
Radiation Safety Information Computational Center



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From the little spark may burst a mighty flame. - Dante

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CHANGES TO THE RSICC CODE AND DATA COLLECTION

[CCC-731/ORIP XXI](#)

The State Scientific Center of Russia, Research Institute of Atomic Reactors, Division of Radionuclide Sources and Preparations, Ulyanovsk region, Russia, contributed a corrected version of the ChainSolver module in the ORIP_XXI software. A minor bug in ChainSolver affected element mass calculations because the code misinterpreted one-letter elements with elements that have the same last letter in their names (i.e. U and Pu). The ORIP suite of computer codes was developed for the study of radioactive and stable isotope transmutation chains, i.e. networks with feedbacks. Using these programs, it is possible to estimate various quantitative characteristics of a transmutation chain both for nuclide irradiations in neutron fluxes and in case of pure radioactive decays. The main parts of ORIP_XXI are NKE, the electronic nuclide chart, ChainFinder, the program for finding transmutation chains, and ChainSolver, the program for simulating transmutation.

All programs use a common data file. The data file contains nuclear constants and decay data for more than 2800 nuclides with atomic weights from 1 up to 293 (nuclear charge from 1 up to 118) and characteristics of chemical elements. The file includes data on fission product yields for thermal and fast neutron induced fission of 22 heavy isotopes. Users may edit data as necessary for performing transmutation calculations. The transmutation calculation code ChainSolver allows users to take into account neutron flux depression and self-shielding factors, the latter using additional data from the resolved resonance parameters file. All data have been obtained from freely available public nuclear data libraries.

The package is transmitted on a CD in a WinZIP file which contains the source files, PC executables, documentation and test data. Pascal, FORTRAN 95; Pentium computers (C731PC58602).

CCC-808/SKETCH-N 1.0

The Japan Atomic Energy Agency, Japan through the OECD Nuclear Energy Agency Data Bank, Issy-les-Moulineaux, France contributed the SKETCH-N 1.0 (Solve Neutron Diffusion Equations of Steady-State and Kinetics Problems) package. The SKETCH-N code solves neutron diffusion equations in x-y-z geometry for steady-state and neutron kinetics problems. The code can treat an arbitrary number of neutron energy groups and delayed neutron precursors.

The polynomial, semi-analytic and analytic nodal methods based on the nonlinear iteration procedure are used for spatial discretization of diffusion equations. The time integration of the neutron kinetics problem is performed by a fully implicit scheme with an analytical treatment of the delayed neutron precursors. The steady-state eigenvalue problems are solved by inverse iterations with Wielandt shift; the Chebyshev adaptive acceleration procedure is used for the neutron kinetics problem. The block symmetric Gauss-Seidel pre-conditioner is applied in the both iterative methods. The flux-weighting homogenization procedure is used for partially-rodged nodes to minimize the rod cusping effect. Simple one-phase model of the thermal-hydraulics of fuel assembly is included in the code. The code also has an interface module for a coupling with transient analysis codes such as TRAC. The interface module performs a data exchange between the codes, synchronizes the time stepping and maps the neutronics data onto thermal-hydraulics spatial mesh and vice versa. The interface module is based on the message-passing library PVM (Parallel Virtual Machine).

The SKETCH-N 1.0 package contains the SKETCH-N 1.0 source code, sample input and output files for LWR Benchmarks, steady-state 2D four-group Koeberg PWR benchmarks, 3D NEACRP PWR rod ejection benchmark case A1, 3D NEACRP BWR cold water injection benchmark, along with documentation. FORTRAN 77 and 90; PC Windows NT/Windows, UNIX Workstations (C808MNYCP00).

CCC-809/MCART

Alberto Talamo, Illinois, USA through the OECD Nuclear Energy Agency Data Bank, Issy-les-Moulineaux, France contributed the MCART (Solve the Time-Dependent Neutron Transport Equation) package. The MCART code solves, using the method of the characteristics and three different numerical algorithms, the time dependent neutron transport equation, with explicit representation of delayed neutrons, in a bi-dimensional spatial domain for an arbitrary number of energy groups.

MCART uses the method of the characteristics, and three different numerical algorithms are used to solve the time dependent neutron transport equation with explicit representation of the delayed neutrons. The code uses dynamic memory allocation and therefore only the RAM memory limit sets the maximum

number of energy groups. The code contains OPENMP4 and OPENGL5 instructions for parallel computing and plotting, respectively.

RSICC is authorized to distribute MCART to US Universities Only. All other requests are advised to contact the NEA Data Bank.

