Radiation Safety Information Computational Center

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If a man empties his purse into his head, no one can take it away from him. An investment in knowledge always pays the best interest.—Benjamin Franklin

CHANGES TO THE RSICC CODE AND DATA COLLECTION

CCC-767/SWORD 3.2

U.S. Naval Research Laboratory, Washington, DC, through the Department of Homeland Security, Washington, DC, has released an update to SWORD 3.2. SoftWare for Optimization of Radiation Detectors (SWORD) is a framework to allow easy simulation and evaluation of radiation detection systems. It is targeted at system designers who want to evaluate and optimize system parameters without actually building hardware first, at sponsors who need to evaluate proposed or actual system designs independent of the supplier, without having access to actual hardware, and at operators who want to use simulation to evaluate observed phenomena.

The update includes:

- bug resolution with beams firing in G4,

- correctly set source ID for beams in MCNPX,

- use/usr/bin/env in MCNPX script (instead of /bin/env),

- MCNPX viewer now loads when doing visualization w/ MCNPX, and

- screenshot panel was removed.

SWORD is vertically integrated and modular. It allows users to define their own radiation detection instruments by building them from basic geometric “objects” and assigning those objects materials, detection, and/or radioactive emission properties. This process is accomplished by a CAD-like graphical

user interface, in which objects may be defined, translated, rotated, grouped, arrayed, and/or nested to produce compound objects. In addition to providing the ability to build a detection system model from scratch, SWORD provides a library of "standard" detector design objects that can be used "as is" or modified by the user.

SWORD gives the user the option of running a simulation using one of two well known simulation engines: GEANT 4 from CERN and MCNPX from Los Alamos National Laboratory. Installation instructions are included in the documentation. Note: GEANT4 V8.1 is included with this distribution. MCNPX is distributed in the C00740MNYCP02 package available from RISCC. Users should be aware that current versions of the MCNPX precompiled executables will not work with this version of SWORD. If the user desires to use MCNPX with SWORD, the user will have to build MCNPX.

SWORD 3.2 runs on any Intel-based Windows, Linux or Mac OSX platform with at least 3 GB of RAM and 30 GB of free disk space. Current distribution is available as a VMware virtual appliance only available at http://www.vmware.com/. It can run under a free VMware server or player (player recommended) on a Windows or Linux host or under VMware Fusion (purchase only) or on an Intel-based Mac OSX host. SWORD3.2 was tested at RSICC using Windows and Linux platforms. The package is distributed as a zip file (created with WinZip 11 on Windows XP) which contains the virtual appliance, reference, and installation and tutorial guides. C++, Java, Python; Linux (C00767MNYCP02).

PSR-550/ALICE2010

A collaboration of Lawrence Livermore National Laboratory, Livermore, California; Institut f. Reaktorsicherheit, Karlsruhe, Germany; Los Alamos National Laboratory, Los Alamos, New Mexico, and the Institute of Physics and Power Engineering, Obninsk, Russia, produced this newly frozen version of this statistical model code system to calculate particle spectra from HMS (Hybrid Monte-Carlo Simulation) precompound nucleus decay. This release is designated HMS-ALICE-2010. The code uses the HMS precompound decay model, the Weisskopf-Ewing evaporation model (optional with s-wave approximation) and Bohr-Wheeler fission models, all with multiple particle emission cascades to estimate single- and double-differential emission spectra and product yields of nuclear reactions induced by probes from photons to heavy ions. Initial excitations up to 1 GeV should be tolerated, but a range of 0.2-250 MeV is advised as pion production channels have not yet been programmed into the physics. Product yields include A, Z of fission products. An option exists to give output of exclusive particle emission spectra of up to multiplicity 3. This version of ALICE corrects two warnings in previous versions of ALICE due to a missing common in one subroutine and transformations into lab coordinates for precompound cluster emission as well as minor cosmetic changes to the greeting.

