Radiation Safety Information Computational Center



Oak Ridge National Laboratory
Post Office Box 2008
Oak Ridge, Tennessee 37831-6003
Managed by
UT-Battelle, LLC
for the U.S. Department of Energy
under contract DE-AC05-00OR22725

phone 865-574-6176 fax 865-241-4046 email <u>PDC@ORNL.GOV</u> www <u>http://rsicc.ornl.gov/</u>

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Any fact facing us is not as important as our attitude toward it, for that determines our success or failure.

Norman Vincent Peale

TABLE OF CONTENTS

TABLE OF CONTENTS	. 1
CHANGE TO THE RSICC CODE AND DATA COLLECTION	. 3
CCC-815/TRIPOLI-4 VERSION 9S	. 3
DLC-237/SINBAD 2013.12	. 4
PSR-606/COBRA-3C/RERTR	. 5
SCIENCE EDUCATION PROGRAMS AT OAK RIDGE NATIONAL LABORATORY	. 5
CONFERENCES, TRAINING COURSES, SYMPOSIA	. 5
CONFERENCES	. 6
10 th International Conference of Computational Methods in Sciences and Engineering	. 6
SATIF-12	. 6
3 rd International Conference on Physics and Technology of Reactors and Applications	. 7
41 st IEEE International Conference on Plasma Science (ICOPS) and the 20 th International Conference on High Power Particle Beams (BEAMS)	
9th International Topical Meeting on Industrial Radiation and Radioisotope Measurement Applications	
2014 IEEE Nuclear and Space Radiation Effects Conference	. 8

19 th Pacific Basin Nuclear Conference	8
23 rd International Conference Nuclear Energy for New Europe	9
18 th Topical Meeting of the ANS Radiation Protection & Shielding Division	9
PHYSOR 2014 International Conference	10
TRAINING COURSES	10
LANL MCNP6 Class Schedule	10
MCNP6, Penelope, and Visual Editor Training	11
NEA Nuclear Energy Agency	14
SCALE Training Courses – Spring 2014	15
SYMPOSIA	16
The 15 th International Symposium on Reactor Dosimetry (ISRD-15)	16
2014 CALENDAR	16

CHANGE TO THE RSICC CODE AND DATA COLLECTION

The following package has been added to the RSICC catalog for those individuals that may be interested.

CCC-815/TRIPOLI-4 VERSION 9S

The Commissariat à l'énergie atomique, CEA/SACLAY, Cedex, France, through the OECD Nuclear Energy Agency Data Bank, Issy-les-Moulineaux, France, contributed this Monte Carlo code system. TRIPOLI-4 VERSION 9S. TRIPOLI-4 VERSION 9S solves the linear Boltzmann equation for neutrons and photons, with the Monte Carlo method, in any 3D geometry. The code uses ENDF format continuous energy cross-sections, from various international evaluations including JEFF-3.1.1, ENDF/B-VII.0, JENDL4 and FENDL2.1. Its official nuclear data library for applications, named CEAV5.1.1, is mainly based on the European evaluation JEFF-3.1.1 and is the only one delivered in this NEA package. TRIPOLI-4 version 9S also solves fixed source problems. It has advanced variance reduction methods to address deep penetration issues. Thanks to its robust and efficient parallelism capability, calculations are easily performed on multi-core single units, heterogeneous networks of workstations and massively parallel machines. Additional productivity tools, graphical as well as algorithmic, allow the user to efficiently set its input decks. With its large V&V data base, TRIPOLI-4 version 9S is used as a reference code for industrial purposes (fission/fusion), as well as a R&D and teaching tool, for radiation protection and shielding and nuclear instrumentation.

TRIPOLI-4 can use four different types of cross-section representations:

- full pointwise representation of cross-sections produced by NJOY processing code system. The cross-section files are converted into the XDR portable binary format,
- full self-shielded, homogenized multigroup cross-sections produced by the CEA lattice code APOLLO-2,
- multigroup cross-sections with probability-table representation,
- ENDL cross sections.

TRIPOLI-4 VERSION 9S runs under Linux or OSF1 workstations; this release does not run under Windows. No source files are included. Executables created by the author for each of the following systems are included in the package.

- linux-intel (2.6.xx)
- osf1 (V5.1)

The package is transmitted on three DVD discs which contain documentation, scripts, executable files, cross section data libraries and test cases. Source files not included. Reference: CEA-R-6316 TRIPOLI-4 version 8 User Guide, 2013 and TRIPOLI-4 version 9S release notes; Fortran and C; Linux/Unix based PCs; (RSICC ID: C00815MNYCP00). (NEADB identifier is NEA-1878/01).