The MCART package contains the MCART source code, sample input and output files along with documentation. C-Language; PC/Linux (C809PCX8600).

CCC-811/CONDOR-3

The CONDOR-3 package (Two-Dimensional Reactor Program with Local and Spectrum Dependent Burnup) was contributed by ARS, Applicazioni Ricerche Scientifiche, Milano, Italy through the OECD Nuclear Energy Agency Data Bank, Issy-les-Moulineaux, France. CONDOR-3 is a few group bi-dimensional, lifetime program. The types of reactor regions that can be considered are normal diffusion regions, non-diffusion or logarithmic regions in which a logarithmic derivative condition is given on the boundary and, rodded regions which simulate the control rod poison properly smeared. The types of considered poisons are burnable poisons, poison diluted over the whole reactor according to the dilution factor θ and poison in the rodded regions. The types of diffusion calculations are straight Keff, dilution factor θ , poison in rodded region, and boundary of a rodded region.

The main differences of CONDOR-3 with respect to CONDOR-2 concern the following points: the depletion equations are solved mesh-wise instead of region-wise. The library of basic cross sections is still a microscopic library or a macroscopic library (to be used for non-lifetime calculations). However, one can use different basic microscopic libraries for different regions. Moreover, the basic microscopic library (or libraries) can be modified at each time step by the program itself by computational procedures that depend on the reactor type.

The package is distributed on a CD with a compressed zip file including source files, JCL, documentation and sample data and output. FORTRAN IV, IBM 370 Series (C811I037000).

CCC-812/DIXY-2

The Institut für Neutronenphysik und Reaktortechnik, Kernforschungszentrum Karlsruhe, Germany through the OECD Nuclear Energy Agency Data Bank, Issy-les-Moulineaux, France has contributed DIXY-2 (Homogeneous and Inhomogeneous Neutron Diffusion N X-Z, R-Z, R-Theta Geometry with Perturbation). The multigroup neutron diffusion equations are solved for two-dimensional x-y, r-z and r-theta geometries in the homogeneous or inhomogeneous case.

The analytical equations are approximated by five-point difference formulas and the resulting numerical problem is solved by an inner-outer iteration technique, where inner iterations are performed along a cyclically reduced block overrelaxation with precalculated relaxation factors. The following conditions are permissible in the utilization of the code:

- a) Three outer boundary conditions may be imposed - zero flux, zero current or constant current/flux.
- b) Inner boundary conditions may be used for rod calculations.
- c) Normal and adjoint eigenvalue problems, fixed source and criticality search problems are solved.
- d) Scattering down from any group to any other is allowed.

- e) Included is a perturbation part for r-z geometry and a routine for calculating any reaction rates or densities.
- f) Subsequent cases can be queued in one job step.
- g) Automatic source interpolation within subsequent cases to reduce calculation time.
- h) Time-eigenvalue calculation.
- i) Calculation of dynamical neutron life time.
- j) Calculation of beta-effective.
- k) Included in DIXY-2 is a subroutine that prints out an input description if the program is started with only one input card, containing the character string 'DESCRIPTION', punched from card column 1 (apostrophes omitted).
- l) DIXY-2 contains a plot facility.
- m) Space-energy dependent fixed source problems.
- n) Directionally dependent diffusion coefficients may be specified for streaming problems.

The package is distributed on a CD with a compressed zip file including source files, JCL, documentation and sample data and output. FORTRAN IV, IBM 370 Series (C812I037000).

DLC-258/MATXSLIBJ33

The Japan Atomic Energy Research Institute through the OECD Nuclear Energy Agency Data Bank, Issy-les-Moulineaux, France has released MATXSLIBJ33, a JENDL-3.3 based, 175 neutron-42 photon groups (VITAMIN-J) MATXS library for discrete ordinates multi-group transport codes. The nuclear data processing system NJOY-99.67 was used to produce MATXSLIBJ33. The accuracy of pointwise cross-section reconstruction is 0.1% with the upper limit of thermal region = 4.6 eV.

The MATXSLIBJ33 package containing the data and documentation is transmitted on CD. PC and UNIX (D258MNYCP01).

DLC-269/MARVIKEN-JIT

Studsvik Eco & Safety, SWEDEN through the OECD Nuclear Energy Agency Data Bank, Issy-les-Moulineaux, France has contributed MARVIKEN-JIT, Marviken Full Scale Jet Impingement Tests Experiments. The Jet Impingement Tests (JIT) project at Marviken constitutes the fourth large-scale reactor safety experiment conducted at the Marviken Power Station and is referred to as the Marviken-IV-JIT project. It was established in March 1980. The testing started in September 1980 and continued for about one year.

