Radiation Safety Information Computational Center

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Talk happiness. The world is sad enough without your woe. --

Orison Swett Marden

CHANGES TO THE RSICC CODE AND DATA COLLECTION

The following packages have not been tested at RSICC due to their age, but have been added to the RSICC catalog for those individuals that may be interested in updating or renewing the codes.

CCC-813/GAKER-KIRA

The Institutt for Atomenergi, Kjeller, Norway through the OECD Nuclear Energy Agency Data Bank, Issy-les-Moulineaux, France has contributed GAKER-KIRA, Energy Transfer of Protons in H_2O or Polyethylene and Deuterons in D_2O." Evaluation of the energy transfer matrix and its first, second and third Legendre components for protons bound in water or polyethylene, and for deuterons bound in heavy water. Further output, the isotropic scattering matrix with diagonal elements corrected for first order anisotropy, scattering and transport cross sections, n^{th} moment of energy transfer mn(e) (n=1,2,3), and Maxwellian averages of these moments, of the transport mean free path and of the scattering cross sections.

The package is distributed on a CD with a compressed zip file including a source file with data, output and documentation. FORTRAN IV, CDC 3600 (C813CDC360000).

CCC-812/KASY

The Institut fur Neutronenphysik and Reaktortechnik, Kernforschungszentrum Karlsruhe, Germany through the OECD Nuclear Energy Agency Data Bank, Issy-les-Moulineaux, France has contributed KASY (3-D Homogeneous Neutron Diffusion in X-Y-Z, R-Theta, Hexagonal-Z Geometry by Synthesis Method). The multigroup neutron diffusion equations are solved for three-dimensional x-y-z, r-theta-z and hexagonal-z geometries in the homogeneous case. KASY calculates the three-dimensional flux-distribution and also the eigenvalue, k_{eff}. Only downscattering of neutrons is allowed.

KASY solves the three dimensional multigroup diffusion equations by means of a synthesis method using available two-dimensional trial-functions. The method of solution is based on the variational method of Kantorovich and developed by Kaplan. Before use, the trial-functions are orthonormalized for better convergence of the variational process.

a) Four outer boundary conditions may be imposed - zero flux, zero current or constant current/flux at the upper and lower boundaries. Boundaries must be fulfilled by the trial-functions.

b) Scattering down from any energy-group to any other is allowed.

c) There are several possibilities in KASY to:

- Separate distinct trial-functions out of a file that contains a series of precalculated two-dimensional functions.
- Make group-collapsing of precalculated trial-functions by means of group-flux addition.
- Orthonormalize the precalculated trial-functions to get a better convergence.

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 (C814I037000).

CCC-816/LIE-PN

EIR Wuerenlingen A.G Switzerland through the OECD Nuclear Energy Agency Data Bank, Issy-les-Moulineaux, France contributed LIE-PN (Pn Neutron Transport in Radial Geometry Cell with Source Problems Calculation). LIE-PN solves source problems with independent PN spherical harmonics neutron transport equations, multi-group r-geometry cell with annular zones, choice of boundary conditions, and of significance of eigenvalue.

The package is distributed on a CD with a compressed zip file including source files, documentation and sample data and output. FORTRAN IV, IBM 360 Series (C816I036000).

CCC-817/OPTIM

AEE Winfrith, Dorchester, Dorset, United Kingdom through the OECD Nuclear Energy Agency Data Bank, Issy-les-Moulineaux, France contributed OPTIM (Minimization of Band-Width of Finite Elements Problems). OPTIM minimizes the band-width of finite element problems. A surface is constructed from the x-y-coordinates of each node using its node number as z-value. This surface consists of triangles. Nodes are renumbered in such a way as to minimize the surface area. This program is applicable to 2-D 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 (C817I037000).

CCC-818/PN

Central Technical Services, Risley, United Kingdom through the OECD Nuclear Energy Agency Data Bank, Issy-les-Moulineaux, France contributed PN (MultiGroup Neutron Transport). PN solves the static multigroup neutron transport equation in one, two or three dimensions. The flux is expanded in spherical harmonics. Diffusion type equations are obtained for the even moments and these are solved using over relaxation methods.

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 360 Series (C816I036000).

CCC-819/POISSX

Institut fuer Reaktorentwicklung, Karlsruhe, Germany and the National Center for Atmospheric Research, Boulder, Colorado USA through the OECD Nuclear Energy Agency Data Bank, Issy-les-Moulineaux, France contributed POISSX (Poisson Equation on Rectangle with Various Boundary Conditions). POISSX solves the Poisson equation on a rectangle with Dirichlet, Neumann or periodic boundary conditions. More precisely, the program solves the linear equation system which arises when the differential equation is discretized on a rectangular grid with m inner grid points in the x and n points in the y direction using second order finite difference approximations. The values of m and n must be larger than one but are otherwise arbitrary. The main program and the subroutine case provided with POISSX set up 36 cases to test POISSX.