DLC-237/SINBAD 2013.12

OECD Nuclear Energy Agency Data Bank, Issy les-Moulineaux, France and ORNL Radiation Safety Information Computational Center (RSICC), Oak Ridge, Tennessee, USA, contributed an updated version of this electronic database, which was developed to store a variety of radiation shielding benchmark data so that users can easily retrieve and incorporate the data into their calculations. SINBAD began in 1992-93, prompted by the continued closure of experimental facilities worldwide. The loss of benchmark experimental facilities jeopardizes the future of new shielding data. Further, the loss of lab notes and/or logbook records from poor document storage and/or aging, together with the loss of guidance from retirements of key experimental staff, complete benchmark data becomes a premium under today's strict quality assurance needs. The decision was made to collect, recompile, and distribute benchmark information in formats acceptable to the international community in an attempt to preserve and disseminate the information. The data integrity was checked and reference sources examined for self-consistency. At times, full benchmark information was gathered from multiple sources including personal contacts and laboratory logbooks.

The guidelines developed by the Benchmark Problems Group of the American Nuclear Society Standards Committee (ANS-6) on formats for benchmark problem description have been followed. SINBAD data include benchmark information on (1) the experimental facility and the source; (2) the benchmark geometry and composition; and (3) the detection system, measured data, and an error analysis. A reference section is included with the data. Relevant graphical information, such as experimental geometry or spectral data, is included. All information that is compiled for inclusion with SINBAD has been verified for accuracy and reviewed by two scientists.

The data in the RSICC SINBAD-2013.12 package were received through the NEADB and corresponds to NEA Data Bank packages:

- NEA-1517 SINBAD REACTOR (Abstract last modified 01-MAR-2012)
- NEA-1552 SINBAD ACCELERATOR (Abstract last modified 14-MAR-2012)
- NEA-1553 SINBAD FUSION (Abstract last modified 01-MAR-2012);

This release also includes numerous report updates for various packages.

SINBAD is an electronic database developed to store a variety of radiation shielding benchmark data so that users can easily retrieve and incorporate the data into their calculations. The high accuracy of benchmark experimental data allows checks for quality assurance in user's computations or with new experimental results. The user may find a lack of experimental data in some energy regions which could become a focus for future computations and experiments. New data libraries containing revised cross sections may be verified and validated, drawing comparisons to previous cross-section data releases. New information on benchmark results, i.e. new computations, revised data results, errors in data generation, will be provided as updates to this library, so users will find up to date applications in computational ready formats.

The experimental results are distributed in tabular ASCII format that can easily be exported to different computer environments for further use. PC, UNIX Workstations, MAC (D00237MNYCP03).

PSR-606/COBRA-3C/RERTR

Argonne National Laboratory through the OECD Nuclear Energy Agency Data Bank, Issy-les-Moulineaux, France has contributed COBRA-3C/RERTR, a modification of the COBRA-3C/MIT, a thermal-hydraulic nuclear reactor subchannel analysis program for research and test reactors (RERTRs). RERTRs are operated at low pressure and low temperatures and may use plate-type fuel elements and heavy water as coolant. COBRA-3C/RERTR incorporates critical heat flux correlations suitable for low-pressure systems, flow instability correlations, two-phase heat transfer coefficients suitable for research and test reactors, thermodynamic properties of heavy water, the capability of calculating the thickness of oxide film on an aluminum fuel plate, and the void fraction model based on the Bowring bubble detachment criterion. A plotting capability is included to display transient results. Please note, COBRA-3C/RERTR utilizes the proprietary ISSCO DISSPLA graphics software, which is not included.

The package is transmitted on CD and includes the source code, documentation, sample input and output. Fortran IV, IBM 370 Series (P606I037000).

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 minisymposium 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/.



SATIF-12

The 12th Meeting of the Task Force on Shielding Aspects of Accelerators, Targets and Irradiation Facilities (SATIF-12) will be held at Fermilab on **April 28-30, 2014**. The main objectives of the SATIF meetings are to promote the exchange of information among experts in the field of accelerator shielding and related topics, identify areas where international cooperation can be fruitful, and carry on a program of work to achieve progress in specific priority areas.

For up-to-date information about this conference, visit their website at https://indico.fnal.gov/conferenceDisplay.py?ovw=True&confId=7469.



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 14-18, 2014** 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.



23rd International Conference Nuclear Energy for New Europe

In 2014, the Nuclear Society of Slovenia will organize the 23rd International Conference Nuclear Energy for New Europe. The conference will be held in the attractive maritime resort of Portorož, Slovenia, during **September 8-11, 2014**.

The conference is a traditional annual meeting of professionals from nuclear research and educational institutions, nuclear vendors, utilities and regulatory bodies. It attracts around 200 participants from more than 20 countries. The topics discussed are general and include reactor physics, thermal hydraulics, probabilistic safety assessment, severe accidents, nuclear fusion, nuclear power plant operation, nuclear materials, waste management and new reactor designs.

For up-to-date information about this conference, visit their website at www.nss.si/nene2014/.