Various features such as structural supports, restraints, and isolation barriers are analyzed based on conservative predictions of the jet loads. In the 1970s, a need for more extensive experimental information about two-phase jet behavior has led to the performance of a number of small-scale jet impingement experiments at different places throughout the world. In the beginning of 1980 a group of organizations from different countries agreed to jointly undertake a comprehensive program aimed at increasing their knowledge about jet behavior. This program provided all participants with information from different small-scale jet behavior experiments. And other related projects performed by the participants (in kind contributions). To quantify the actual loads from large-scale jets, and to provide a basis for scaling data from laboratory experiments, the group agreed to jointly perform a complementary series of large-scale tests in the Marviken testing facility. The results of these tests are summarized herein.

The principal objective of the JIT project was to provide experimental data from a large-scale facility on the behavior of two-phase jets as they exhaust beyond the choking plane into the containment. These data, together with data from small-scale experiments, would provide individual participants the information

necessary to develop or verify analytical or empirical models used in estimating jet impingement loads in the safety analysis of nuclear power generating stations.

The MARVIKEN-JIT package is transmitted on CD. PC and UNIX (D269MNYCP00).

[MIS-009/HOTSPOT 3.0.1](#)

HOTSPOT 3.0.1, Health Physics Code System for Evaluating Accidents Involving Radioactive Materials, was 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 provide 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.

HOTSPOT 3.0.1 fixes three significant Windows 7 issues:

- Executable installed properly under "Program Files/HotSpot 3.0". Installation package now smaller: removed dependency on older Windows DLL files which previously needed to \
- Forms now properly scale based on DPI instead of font for users who change their screen resolution to something other than 100%. This is a more common feature in Windows 7.
- Windows installer was starting everytime most users started the program, even after HotSpot was already installed. Now, after the program is installed the installer may come up once for each new user but only the first time they run HotSpot on a particular machine. So no user should see the installer come up more than once over many uses.

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 (M009IBMPC02).

[MIS-019/ACHILLES](#)

AEA Technology, Winfrith Technology Centre, Dorchester DT2 8DH United Kingdom through the OECD Nuclear Energy Agency Data Bank, Issy-les-Moulineaux, France contributed the ACHILLES (Heat Transfer in PWR Core During LOCA Reflood Phase) package. The Achilles experiments investigated the heat transfer in the core of a Pressurized Water Reactor during the re-flood phase of a postulated large break loss of coolant accident. The results provided data to validate codes and to improve modeling. Different types of experiments were carried out which included single phase cooling, re-flood under low flow conditions, level swell and re-flood under high flow conditions. Three series of experiments were performed. The first and the third used the same test section but the second used another test section,

similar in all respects except that it contained a partial blockage formed by attaching sleeves (or "balloons") to some of the rods.

The package is transmitted on CD and contains test data, associated data processing software and documentation. (M019MNYCP00).

PSR-564/GEF

GEF, A GEneral description of the Fission process, was contributed by Le Centre d'Etudes Nucléaires de Bordeaux Gradignan (CENBG) Gradignan, France through the Nuclear Energy Agency Data Bank, Issy-les-Moulineaux, France. GEF is a computer code for the simulation of the nuclear fission process. The GEF code calculates pre-neutron and post-neutron fission-fragment nuclide yields, angular-momentum distributions, isomeric yields, prompt-neutron yields and prompt-neutron spectra, prompt-gamma spectra and several other quantities for a wide range of fissioning nuclei from polonium to seaborgium in spontaneous fission and neutron-induced fission. The result refers to first-chance fission. Output is provided as tables and as values of fission observables on an event-by-event basis.

The code is packaged in a single zip file containing source code, precompiled executables for Windows and Linux systems along with documentation. BASIC; PC Windows and Linux (P564PCX8602).

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.ornl.gov>. 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



10th International Conference of Computational Methods in Sciences and Engineering

The 10th International Conference of Computational Methods in Sciences and Engineering will be held April 4-7, 2014 at the Metropolitan Hotel, Athens, Greece. The conference will feature a mini-symposium on energy, with emphasis on nuclear energy entitled: “Accelerate Discovery and Design of New Materials Applications in Nuclear Power by High Performance Supercomputing.”

For up-to-date information about this conference, visit their website at <http://www.iccmse.org/> .

PHYTRA3

3rd International Conference on Physics and Technology of Reactors and Applications

The 3rd edition of the conference PHYTRA will be held May 12-14, 2014 in Tetouan, Morocco. PHYTRA3 is expected to be an outstanding international event in the MENA region which provides an opportunity for researchers, academicians and practitioners in the field of physics and technology of reactors to gather, exchange ideas, and present original research contributions and best practices.

