
Radiation Safety Information Computational Center



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The gates of thought, – how slow and late they discover themselves! Yet when they appear, we see that they were always there, always open. – Emerson

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REQUEST PROCESSING FOR STUDENTS AND VISITING FACULTY AT THE DOE NATIONAL LABORATORIES

In order to expedite the process for the review and determination of requests from students and faculty members that will be working at the Department of Energy national laboratories, such customers will be able to submit a request to RSICC prior to their arrival at the laboratory as long as the following conditions are met.

1. The customer must provide the following in the comment section of their request:
 - a. The name of the laboratory point-of-contact.
 - b. The start date for their assignment at the laboratory.
2. The customer must provide a laboratory address in the request application.
3. The customer must use an official laboratory e-mail address in the request application.

4. The end-use statement must include the relevant information regarding the work that will be performed at the laboratory.
5. The customer must contact RSICC using their laboratory e-mail address on or after their start date notifying RSICC that they have begun work at the laboratory. The customer must include the request number in the subject line of their message to enable quick coordination of the request and review determination.

Upon notification that the customer has started their assignment at the laboratory, RSICC will send the package or instructions on how to download the package from RSICC. These conditions have been established and granted by our regulators in order to permit RSICC to better serve our customers.

CHANGES TO THE RSICC CODE AND DATA COLLECTION

[CCC-769/VESTA 2.1.5 - AURORA 1.0.0](#)

VESTA 2.1.5 is a generic Monte Carlo code and depletion module interface code contributed by the Institut de Radioprotection et de Sureté Nucléaire, Cedex, France. With VESTA the emphasis is on both accuracy and performance so that the code will be capable of providing accurate and complete answers in an acceptable amount of time compared to other Monte Carlo depletion codes without having to resort to excessive calculation power. For the current version, VESTA allows for the use of any version of MCNP(X) [distributed by RSICC as MCNP6/MCNP5/MCNPX (B004 MNYCP 0x)] as the transport module and ORIGEN 2.2 [distributed by RSICC as ORIGEN 2.2 (C371 ALLCP 0x)] or the built in PHOENIX module as the depletion module. AURORA is a Java based data analysis tool for depletion codes (such as VESTA) that uses the new XML output structure defined for VESTA 2.1.

Updates include:

- Added the PHOENIX depletion module as an alternative to ORIGEN 2.2.
- Added the options NONSTANDARD and FULLYIELD for ORIGEN 2.2 to respectively add reactions and fission yield data that are not normally used by ORIGEN 2.2 through the use of non-standard flux dependent reactions.
- A complete overhaul of the output files and their structure was performed in preparation for the AURORA post processing tool for VESTA. The old burnmat and zone output files have been merged and VESTA now outputs decay data, fission yield data and atomic mass data as well.
- Replaced the old XML based cross section library files by the new structure. Several improvements were made to try and reduce the memory usage by the code.
- VESTA now tests to see if all required tallies are present in the MCTAL files generated during the run.
- An interpolation error in isomeric branching ratio data has been corrected.
- The metastable state of a daughter nuclide for a decay mode was not correctly written to the decay XML file.
- A warning message was added to signal cases in which the decay data for a nuclide was changed by more than 10% following renormalization (which can occur if DECAY MODES is used or when reading an ENDF file for use in ORIGEN 2.2).

The package is distributed on 4 DVDs in linux format which includes an installation procedure, executables, scripts, data files and documentation. C/C++, XML, PYTHON; X86 (C000769PCX8601).

CCC-803/DRAGON2PARTISN

Argonne National Laboratory, Argonne, IL USA through the OECD Nuclear Energy Agency Data Bank, Issy-Les Moulineaux, France recently released DRAGON2PARTISN. DRAGON2PARTISN is an auxiliary program for generating ASCII input cross section data for the code PARTISN (version 4.0) by reading the ASCII output cross section data from the code DRAGON (version 3.05). This program is suitable for reactor design since it can generate hundreds of macroscopic cross sections for PARTISN in few seconds while reading different materials distributed in multiple output files of the DRAGON code.

The package is transmitted on one CD with the readme file, source code, xslead/sx.txt input file and xspin/xs.txt input file with the ASCII cross sections. C; PC/Linux (C00803PCX8600).

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.

GEF is packaged in a single zip file containing source code, precompiled executables for Windows systems and documentation. BASIC; PC Windows and Linux (P00564PCX8601).