The package is distributed on a CD with a compressed zip file including source files and sample data and output. FORTRAN IV, IBM 370 Series (C819I037000).

CCC-820/SAHYB-2

Commission des Communautes Europeennes, CETIS, 21020 – Ispra, Italy through the OECD Nuclear Energy Agency Data Bank, Issy-les-Moulineaux, France contributed SAHYB-2 (Solution of Ordinary Differential Equation with User-Supplied Subroutine). SAHYB-2 is a general purpose program for the solution of ordinary differential equations. These are written in a user-supplied subroutine called DER, which uses notations very close to mathematical formulas. Special mathematical functions included in the program are function generation, delay generation, steps, ramps and pulses, as well as a simplified standard output procedure - boundary value problems or parametric optimization may be handled by iterations adding a subroutine called REPEAT.

The package is distributed on a CD with a compressed zip file including source files and sample data and output. FORTRAN IV, IBM 360 Series (C820I036000).

CCC-821/STAX-2

The Japan Atomic Energy Agency, Tokai, Ibaraki Japan through the OECD Nuclear Energy Agency Data Bank, Issy-les-Moulineaux, France contributed STAX-2 (Neutron Scattering Cross-Sections by Optical Model and Moldauer Theory with Hauser-Feshbach). STAX-2 calculates neutron scattering cross sections by means of the optical model and Moldauer's theory, and can search for potential parameters which reproduce measured cross sections. The Hauser-Feshbach calculation is also possible.

The package is distributed on a CD with a compressed zip file including source files and sample data and output. FORTRAN IV, IBM 360 Series (C821I036000).

PSR-593/HASSAN
Imperial College, London, United Kingdom through the OECD Nuclear Energy Agency Data Bank, Issy-les-Moulineaux, France contributed the HASSAN (Time-Dependent Temperature Distribution and Stress and Strain in HTR Fuel Pins) program. The HASSAN program calculates simultaneously, stepwise in time, the temperature, stress and strain distributions in high temperature reactor (HTR) fuel pins of tubular and hollow rod types. Any sequence of ramp and step changes of power may be followed. At each time step, the program computes the operating stresses, also the residual stresses which develop if, at that point in time, the reactor is shut down and the fuel pin cools to a uniform temperature. Variations of material properties with temperature and neutron dose may be taken into account. In the structural analysis, axial symmetry and plane strain conditions are assumed. The program cannot therefore give the stresses with sufficient accuracy in the region of pin ends or in regions of cross-pin flux or temperature tilt. In the thermal analysis, the fuel is assumed to be distributed uniformly along the fuelled length of the channel. The calculated temperature distributions are therefore not accurate for the pin end regions.

The package is transmitted on CD and includes the source code, sample data, output and documentation. FORTRAN IV, IBM 370 Series (P593I037000).

PSR-594/JPHYDRO
The Japan Atomic Energy Agency, Tokai, Ibaraki Japan through the OECD Nuclear Energy Agency Data Bank, Issy-les-Moulineaux, France contributed the JPHYDRO (Voids and Flow Velocity in Steady-State BWR System) package. JPHYDRO calculates distributions of voids and flow velocities in the natural or forced circulation systems of a BWR type reactor in steady-state. In formulating the various types of pressure losses the method described in ANL-6063 is used, while the model proposed by G.W. Maurer is employed in considering the process of void formation. In the case of forced circulation, flux or pressure option can be used.

The package is transmitted on CD and includes the source code, sample data, output and documentation (in Japanese). FORTRAN IV, IBM 360 Series (P594I036000).

PSR-595/LAZY
AB Atomenergi, Stockholm 43, Sweden through the OECD Nuclear Energy Agency Data Bank, Issy-les-Moulineaux, France contributed the LAZY (General Experimental Data Processing Program) package. In treating experimental data certain problems (curve fitting etc.) repeat themselves with only small variations. LAZY is a general program capable of treating many of these problems and has the following main features:
        A - Facilities for tabulation, derivation, integration, least square fitting, calculation of roots and solution of differential equations are built in. The method to be used is chosen on the input list.
        B - The function to be treated is given in mathematical notation on the input list. The rules to write this function are fairly general and most of the expressions frequently used can be formed.

The package is transmitted on CD and includes the source code, sample data, output and documentation. FORTRAN IV, IBM 360 Series (P595I036000).