For up-to-date information about this conference, visit their website at <http://www.gmtr-association.com/phytra3/> .



41st IEEE International Conference on Plasma Science (ICOPS) and the 20th International Conference on High Power Particle Beams (BEAMS)

The 41st IEEE International Conference on Plasma Science (ICOPS) and the 20th International Conference on High Power Particle Beams (BEAMS) will be held May 25-29, 2014 at the Marriot Wardman Park, Washington, DC. This joint meeting will cover a range of scientific material in the fields of both plasma science and high power particle beams. In addition to the material traditionally covered in these conferences, two mini-courses will also be offered, on the topics of Low Temperature Atmospheric Pressure Plasmas and Atomic and Radiation Physics.

For update-to-date information about his conference, visit their website at <http://www.ece.unm.edu/icops-beams2014/> .



2014 IEEE Nuclear and Space Radiation Effects Conference

The 2014 IEEE Nuclear and Space Radiation Effects Conference will be July 14 to 18 at the Marriott Rive Gauche, Paris, France. The conference features a technical program consisting of eight to ten technical sessions of contributed papers describing the latest observations in radiation effects, a Short Course on radiation effects offered on July 14, a Radiation Effects Data Workshop, and an Industrial Exhibit.

For update-to-date information about his conference, visit their website at <http://www.nsrec.com/> .



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.



18th Topical Meeting of the ANS Radiation Protection & Shielding Division

The 18th Topical Meeting of the Radiation Protection & Shielding Division of ANS will be held September 14-18, 2014 at the Hilton Downtown, Knoxville, Tennessee USA. The 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.

For up-to-date information about this conference and the Call for Papers, visit their website at www.rpsd2014.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



2014 LANL MCNP6 CLASS SCHEDULE

Date	Course Name and Description	Location	Cost
February 24-28, 2014	Introduction to MCNP6 Non-US citizens must register 2013-12-23 Min 8 students – Max 15 Mon 12:30 – Fri 12:00	Los Alamos, NM	\$1,900 or \$1,600*
March 17-21, 2014	Criticality Calculations with MCNP6 Non-US citizens must register 2014-01-13 Min 8 students – Max 15 Mon 12:30 – Fri 12:00	Los Alamos, NM	\$1,900 or \$1,600*
April 28 – May 2, 2014	Introduction to MCNP6 Non-US citizens must register 2014-02-24 Min 8 students – Max 15 Mon 12:30 – Fri 12:00	Los Alamos, NM	\$1,900 or \$1,600*
June 2-6, 2014	Introduction to MCNP6 Non-US citizens must register 2014-03-31 Min 8 students – Max 15 Mon 12:30 – Fri 12:00	Los Alamos, NM	\$1,900 or \$1,600*
August 4-8, 2014	Criticality Calculations with MCNP6 Non-US citizens must register 2014-06-02 Min 8 students – Max 15 Mon 12:30 – Fri 12:00	Los Alamos, NM	\$1,900 or \$1,600*
August 11-15, 2014	Variance Reduction with MCNP6 Non-US citizens must register 2014-06-09 Min 8 students – Max 15 Mon 12:30 – Fri 12:00	Los Alamos, NM	\$1,900 or \$1,600*
August 18-22, 2014	Introduction to MCNP6 Non-US citizens must register 2014-06-16 Min 8 students – Max 15 Mon 12:30 – Fri 12:00	Los Alamos, NM	\$1,900 or \$1,600*
October 20-24, 2014	Introduction to MCNP6 Non-US citizens must register 2014-08-18 Min 8 students – Max 15 Mon 12:30 – Fri 12:00	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>.

MCNP6 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 2013-2014		
December 9-13, 2013	MCNP for Managers and Project Leaders	Honolulu, Hawaii
January 6-10, 2014	Beginning Visual MCNP	Las Vegas, NV
January 20-24, 2014	Intermediate Visual MCNP	Las Vegas, NV
February 10-14, 2014	Beginning Visual MCNP	Rio de Janeiro, Brazil
February 17-21, 2014	Intermediate Visual MCNP	Rio de Janeiro, Brazil
March 17-21, 2014	Intermediate Visual MCNP	Barcelona, Spain
March 24-28, 2014	Beginning Visual MCNP	Paris, France
April 14-18, 2014	Beginning Visual MCNP	Las Vegas, NV
April 21-25, 2014	Intermediate Visual MCNP	Las Vegas, NV
May 19-23, 2014	Beginning Visual MCNP	Cebu, Philippines
May 26-30, 2014	Intermediate Visual MCNP	Cebu, Philippines
June 16-20, 2014	Beginning Visual MCNP	Barcelona, Spain
June 30-July 4, 2014	Intermediate Visual MCNP	Barcelona, Spain
July 14-18, 2014	Beginning Visual MCNP	Anaheim, CA
July 21-25, 2014	Intermediate Visual MCNP	Anaheim, CA