ALICE2010 runs on PC under Windows or Linux and on Mac computers. A Fortran 95 compiler is required on all systems as no executables are distributed. The package is transmitted on a CD in a Unix tar file (extractable with WinZip on Windows Operating Systems), which contains documentation, source code, and example problems. Reference: Manual (July 27, 2008). Fortran; PC and Mac (P00550PC58601).

DLC-240/ VITENEA-E

VITENEA-E was contributed by the ENEA, FIS-MET, Bologna, Italy; Athena S.a.S, Bologna, Italy; and Bologna University, Physics Department, Italy, through the OECD Nuclear Energy Agency Data Bank, Issy-les Moulineaux, France. VITENEA-E is a coupled 174-neutron, 38-gamma-ray multigroup cross section library in AMPX format suitable for multidimensional radiation transport calculations and dose evaluation. To produce that library, the file ENDF/B-VI was chosen as the primary source of basic nuclear data because it is suitable for processing using the NJOY-SMILER-SCALE sequence. That file is adequate for fusion calculations since it allows important features, like:

data for angle-energy correlation of high energy neutrons, charged particles, and recoil nuclei;

separate isotopic evaluations for the main structural materials; and

photon production data for the main structural materials.

The NJOY, SMILER, and SCALE sequence of codes was used to produce the master library in AMPX format. NJOY-94 was used to process the ENDF/B-VI basic nuclear data into averaged cross sections and particle transport matrices. The RECONR, BROADR, UNRESR, HEATR, THERMR, and GROUPR modules were used for neutron- and gamma-ray production data in GENDF format, while the RECONR and GAMINR modules were used for photon interaction.

RECONR:	reconstructs pointwise cross sections from resonance parameters
BROADR:	Doppler broaden and thin pointwise cross sections
UNRESR:	computes effective pointwise self-shielded cross sections in the unresolved energy range
HEATR:	produces pointwise kerma factors and radiation damage cross sections
THERMR:	generates neutron scattering cross sections in the thermal range
GROUPR:	produces self-shielded multigroup neutron cross sections and group-to-group scattering matrices, and photon production matrices in GENDF format
GAMINR:	computes multigroup photon interaction cross sections and scattering matrices in GENDF format

The SMILER code, a module of the AMPX-77 code system, was used to convert multigroup data from the GENDF format into the AMPX format. It merges the neutron and the photon data (from GROUPR and GAMINR, respectively) to provide, nuclide by nuclide, a coupled n-photon library, as the final product.

The package is transmitted on a CD which contains the report, the data files, and test cases. Reference: Trieste_VitENEA-E (D00240MNYCP00).

Obituaries

John M. Christenson (October 14, 1932 - August 2, 2010), professor of nuclear engineering at the University of Cincinnati since 1970. He was the director of the Collaborative Utility University Project (CUUP) from 1993 until his death. He was a member of the ANS and has served on the National Membership Committee since 1995. Since 1982 he has served as a reviewer for *Nuclear Technology* and *Nuclear Science and Engineering*. Dr. Christenson earned his BS and MS at the University of Washington (1960, 1962), and his PhD at the University of Wisconsin in 1970.

William Kerr III, 90, ANS Fellow and charter member died May 18. He earned his bachelor's and master's degrees in electrical engineering from the University of Tennessee in 1942 and 1947, respectively, and his doctorate in electrical engineering from the University of Michigan in 1953. Following a period of teaching at the University of Tennessee and service in the U.S. Army, he joined the faculty of the Department of Electrical Engineering at the University of Michigan, where he became a founding member of the Department of Nuclear Engineering in 1958 and served as department chair from 1961 to 1974. He also served as director of the Michigan Memorial Phoenix Project, overseeing the university's nuclear research reactor, from 1965 until his retirement in 1989. During his career he also served as a consultant to the U.S. Department of State from 1956 to 1965 and as a member of the Advisory Committee on Reactor Safeguards for the U.S. Atomic Energy Commission and later the Nuclear Regulatory Commission from 1972 to 1992, where he led efforts to ensure the safe operation of U.S. nuclear power plants following the Three Mile Island accident in 1979.