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



LANL MCNP6 Class Schedule

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

August 11-	Variance Reduction with MCNP6	Los	\$1,900 or
15, 2014	Non-US citizens must register 2014-06-09	Alamos, NM	\$1,600*
	Min 8 students – Max 15		
	Mon 12:30 – Fri 12:00		
August 18-	Introduction to MCNP6	Los	\$1,900 or
22, 2014	Non-US citizens must register 2014-06-16	Alamos, NM	\$1,600*
	Min 8 students – Max 15		
	Mon 12:30 – Fri 12:00		
October 20-	Introduction to MCNP6	Los	\$1,900 or
24, 2014	Non-US citizens must register 2014-08-18	Alamos, NM	\$1,600*
	Min 8 students – Max 15		
	Mon 12:30 – Fri 12:00		

^{*}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.

<u>Introductory classes</u> 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.

<u>Intermediate workshops</u> 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, Penelope, 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 2014			
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-	Intermediate Visual MCNP	Myrtle Beach, SC	
October 3, 2014			
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 2014			
March 31-	MCNP6 Intermediate Workshop (The	Paris, France	
April 4, 2014	NEA handles registration for this class.)		
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 <u>randyschwarz@mcnpvised.com</u>, indicating the workshop of interest to you.



NEA Nuclear Energy Agency

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

Please note that all attendees must be registered users.

Date	Class	Course Content	Price	Location
17-21 March 2014	Training Course on Analytical Benchmarks: Case Studies in Neutron Transport Theory	To register, <u>click</u> <u>here</u>	-	Paris, France
24-28, March 2014	Introduction to MCNP/X using the Visual Editor	Course description To register, click here	2000 Euros	Paris, France
31 March – 4 April 2014	MCNP6 intermediate	Course description To register, click here	2000 Euros	Paris, France
7-11 April 2014	SCALE/TRITON Lattice Physics and Depletion	Course description To register, click here	2000 Euros	Paris, France
14-16 April 2014	SCALE/ORIGEN Standalone Fuel Depletion, Activation, and Source Term Analysis	Course description To register, click here	1500 Euros	Paris, France

^{*} The fee includes the training course, luncheons and coffee breaks.

Contact: programs@oecd-nea.org



SCALE Training Courses – Spring 2014

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

Date	Course Name and Description	Location	Cost
March 24-28,	SCALE Criticality and Shielding Course	Oak Ridge,	\$2000*
2014	Basic criticality calculations with KENO-VI; shielding	TN	
	analysis with automated variance reduction using		
	MAVRIC; criticality accident alarm system analysis.		
March 31-	SCALE Burnup Credit Calculations	Oak Ridge,	\$2000*
April 4, 2014	This course describes the use of SCALE tools to meet	TN	
	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.		
April 7-11,	SCALE Sensitivity and Uncertainty Calculations	Oak Ridge,	\$2000*
2014	TSUNAMI: 1D, 2D, and 3D k _{eff} sensitivity/uncertainty	TN	
	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.		
April 7-11,	SCALE Lattice Physics and Depletion 2D lattice	OECD/NEA	2000
2014	physics calculations; 1D, 2D, and 3D depletion	Data Bank,	Euros
	calculations; resonance self-shielding techniques	Issy-les-	
	including Monte Carlo Dancoff factors for non-uniform	Moulineaux,	
	lattices; generation of libraries for ORIGEN-ARP.	Paris, France	
April 14-16,	SCALE/ORIGEN Standalone Fuel Depletion,	OECD/NEA	1500
2014	Activation, and Source Term Analysis Course	Data Bank,	Euros
	Isotopic depletion, activation analysis, and source term	Issy-les-	
	characterization using ORIGEN/OrigenArp.	Moulineaux,	
		Paris, France	

^{*}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 spring.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 upto-date information about this conference, visit their website at http://www.ece.unm.edu/icops-beams2014/.

June

2014 ANS Annual Meeting, Nuclear Challenges: Technologies and Analysis, June 15-19, 2014, Reno, Nevada. For up-to-date information about this conference, visit their website at: http://www.ans.org/meetings/c 1.

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.
- **INMM 55th Annual Meeting**, July 20-24, 2014, Atlanta, Georgia. For up-to-date information about this conference, visit their website at http://www.inmm.org//AM/Template.cfm?Section=Home.
- **2014 IEEE Nuclear and Space Radiation Effects Conference**, July 14-18, 2014, Paris France. For upto-date information about this conference, visit their website at http://www.nsrec.com/.

<u>August</u>

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.

<u>September</u>

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/#.

November

2014 ANS Winter Meeting and Nuclear Technology Expo, Nuclear – The Foundation of Clean Energy, November 9-13, 2014, Anaheim, CA. For up-to-date information about this conference, visit their website at http://www.ans.org/meetings/c 1.

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.