging and Transportation of Radioactive Materials (PATRAM) will be held at the Hilton San Francisco Union Square in San Francisco, CA August 18-23, 2013. This conference brings together experts from government, industry and research organizations worldwide to exchange information on all aspects of packaging and transporting radioactive materials around the globe. For up-to-date information about this conference, visit their website http://www.patram.org/ .



2013 International Topical Meeting on Probabilistic Safety Assessment and Analysis

PSA 2013, the International Topical Meeting on Probabilistic Safety Assessment and Analysis, the thirteenth meeting in the technical series sponsored by the American Nuclear Society (ANS) and its Nuclear Installations Safety Division (NISD) will take place September 22-27, 2013, in Columbia, South

Carolina, USA. This edition of the PSA conference is dedicated in the memory of Professor David Okrent (1922-2012), a nuclear safety/design pioneer, and major contributor to PRA and probabilistic safety methods and analysis. PSA 2013 will be of interest to traditional applications including nuclear reactor facilities, nonreactor installations, processing, decontamination & decommissioning, and storage, as well as other non-traditional areas where probabilistic safety approaches are applied. The meeting will continue to follow lessons learned and impacts to PRA from the Fukushima Dai-ichi, explore progress on risk-informing regulation and fire PRA, provide status on the development of PRA standards, as well as many other topics during four days of planned paper and panel sessions. More information on PSA 2013 can be found at the conference website, http://psa2013.org

GLOBAL 2013: International Nuclear Fuel Cycle Conference

The GLOBAL 2013 International Nuclear Fuel Cycle Conference will be held September 29-October 3, 2013 in Salt Lake City, UT. The conference is a forum for the discussion of the scientific, technical, social and regulatory aspects of the nuclear fuel cycle. Relevant topics include global utilization of nuclear energy, current fuel cycle technologies, advanced reactors, advance fuel cycles, nuclear nonproliferation and public acceptance.

For up-to-date information about this conference, visit their website at http://www.new.ans.org/meetings/m_158 .

Nuclear Criticality Safety Division 2013 Conference

The Nuclear Criticality Safety Division 2013 Conference will be held September 29-October 3, 2013 in Wilmington, NC. NCSD 2013 will focus on key program/technical improvement areas involving state-of-the-art methods, analysis, procedures, training, risk assessment operating experience and lessons

learned, and post-Fukushima impacts on nuclear criticality safety (NCS) programs for existing / planned new facilities.

For up-to-date information about this conference, visit their website at ncsd2013.org.

Joint International Conference on Supercomputing in Nuclear Applications & Monte Carlo

The Joint International Conference on Supercomputing in Nuclear Applications & Monte Carlo will be held on October 27-31, 2013, at the Cité des Sciences et de L'Industrie de la Villette in Paris, France.

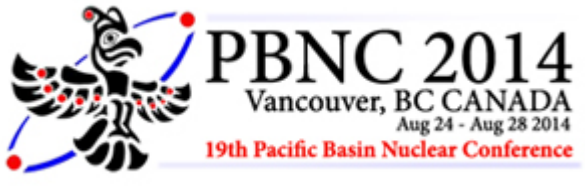
The conference aims to highlight renewed strategy and simulation paradigms, and to identify future conceptual and technological breakthroughs. The objective is to increase the predictive capacity of the calculation tools designed and developed by teams of engineers and researchers all over the globe. The idea is to improve the performances accordingly in terms of calculation time, usability and maintainability. All these factors are indeed crucial for the central question of the role of a global nuclear application economy, including safety, optimizations, and costs.

For up-to-date information about this conference, visit their website at https://www.sfen.fr/SNA-and-MC-2013.

2013 IEEE Nuclear Science Symposium and Medical Imaging Conference

"Beyond Imagination of Future Science" will be held in Seoul, South Korea from October 27 - November 2, 2013 at the COEX Convention Center. In addition to the presentation of original work, the conference will provide extensive educational opportunities via short courses and special emphasis seminars before and during the conference. This meeting has always been a great place to exchange ideas and share

knowledge and experience in the nuclear science, medical imaging, and room-temperature semiconductor X-Ray and Gamma-Ray detector fields. For up-to-date information about this conference, visit their website at http://www.nss-mic.org/2013/NSSMain.asp .