August 11-15, 2014	Beginning Visual MCNP	Orlando, FL
August 18-22, 2014	Intermediate Visual MCNP	Orlando, FL
September 1-5, 2014	Beginning Visual MCNP	Montreal, Canada
September 8-12, 2014	Intermediate Visual MCNP	Montreal, Canada
September 22-26, 2014	Beginning Visual MCNP	Myrtle Beach, SC
September 29- October 3, 2014	Intermediate Visual MCNP	Myrtle Beach, SC
October 13-17, 2014	Beginning Visual MCNP	Barcelona, Spain
October 20-14, 2014	Intermediate Visual MCNP	Barcelona, Spain
December 1-5, 2014	Beginning Visual MCNP	Vienna, Austria
December 8-12, 2014	Intermediate Visual MCNP	Vienna, Austria

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>.

MCNP6 Workshops 2013-2014		
January 13-17, 2014	MCNP6 Intermediate Workshop	Las Vegas, NV
March 31- April 4, 2014	MCNP6 Intermediate Workshop (The NEA Handles registration for this class.)	Paris, France
May 5-9, 2014	MCNP6 Intermediate Workshop	Livermore, CA
June 23-27, 2014	MCNP6 Intermediate Workshop	Barcelona, Spain
August 25-29, 2014	MCNP6 Intermediate Workshop	Washington, DC
October 27-31, 2014	MCNP6 Intermediate Workshop	Barcelona, Spain

MCNP6 experts from Los Alamos will lead in the teaching of these workshops on the capabilities of MCNP6.

Intermediate Workshops cover the entire spectrum of MCNP6 but proceed at a much faster pace and are more in-depth than Introductory Classes. These workshops are open to new users; the first day 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.

Penelope Workshop 2014		
April 28-May 2, 2014	Penelope	Las Vegas, NV

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://www.mcnpvised.com/train.html>. To register send an email to Randy Schwarz at randyschwarz@mcnpvised.com, indicating the workshop of interest to you.



Special Session – Winter 2014 SCALE Training Course

All attendees MUST be licensed SCALE 6.1 users. SCALE 6.1 is available from [ORNL/RSICC](#) in the USA, the [OECD/NEA Data Bank](#) in France, and the [RIST/NUCIS](#) in Japan. All currently scheduled SCALE Courses are described below.

Course Dates and Descriptions

January 27-31, 2014

Criticality Safety Calculations (\$2000*)

Oak Ridge National Laboratory, Oak Ridge, Tennessee, USA

This is a make-up class to replace the Oct 7-11, 2013 course that was cancelled due to the partial U.S. government shutdown. This course is open to all.

**Full-time university students can register at a reduced rate.*

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 regarding this class, visit their website at http://scale.ornl.gov/training_2014_winter.shtml .

SYMPOSIA



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

The 15th International Symposium on Reactor Dosimetry (ISR-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).

For more information regarding this meeting, visit their website at <http://reactordosimetry.org/index.html>.

2014 CALENDAR

April

International Conference of Computational Methods in Sciences and Engineering, April 4-7, 2014, Athens, Greece. For up-to-date information about this conference, visit their website at <http://www.iccmse.org/> .

May

3rd International Conference on Physics and Technology of Reactors and Applications (PHYTRA3), May 12-14, 2014, Tetouan, Morocco. For up-to-date information about this conference, visit their website at <http://www.gmtr-association.com/phytra3/>.

International Symposium on Reactor Dosimetry (ISR-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>.

41st IEEE International Conference on Plasma Science (ICOPS) and the 20th International Conference on High Power Particle Beams (BEAMS), May 25-29, 2014, Washington, DC. For up-to-date information about this conference, visit their website at <http://www.ece.unm.edu/icops-beams2014/>.

July

2014 IEEE Nuclear and Space Radiation Effects Conference July 14-18, 2014, Paris France. For up-to-date information about this conference, visit their website at <http://www.nsrec.com/>.

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.

September

Topical Meeting of the ANS Radiation Protection and Shielding Division (RPSD 2014), September 14-18, 2014, Knoxville, TN. For up-to-date information about this conference and the Call for Papers, visit their website at www.rpsd2014.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/#>.