Edwin E. Kintner, 90, ANS member from 1985 to 1996, died May 7. He earned his bachelor's degree in electrical engineering from the United States Naval Academy in 1941, and followed with master's degrees in naval architecture and marine engineering and nuclear physics from the Massachusetts Institute of Technology in 1946 and 1950, respectively. He spent 21 years in the U.S. Navy, where he served during World War II and assisted in the development of the USS Nautilus, the first nuclear submarine. He retired from the Navy in 1963 and joined the nuclear fission reactor development program at the U.S. Atomic Energy Commission. He became head of the fusion program for the U.S. Department of Energy in 1976; and in 1983 became executive vice president of General Public Utilities to complete cleanup efforts following the Three Mile Island accident in 1979.

Available NEA Publications

***Uranium 2009: Resources, Production and Demand*—**This joint study published by the OECD Nuclear Energy Agency (NEA) and the International Atomic Energy Agency (IAEA) reports that total identified uranium resources have grown, but so too have costs of production. Based on the data it contains, it shows that, at 2008 rates of consumption, total identified resources are sufficient for over 100 years of supply. Even in the high-growth scenario to 2035, less than half of the identified resources described in this edition would be consumed. However, the challenge remains to develop mines in a timely and environmentally sustainable fashion as uranium demand increases in line with renewed interest in nuclear energy. Order from the OECD Online Bookshop: 456 pages, ISBN: 978-92-64-04789-1, € 130, US$ 182, £ 117, ¥ 16 900.

***Nuclear Energy Technology Roadmap*—**Nuclear energy is a mature, low-carbon technology that plays a vital role in reducing greenhouse gas emissions from the energy sector. In order to reach the goal of 50% reduction in energy-related CO_2 emissions by 2050, nuclear generating capacity would need to increase threefold. The joint IEA/NEA *Nuclear Energy Technology Roadmap* examines the steps that governments and the private sector need to take to reach that goal. It is one of a series being prepared by the IEA in cooperation with other organizations and the industry at the request of the G8. Available free online (48 pages).

***Coûts prévisionnels de production de l'électricité* (*Estimated Costs of Production of Electricity*)—**This joint study of the International Agency of Energy (IEA) and the Agency for Nuclear Energy (AEN) of the OECD is the seventh of a series devoted to the production costs of electricity. It presents the most recent data available on a large range of energy and technology, in particular coal and gas (with and without capture of carbon), nuclear power, hydro-electric, wind, biomass, solar, wave and tidal energy, as well as the combined production of heat and electricity. It contains the average up to date costs of electricity for nearly 200 power stations, covering 21 countries. 232 pages. ISBN: 978-92-64-08432-2, € 70, US$ 98, £ 63, ¥ 9 100.

Also available:

The Strategic Plan of the Nuclear Energy Agency - 2011-2016, (40 pages. ISBN: 978-92-64-99135-4) available free online; English | français.

NEA News 28.1 (June 2010), (32 pages. ISSN: 1605-9581), available free online; English | François.

Nuclear Law Bulletin No. 85 (June 2010), Volume 2010/1 (164 pages. ISSN: 0304-341X) € 114, US$ 150, £ 91, ¥ 16 500, subscribe through the OECD Online Bookshop; English | François.

Occupational Radiological Protection Principles and Criteria for Designing New Nuclear Power Plants, 108 pages. ISBN: 978-92-64-99142-2), available free online.

For bulk order reductions, send an email to neapub@nea.fr.

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 riceaf@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. If the meeting is on a website, please include the url.

Every attempt is made to ensure that the links provided in the Conference and Calendar sections of this newsletter are correct and live. However, the very nature of the web creates the possibility that the links may become unavailable. In that case, please call or mail the contact provided.

TRAINING

Introductory MCNP, Advanced MCNP, 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.