PSR-580/SINBAD Search Tool

Oak Ridge National Laboratory, Oak Ridge, TN, USA and Federal University of Rio de Janeiro, Rio de Janeiro, Brazil have released SINBAD Search Tool. The Shielding Integral Benchmark Archive Database (SINBAD) search tool has been developed to serve as an interface with the SINBAD database to facilitate a well-defined search of experimental benchmark problems in an easy to use manner. The search tool consists of a graphical user interface (GUI) that permits the users to choose from many options that better qualify the benchmark search.

The SINBAD Search Tool package includes documentation, html source and data files. The Tool works on most modern computers (P00580MNYCP00).

PSR-581/ SCDAP/RELAP5/MOD3.3

Idaho National Engineering and Environmental Laboratory, Idaho Falls, Idaho through the Nuclear Regulatory Commission, Rockville, MD, USA has released SCDAP/RELAP5/MOD3.3. The SCDAP/RELAP5 code has been developed for best-estimate transient simulation of light water reactor coolant systems during a severe accident. The code models the coupled behavior of the reactor coolant system and reactor core during severe accidents as well as large and small break loss-of-coolant accidents, operational transients such as anticipated transient without SCRAM, loss of offsite power, loss of feedwater, and loss of flow. The coolant system behavior is calculated using a two-phase model allowing for unequal temperatures and velocities of the two phases of the fluid, and the flow of fluid through porous debris and around blockages caused by reactor core damage. The reactor core behavior is calculated using models for the ballooning and oxidation of fuel rods, the meltdown of fuel rods and control rods, fission product release, and debris formation. The code also calculates the heat-up and

structural damage of the lower head of the reactor vessel resulting from the slumping of reactor core material. A generic modeling approach is used that permits as much of a particular system to be modeled as necessary. Control system and secondary system components are included to permit modeling of plant controls, turbines, condensers, and secondary feedwater conditioning systems.

The code is the result of merging the RELAP5/MOD3 and SCDAP models. The RELAP5 models calculate the overall RCS thermal-hydraulics, control system interactions, reactor kinetics, and transport of non-condensable gases. A model is also included in RELAP5 to calculate flow losses in porous debris. Although previous versions of the code have included the analysis of fission product transport and deposition behavior using models derived from TRAP-MELT, this capability has been replaced through a data link to the detailed fission product code, VICTORIA, as a result of an effort to reduce duplicative model development and assessment. The SCDAP models calculate the heatup and damage progression in the core structures and the lower head of the reactor vessel. The calculations of damage progression include calculations of the meltdown of fuel rods and structures, the fragmentation of embrittled fuel rods, convective and radiative heat transfer in porous debris, the formation of a molten pool of core material, and the slumping of molten material to the lower head.

SCDAP/RELAP5 is capable of modeling a wide range of system configurations from single pipes to different experimental facilities to full-scale reactor systems. The configurations can be modeled using an arbitrary number of fluid control volumes and connecting junctions, heat structures, core components, and system components. Flow areas, volumes, and flow resistances can vary with time through either user control or models that describe the changes in geometry associated with damage in the core. System structures can be modeled with RELAP5 heat structures, SCDAP core components, or SCDAP debris models. The RELAP5 heat structures are one-dimensional models with slab, cylindrical, or spherical geometries. The SCDAP core components include representative light water reactor (LWR) fuel rods, silver-indium-cadmium (Ag-In-Cd) and B₄C control rods and/or blades, electrically heated fuel rod simulators, and general structures. A two-dimensional, finite element heat conduction model based on the COUPLE code may be used to calculate the heat-up of the lower head of the reactor vessel and the slumped material supported by the lower head. This model takes into account the decay heat and internal energy of newly fallen or formed debris and then calculates the transport by conduction of this heat in the radial and axial directions to the wall structures and water surrounding the debris. The most important use of this model is to calculate the heat-up of the vessel lower head and the timing of its failure in response to contact with material that has slumped from the core region. Other system components available to the user include pumps, valves, electric heaters, jet pumps, turbines, separators, and accumulators. Models to describe selected processes, such as reactor kinetics, control system response, and tracking non-condensable gases, can be invoked through user control.

Export control regulations restrict the distribution of Fortran source code. If restrictions apply, RSICC will send the executable-only version.

The executable-only (P00581MNYCP00) package includes the SCDAP/RELAP5/MOD3.3executables for PC Windows, Linux, Sun and SGI platforms along with the referenced documents above and test cases. The source-exe (P00581MNYCP01) package includes everything listed above plus Fortran source files.