19th Pacific Basin Nuclear Conference

The 19th Pacific Basin Nuclear Conference will be held August 24-28, 2014 at the Hyatt Regency Hotel, Vancouver, British Columbia, Canada. The conference will showcase the advancement of nuclear technology in power generation, health science, and environmental stewardship. Challenges facing nuclear technology will be discussed as well as future development. The conference features ten Technical Tracks, covering all aspects of nuclear technology.

For up-to-date information about this conference, visit their website at www.pbnc2014.org.

PHYSOR 2014 International Conference

The ANS Reactor Physics Topical Meeting will be held at The Westin Miyako, Kyoto, Japan September 28 – October 3, 2014. The technical program will include timely and relevant special topics. Students will be actively involved in all technical events and activities. Exciting workshops and technical tours will be also offered.

For up-to-date information about this conference, visit their website at http://physor2014.org/# .

TRAINING COURSES

2013-2014 MCNP6 CLASS SCHEDULE

Date	Course Name and Description	Location	Cost
August 5-9, 2013	**Criticality Calculations with MCNP6** Registration is open to all. Non-U.S. citizens must register by 6/3/13. Minimum of 8 students-Maximum of 15, Monday 12:30 p.m. - Friday 12:00 p.m.	Los Alamos, NM	$1,900 or $1,600*
August 12-16, 2013	**Variance Reduction with MCNP6** Registration is open to all. Non-U.S. citizens must register by 6/10/13. Minimum of 8 students-Maximum of 15, Monday 12:30 p.m. - Friday 12:00 p.m.	Los Alamos, NM	$1,900 or $1,600*
October 7-11, 2013	**Introduction to MCNP6** Registration is open to all. Non-U.S. citizens must register by 8/5/13. Minimum of 8 students-Maximum of 15, Monday 12:30 p.m. - Friday 12:00 p.m. *****Almost full (non-US - before Aug 5)*****	Los Alamos, NM	$1,900 or $1,600*

*Early payment discount: A discount of $300 per student is given when the registration payment is received in full at least 4 weeks prior to the start of class.

Introductory classes are for those 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 specifications), Variance Reduction Techniques, Statistical Analysis, Criticality, Plotting of Geometry and Tallies, and Neutron / Photon / Electron Physics.

Intermediate workshops cover the entire spectrum of MCNP/MCNPX, but proceed at a much faster pace and are more in-depth than the introductory classes. These workshops are open to new users; the first day of class is a review of basics. However, the intermediate workshops are targeted toward more experienced users and are more problem solving than lecture classes. Intermediate workshops feature flexible course content, skip topics of least interest to the participants, and provide significantly more depth than introductory classes.

Advanced classes- Variance Reduction and Criticality 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 participants. Classes on specific topics are offered when there is sufficient interest.

Note: While MCNP supports a number of platforms, LANL class computers are Windows based. More information about the MCNP courses at LANL is available on their website at https://laws.lanl.gov/vhosts/mcnp.lanl.gov/classes/classinformation.shtml.

MCNPX 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.

Visual Editor Classes 2013		
August 5-9, 2013	**Intermediate MCNPX Visual Editor** with a special emphasis on tallies and variance reduction.	Livermore, CA
August 19-23, 2013	**Introduction to MCNP/MCNPX** using the MCNPX Visual Editor	Las Vegas, NV
August 26-30, 2013	**Intermediate MCNPX Visual Editor** with a special emphasis on tallies and variance reduction.	Albuquerque, NM
September 3-6, 2013	**Advanced MCNPX Visual Editor** with emphasis on solving user problems.	Myrtle Beach, SC
September 9-13, 2013	**MCNP6 Intermediate Workshop**	Myrtle Beach, SC
September 16-20, 2013	**Introduction to MCNP/MCNPX** using the MCNPX Visual Editor.	Myrtle Beach, SC
September 23-27, 2013	**Intermediate MCNPX Visual Editor** with a special emphasis on tallies and variance reduction.	Myrtle Beach, SC

The introductory workshops combine teaching on MCNP basics and how to create MCNP input files using the Visual Editor. The intermediate Visual Editor workshops focus on more advanced topics such as tallies and variance reduction using the Visual Editor.