PSR-596/ PELINOMIC-3

South African Energy Board, Pretoria, South Africa through the OECD Nuclear Energy Agency Data Bank, Issy-les-Moulineaux, France contributed PELINOMIC-3 (Power Plant Cost Optimization for Dispersed Load Centers).   PELINOMIC-3A provides long-term economic optimization for extension of electricity supply system. Devised especially for South African conditions, i.e. well separated load centers. Use of point models is avoided. Present-worth discounting technique is applied.

The package is transmitted on CD and includes the source code, sample data, output and documentation. FORTRAN IV, IBM 370 Series (P596I037000).

PSR-597/PREDEX-1

Mm. Dollfus Cantin, Courbevoie, France through the OECD Nuclear Energy Agency Data Bank, Issy-les-Moulineaux, France contributed PREDEX-1 (U, Pu, Nitric Acid Distribution in Counter Current Solvent Extraction). PREDEX-1 provides distribution profiles of uranium, nitric acid and plutonium in counter-current solvent extraction and washing (scrubbing) pluristage equipment. The program is especially applied to prediction calculations for solvent extraction equipment in inactive or active uranium treatment plants.

The package is transmitted on CD and includes the source code, documentation, sample input and output. FORTRAN IV, IBM 370 Series (P597I037000).

PSR-598/RDMM

Commission Des Communautes Europeennes, Ispra, Italy through the OECD Nuclear Energy Agency Data Bank, Issy-les-Moulineaux, France contributed RDMM (Flux Spectra from In-Pile Fast Neutron Activation Experiment).   Measurements of in-pile fast neutron spectra are often obtained by threshold detector irradiations. The threshold detector technique gives data usually expressed as normalized activation rates. RDMM allows the energy dependent flux determination, on the hypothesis that the neutron flux shape can be expanded in a series of linearly independent functions times a weighting function. Moreover it allows one to estimate the effect of experimental input errors on the solution obtained.

The package is transmitted on CD and includes the source code, documentation, sample input and output. FORTRAN IV, Assembler; IBM 360 Series (P598I036000).

PSR-599/REEX-1

Mm. Dollfus Cantin, Courbevoie, France through the OECD Nuclear Energy Agency Data Bank, Issy-les-Moulineaux, France contributed REEX-1 (U, Pu, Nitric Acid Distribution in Counter Current Pluristage Stripping). REEX-1 provides distribution profiles of uranium, nitrid acid and plutonium in counter-current stripping pluristage equipment. The program is especially applied to prediction calculations for solvent extraction equipment in inactive or active uranium treatment plants.

The package is transmitted on CD and includes the source code, sample input and output.   FORTRAN IV; IBM 370 Series (P599I037000).

PSR-600/RICM

The Japan Atomic Energy Agency, Tokai, Ibaraki Japan through the OECD Nuclear Energy Agency Data Bank, Issy-les-Moulineaux, France contributed RICM (Resonance Absorption in Multi-Region Slab or Square or Hexagonal Lattice). RICM calculates the resonance absorption integral of resonant isotope in a multi-region lattice using the first flight collision probability. The lattice configurations considered are a

slab lattice, a square or hexagonal lattice and a cylindricalized lattice with isotropic or perfect reflecting boundary condition. Cases for an isolated rod or plate and homogeneous system can also be treated.

The package is transmitted on CD and includes the source code, documentation, sample input and output. FORTRAN IV, IBM 360 Series (P600I036000).

PSR-601/SCORCH-B2

The Japan Atomic Energy Agency, Tokai, Ibaraki Japan through the OECD Nuclear Energy Agency Data Bank, Issy-les-Moulineaux, France contributed SCORCH-B2 (BWR Core Heating During LOCA). SCORCH-B2 is a simulation code of reactor core heatup during a LOCA of BWR's. The program analyzes transient heat transmission on a horizontal plane of a fuel assembly and evaluates the peak cladding temperature and the maximum oxide thickness, both of which determine the soundness of the core during the accident. Fuel rods are arbitrarily classified into a smaller number of groups and each fuel rod is divided into several annuli. Heat conduction within fuel rods, heat convection from rods to coolant and radiation among rods and the channel box are calculated for each time step. Radiation view factors are analytically recalculated whenever cladding is calculated to balloon.

The package is transmitted on CD and includes the source code, documentation, sample input and output. FORTRAN IV, IBM 370 Series (P601I037000).

PSR-602/SPES

ENEL CPN, Rome, Italy through the OECD Nuclear Energy Agency Data Bank, Issy-les-Moulineaux, France contributed SPES (Fuel Cycle Optimization for LWR). SPES determines optimal fuel cycle at equilibrium for a light water reactor taking into account batch size, fuel enrichment, derating, shutdown time, and cost of replacement energy.

The package is transmitted on CD and includes the source code, documentation, sample input and output. FORTRAN IV, IBM 370 Series (P602I037000).