OBITUARY

It is with profound sadness that we inform our user community of the passing of Margaret (Kampschaefer) Butler. Margaret was a pioneer in computing technology with a distinguished career in computational and nuclear sciences. She worked on the first atomic submarine and also served as an employee of the U.S. military. Margaret was employed for many years at Argonne National Laboratory and worked on the AVIDAC, ORACLE, GEORGE, and UNIVAC systems in the formative days of computing. She served as Director of the National Energy Software Center and was the first woman Fellow at the American Nuclear Society.

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/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, 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.

TRAINING COURSES



LANL 2013 MCNP CLASS SCHEDULE

Date	Course Name and Description	Location	Cost
June 3-7, 2013	Introduction to MCNP6 Registration is open to all. Non-U.S. citizens must register by 4/1/13. 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*
June 10-14, 2013	Introduction to MCNP6 Registration is open to all. Non-U.S. citizens must register by 4/8/13. 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 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.	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		
April 8-12, 2013	Introduction to MCNP/MCNPX using the MCNPX Visual Editor	Washington, DC
April 15-19, 2013	Intermediate MCNPX Visual Editor with a special emphasis on tallies and variance reduction.	Columbus, OH
April 22-26, 2013	Intermediate MCNPX Visual Editor with a special emphasis on tallies and variance reduction.	San Antonio, TX
April 29-May 3, 2013	Introduction to MCNP/MCNPX using the MCNPX Visual Editor	Las Vegas, NV
June 10-14, 2013	Introduction to MCNP/MCNPX using the MCNPX Visual Editor	Barcelona, Spain
June 24-28, 2013	Intermediate MCNPX Visual Editor with a special emphasis on tallies and variance reduction.	Barcelona, Spain
July 15-19, 2013	Introduction to MCNP/MCNPX using the MCNPX Visual Editor	Livermore, CA

July 22-26, 2013	Introduction to MCNP/MCNPX using the MCNPX Visual Editor	Anaheim, CA
July 29-August 2, 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 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

PENELOPE Class 2013		
May 6-9, 2013	Introduction to PENELOPE (<i>VEC is pleased to offer PENELOPE training taught by Frances Salvat, the primary author of the code</i>)	Las Vegas, NV

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		
May 13-17, 2013	MCNP/MCNPX Intermediate Workshop	Pleasanton, CA
June 17-21, 2013	MCNP/MCNPX Intermediate Workshop (<i>The NEA handles registration for this class.</i>)	Barcelona, Spain
September 9-13, 2013	MCNP/MCNPX Intermediate Workshop	Washington, DC

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.



OECD Nuclear Energy Agency-Data Bank Training Courses

May 21-24, 2013	Depletion Calculations Using VESTA 2.1.5	NEA, Paris, France
May 27-31, 2013	SCALE/KENO Criticality Safety Calculations Schedule	NEA, Paris, France
June 3-7, 2013	SCALE/TSUNAMI Sensitivity and Uncertainty Calculations	NEA, Paris, France
June 10-13, 2013	PHITS Monte-Carlo Particle and Heavy Ion Transport Code System	NEA, Paris, France
July 2-5, 2013	PENELOPE	University of Barcelona, Spain
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>.



Spring 2013 Training Courses

Date	Title	Location	Cost
April 8–12, 2013	SCALE Criticality and Shielding Course <i>Basic criticality calculations with KENO-VI; Shielding analysis with automated variance reduction using MAVRIC; Criticality accident alarm system analysis</i>	ORNL Oak Ridge, TN, USA	\$2000
April 15–19, 2013	SCALE Sensitivity and Uncertainty Calculations Course <i>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</i>	ORNL Oak Ridge, TN, USA	\$2000
April 22–26, 2013	SCALE Lattice Physics and Depletion Course <i>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</i>	ORNL Oak Ridge, TN, USA	\$2000
April 29 – May 1, 2013	SCALE/ORIGEN Activation and Decay Calculations Course <i>Isotopic depletion/decay and source term characterization using ORIGEN/ORIGEN-ARP</i>	ORNL Oak Ridge, TN, USA	\$1500
May 27–31, 2013	SCALE/Criticality Safety Calculations Course <i>Introductory through advanced criticality calculations using KENO Va and KENO-VI; resonance self-shielding techniques</i>	NEA Data Bank, Issy-les- Moulineaux, France	€2000
June 3–7, 2013	SCALE/Sensitivity and Uncertainty Calculations Course <i>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</i>	NEA Data Bank, Issy-les- Moulineaux, France	€2000

Please register at least 40 days before the start of the desired course. For more information, including course descriptions, discounts, registration deadlines, and online registration, please visit <http://scale.ornl.gov/training.shtml>.