Exercises will focus on creating input files and visualizing output data with the Visual Editor. Attendees are encouraged to bring their own input files for viewing and modifying in the Visual Editor; this is particularly important for the intermediate workshop.

The course description and registration information can be found at http://www.mcnpvised.com/index.html.

MCNPX Classes 2013		
September 9-13, 2013	**MCNP6 Intermediate Workshop**	Myrtle Beach, SC
October 7-11, 2013	**MCNP6 Intermediate Workshop**	Taejon, South Korea
November 11-15,2013	**MCNP6 Intermediate Workshop**	Barcelona, Spain

The MCNPX team at Los Alamos National Laboratory offers interactive workshops for training users in the capabilities of MCNPX at the intermediate level.

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 12 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 at randyschwarz@mcnpvised.com, indicating the workshop of interest to you.

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

DATES: October 21-25, 2013
FEE: $1,800 per person
PLACE: Los Alamos National Lab, TA00-0767-149**,** Los Alamos, NM, 87545

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.

For more information, including course description and registration information, please visit their website at: http://www.lanl.gov/orgs/rp/mcnp.shtml. Non-US citizens need to register 60 days in advance to allow for necessary visitor approvals.

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

OECD Nuclear Energy Agency-Data Bank Training Courses

October 16-18, 2013	**EASY, the European Activation System**	NEA, Paris, France
November 4-8, 2013	**TRIPOLI 4**	NEA, Paris, France

These workshops combine teaching by the authors on program physics, along with instructions on how to use the software. The courses include a large number of practical exercises. Note that the number of participants to the courses is limited. Priority is given to nationals from NEA Data Bank member countries. Class sizes are limited and courses may be cancelled if minimum enrollment is not obtained one month prior to course. Course fees are refundable up to one month before each class. After one month, course fees will not be refunded. Note that all attendees must be registered users. Registration information is available at: http://www.oecd-nea.org/dbprog/trainingcourses.htm.

Fall 2013 Training Courses

Date	Title	Location	Cost
October 7-11, 2013	**Criticality Safety Calculations Course** *Introductory through advanced criticality calculations using KENO V.a and KENO-VI; resonance self-shielding techniques*	ORNL Oak Ridge, TN, USA	$2000*
October 14-18, 2013	**SCALE Lattice Physics and Depletion Course** *2D lattice physics calculations; 1D, 2D, and 3D depletion calculations; resonance self-shielding techniques including Monte Carlo Dancoff factors for non-uniform lattices; generation of libraries for ORIGEN-ARP*	ORNL Oak Ridge, TN, USA	$2000*

October 21-23, 2013	**SCALE/ORIGEN Standalone Fuel Depletion, Activation, and Source Term Analysis Course** *Isotopic depletion, activation analysis, and source term characterization using ORIGEN/ORIGEN-ARP*	ORNL Oak Ridge, TN, USA	$1500*
October 28-November 1, 2013	**SCALE Criticality and Shielding Course** *Basic criticality calculations with KENO-VI; shielding analysis with automated variance reduction using MAVRIC; criticality accident alarm system analysis*	ORNL Oak Ridge, TN, USA	$2000*

**Full-time university students can register at a reduced rate. Both professional and student registration fees are discounted $200 for each course over one.*

Class size is limited and course may be cancelled if minimum enrollment is not obtained one month prior to the course. Course fees are refundable up to one month before each class.

FOREIGN NATIONAL VISITORS TO ORNL – Payment MUST be received at least one week prior to attending the training course. All foreign national visitors must register 40 days before the start date of the training course they plan to attend.

For more information, including course descriptions, discounts, registration deadlines, and online registration, please visit http://scale.ornl.gov/training.shtml.