PSR-603/TOTEM-3

The Commission of the European Community, Joint Research Centre, Ispra, Italy through the OECD Nuclear Energy Agency Data Bank, Issy-les-Moulineaux, France contributed TOTEM-3 (Demand Assessment for Nuclear Power Plants and Conventional Power Plants). TOTEM-3 starts from the total electric energy demand in a given geographical area the number and the power of plants of various types necessary to satisfy the demand are calculated, as well as the relevant demand of fuels, both conventional and nuclear, and possibly the costs of the produced energy. The effects of some bottle necks in the nuclear fuel cycle (e.g. in the reprocessing phase) can also be considered.

The package is transmitted on CD and includes the source code, sample input and output. FORTRAN IV, IBM 370 Series (P603I037000).

PSR-604/TURBINA
The Commission des Communautes Europeennes Establishment Ispra / CETIS 21020 - Ispra (Varese), Italy through the OECD Nuclear Energy Agency Data Bank, Issy-les-Moulineaux, France contributed TURBINA (Reheat Steam Turbine Generator Design with Preheater and Condenser).

TURBINA predicts design and part load performances of central station reheat steam turbine-generator, pre-heaters and condenser.

The package is transmitted on CD and includes the source code, documentation, sample input and output. FORTRAN IV, IBM 370 Series (P604I037000).

PSR-605/WAKE
DNPDE through the OECD Nuclear Energy Agency Data Bank, Issy-les-Moulineaux, France contributed WAKE (Navier Stokes Equation with 2-D Turbulence, Stream Function, Vorticity). WAKE solves the turbulent Navier Stokes equations using a two equations model of turbulence (kinetic energy and dissipation rate) and stream function, vorticity representation of the mean flow pattern. Much of input is specified by coding in various subroutines - a detailed knowledge of the function and operation of each subroutine is necessary before the user can confidently set up his/her own problem.

The package is transmitted on CD and includes the source code, documentation, sample input and output. FORTRAN IV, IBM 370 Series (P605I037000).

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 customers 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 walkersy@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/ .

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 2th 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/ .

9th International Topical Meeting on Industrial Radiation and Radioisotope Measurement Applications

The International Topical Meeting on Industrial Radiation and Radioisotope Measurement Applications (IRRMA) will be held July 6-11, 2014 at the Universidad Politécnica de Valencia, Valencia, Spain. This triennial event is organized with the purpose of bringing together scientists and engineers from around the world who share an interest in radiation and radioisotope measurement applications.

For update-to-date information about his conference, visit their website at http://irrma-9.webs.upv.es/index.html .

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, 2024	**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 .

Spring 2014 SCALE Training Courses

Date	Course Name and Description	Location	Cost
March 24-28, 2014	**SCALE Criticality and Shielding Course** Basic criticality calculations with KENO-VI; shielding analysis with automated variance reduction using MAVRIC; criticality accident alarm system analysis.	Oak Ridge, TN	$2000*

March 31-April 4, 2014	**SCALE Burnup Credit Calculations** This course describes the use of SCALE tools to meet the requirements of NRC Interim Staff Guidance 8 Rev. 3 for the use of actinide and fission product burnup credit. Previous experience with SCALE is recommended.	Oak Ridge, TN	$2000*
April 7-11, 2014	**SCALE Sensitivity and Uncertainty Calculations** TSUNAMI: 1D, 2D, and 3D k_{eff} sensitivity/uncertainty analysis; 2D generalized sensitivity analysis for lattice physics; reactivity sensitivity analysis; advanced S/U methods for code and data validation using trending analysis and data assimilation (data adjustment) techniques; k_{eff} burnup credit validation.	Oak Ridge, TN	$2000*
April 7-11, 2014	**SCALE Lattice Physics and Depletion** 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.	OECD/NEA Data Bank, Issy-les-Moulineaux, Paris, France	2000 Euros
April 14-16, 2014	**SCALE/ORIGEN Standalone Fuel Depletion, Activation, and Source Term Analysis Course** Isotopic depletion, activation analysis, and source term characterization using ORIGEN/OrigenArp.	OECD/NEA Data Bank, Issy-les-Moulineaux, Paris, France	1500 Euros

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

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 (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).

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 (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.

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
9th International Topical Meeting on Industrial Radiation and Radioisotope Measurement Applications, July 6-11, 2014, Valencia, Spain. For up-to-date information about this conference, visit their website at http://irrma-9.webs.upv.es/index.html .

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/#.

December
WINS 2014 Workshop on Elastic and Inelastic Neutron Scattering, December 3-5, 2014, Dresden, Germany. For up-to-date information about this conference, visit their website at http://www.hzdr.de/db/Cms?pNid=3221 .