CONFERENCES



International Congress on Advances in Nuclear Power Plants

The 2013 International Congress on Advances in Nuclear Power Plants (ICAPP 2013) will be held on April 14-18, 2013, at the Lotte Hotel Jeju in Jeju Island, South Korea. This congress will bring together international experts of the nuclear industry involved in the operation, development, building, regulation, and research related to nuclear power plants. The program will cover the full spectrum of nuclear power plant issues from design, deployment and construction of plants to research and development of future designs and advanced systems.

For up-to-date information about this conference, visit their website at <http://www.icapp2013.org/>.



European Safeguards Research Development Association Annual Meeting

The 35th European Safeguards Research and Development Association (ESARDA) annual meeting will be a symposium on Safeguards and Nuclear Non-Proliferation, held at the Congrescentrum Oud St. Jan in Bruges, Belgium on May 27-30, 2013. The symposium will be preceded by meetings of the ESARDA Working Groups on May 27, 2013.

The symposium will be an opportunity for research organizations, safeguards authorities, and nuclear operators to exchange information on new aspects of international safeguards and non-proliferation, as well as recent developments in nuclear safeguards and non-proliferation related research activities and their implications for the safeguards community.

The symposium is anticipated to include a number of contributions from internationally-renowned authorities in the field.

For up-to-date information about this conference, visit their website at http://esarda.jrc.ec.europa.eu/index.php?option=com_content&view=article&id=70&Itemid=238.
(Registration: <http://esarda.sckcen.be/en/Registrationfee>)



25th Symposium on Fusion Engineering (SOFE25)

The Symposium on Fusion Engineering (SOFE) is a biennial event organized and sponsored by the Fusion Technology Committee (FTC) of the IEEE Nuclear & Plasma Sciences Society and is to be held June 10-14, 2013 in San Francisco, CA. The Symposium covers engineering and scientific advances in both inertial confinement and magnetic confinement fusion, with attendees from major fusion energy research centers worldwide. For up-to-date information about this conference, visit their website at <http://sofe2013.org/>.



48th Tennessee Industries Week

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.

For up-to-date information about this conference, visit their website at <http://www.engr.utk.edu/nuclear/TIW.html>.



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, advanced 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.

SNA & MC 2013

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 CALENDAR

April

2013 International Congress on Advances in Nuclear Power Plants (ICAPP 2013), April 14-18, 2013, Jeju Island, South Korea. For up-to-date information about this conference, visit their website at <http://www.icapp2013.org/>.

2013 International High-Level Radioactive Waste Management (2013 IHLRWM), April 28-May 2, 2013, Albuquerque, NM. For up-to-date information about this conference, visit their website at http://www.new.ans.org/meetings/c_2.

May

International Conference on Mathematics and Computational Methods Applied to Nuclear Science and Engineering (M&C 2013), May 5-9, 2013, Sun Valley, ID. For up-to-date information about this conference, visit their website at <http://www.mc2013.org/>.

35th European Safeguards Research and Development Association (ESARDA), May 27-30, 2013, Bruges, Belgium. For up-to-date information about this conference, visit their website at http://esarda.jrc.ec.europa.eu/index.php?option=com_content&view=article&id=70&Itemid=238.

June

Society of Nuclear Medicine and Molecular Imaging (SNMMI) Annual Meeting, June 8-12, 2013, Vancouver, BC, Canada. For up-to-date information about this conference, visit their website at <http://interactive.snm.org/index.cfm?PageID=5934>.

American Nuclear Society (ANS) Annual Meeting, June 16-20, 2013 Atlanta, GA. For up-to-date information about this conference, visit their website at http://www.new.ans.org/meetings/m_80.

25th Symposium on Fusion Engineering (SOFE25), June 10-14, 2013 San Francisco, CA. For up-to-date information about this conference, visit their website at <http://sofe2013.org/>.

July

Institute of Nuclear Materials Management (INMM) 54th Annual Meeting, July 14-18, 2013, Palm Desert, CA. For up-to-date information about this conference, visit their website at http://www.inmm.org/Meeting_Home.htm.

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 .

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>.