48th Tennessee Industries Week

TIW-48 will be held on the University of Tennessee Main Campus August 12-16, 2013. Tennessee Industries Week (TIW) began over forty years ago as a small short course program with instructors from the College of Engineering at The University of Tennessee, and attendees primarily from industry in Tennessee. Through the years, it has grown in scope and importance. The instructional staff is still composed mostly of UT professors but now also involves industry and government experts from throughout the U.S. and the world. Attendees also come from around the world. The emphasis is on putting knowledge to work and the atmosphere is organized but casual. Instructors present carefully planned lectures and demonstrations, and dialogues between instructors and attendees are encouraged in order to maximize benefits.

TIW-48 will include courses on Nuclear Criticality Safety, Radiological Assessment, and several other topics of interest (see http://www.engr.utk.edu/nuclear/TIW.html for more detailed information).

RESRAD Training Courses

Argonne National Laboratory will conduct a series of training courses on the use of RESRAD (onsite) And RESRAD-OFFSITE risk assessment codes from September 23-27, 2013. A total of 37 CECs has been approved by the AAHP for these training courses. The latest version of RESRAD codes will be used.

For additional information and registration, please go online at http://web.ead.anl.gov/resrad/training/. Any questions please send email to: RESRAD@anl.gov.

SYMPOSIA

The 15th International Symposium on Reactor Dosimetry (ISRD-15)

The 15th International Symposium on Reactor Dosimetry (ISRD-15) will take place from May 18-23, 2014 at the Hotel Aquabella in Aix-en-Provence, France. The aim of the symposium is to bring together the communities involved in research, development and applications related to reactor dosimetry. The symposium is jointly organized by the European Working Group on Reactor Dosimetry (EWGRD) and the Committee E10 on Nuclear Technology and Applications of the American Society for Testing and Materials (ASTM).

The Announcement and Call for Papers can be viewed at http://reactordosimetry.org/Announcements/ISRD15_1st-announcement-A4.pdf. For up-to-date information about this conference, visit their website at http://reactordosimetry.org/index.html.

2013 CALENDAR

August

Utility Working Conference and Vendor Technology Expo, August 11-14, 2013, Hollywood, FL**.** For up-to-date information about this conference, visit their website at http://www.new.ans.org/meetings/m_142.

48th Tennessee Industries Week, August 12-16, 2013, The University of Tennessee Main Campus, Knoxville, TN**.** For up-to-date information about this conference, visit their website at http://www.engr.utk.edu/nuclear/TIW.html .

September

2013 LWR Fuel Performance Meeting/Top Fuel, September 15-19, 2013, Charlotte, NC. For up-to-date information about this conference, visit their website at http://www.new.ans.org/meetings/m_142.

International Topical Meeting on Probabilistic Safety Assessment and Analysis (PSA 2013), September 22-26, 2013, Columbia, SC. For up-to-date information about this conference, visit their website at http://psa2013.org/.

Global 2013: International Nuclear Fuel Cycle Conference, September 29-October 3, 2013, Salt Lake City, UT. For up-to-date information about this conference, visit their website at http://www.new.ans.org/meetings/m_158 .

The Nuclear Criticality Safety Division 2013 Conference, September 29-October 3, 2013, Wilmington, NC. For up-to-date information about this conference, visit their website at http://ncsd2013.org/ .

October

Joint International Conference on Supercomputing in Nuclear Applications & Monte Carlo, October 27-31, 2013, Paris, France. For up-to-date information about this conference, visit their website at https://www.sfen.fr/SNA-and-MC-2013.

November

ANS Winter Meeting, November 10-14, 2013, Washington, D.C. For up-to-date information about this conference, visit their website at http://www.ans.org/meetings/m_81.

2014 CALENDAR

May

International Symposium on Reactor Dosimetry (ISRD-15), May 18-23, 2014, Aix-en-Provence, France. For up-to-date information about this conference, visit their website at http://reactordosimetry.org/index.html.

August

19th Pacific Basin Nuclear Conference, August 24-28, 2014, Vancouver, British Columbia, Canada. For up-to-date information about this conference, visit their website at www.pbnc2014.org.

October

PHYSOR 2014, September 28 – October 3, 2014, Kyoto, Japan**.** For up-to-date information about this conference, visit their website at http://physor2014.org/#.