Date 2010	Class	Location
November 15–19	Introduction to MCNP using the MCNPX Visual Editor	Las Vegas, NV

The introductory classes combine teaching on MCNP physics, along with instructions on how to use the Visual Editor. The advanced class assumes the user has experience using MCNP or MCNPX and focuses on Visual Editor topics. Computer demonstrations and exercises will focus on creating and interrogating input files with the Visual Editor. Advanced visualization work using MCNP will also be demonstrated. Both the introductory and advanced classes will be taught on Pentium computers running Windows 2000. Attendees are encouraged to bring their own input files for viewing and modifying in the visual editor. The course description and registration information can be found at http://www.mcnpvised.com/index.html.

MCNPX Training

2010 Classes		
Date	**Class**	**Location**
September 20–24	Intermediate MCNPX	Virginia Beach, VA
October 25–29	Intermediate MCNP5/MCNPX	Barcelona

The MCNPX team at Los Alamos National Laboratory offers interactive workshops for training users in the capabilities of MCNPX. Three levels are offered:

- introductory (for users with 0–1 year of experience),
- intermediate (for users with 1–3 years of experience), and
- advanced (for users with more than 3 years of experience).

The list of workshops is tentative, as workshops may be added, removed, or modified throughout the year, depending on user interests.

Cost of the U.S. workshops is $2,300 US with an early registration discount of $300 (i.e., if paid 30 days before the scheduled workshop). Workshops with fewer than 15 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, indicating the workshop of interest to you.

SCALE Training Courses

Date	Title	Description
October 11-15	SCALE Lattice Physics and Depletion Course	ORIGEN-ARP: Isotopic depletion/decay and source terms using latest version of ORIGEN-S TRITON: 2-D reactor physics analysis using NEWT/ORIGEN-S and 3-D Monte Carlo depletion using KENO/ORIGEN-S (**ORIGEN-ARP**/**TRITON**)
October 18-22	SCALE Criticality Safety and Shielding Course	KENO-VI: Criticality safety using the generalized geometry version of KENO MAVRIC: 3-D Monte Carlo shielding analysis automated variance reduction for deep-penetration and complex shielding problems Criticality accident alarm system analysis **(KENO-VI/MAVRIC)**
October 25-29	SCALE Sensitivity/Uncertainty Tools Course	1-D and 3-D sensitivity/uncertainty analysis using TSUNAMI with XSDRNPM and KENO. Advanced S/U methods for code and data validation. **(TSUNAMI)**
November 1-5	SCALE Criticality Safety Course	Criticality safety with the most widely used version of KENO, KENO V.a. (**KENO V.a**)

The registration fee is $2000 for each course. A discount of $200 per each additional week will be applied for registration to multiple courses. Class size is limited and course may be canceled if minimum enrollment is not obtained one month prior to the course. Course fees are refundable up to one month before each class. Note that all attendees must be registered SCALE 6 users. All foreign national visitors must register a minimum of 40 days prior to the start date of the training course they plan to attend. Course descriptions may be found at http://www.ornl.gov/sci/scale/course_description.htm.

ORAU Offers Health Physics and Radiation Safety Training

ORAU is pleased to offer the following courses. If you wish to discuss having a customized course delivered at your site, please contact Paul Frame at 865-576-3388 or Paul.Frame@orau.org.

Course	Dates
Air Sampling for Radioactive Materials	October 18–22, 2010
Radiation Medicine for Safety Professionals	November 1–5, 2010
MARSSIM	November 1–5, 2010
Introduction to Radiation Safety	November 8–12, 2010
Gamma Spectroscopy	December 6–10, 2010
MARSSIM	January 10–14, 2011
Site Characterization in Support of Decommissioning: Planning, Implementation, and Evaluation	January 24–28, 2011
Applied Health Physics	February 28–April 1, 2011
CHP Part I Review	April 5–7, 2011
Gamma Spectroscopy	April 11–15, 2011

CONFERENCES

INES-3

The Third International Symposium on Innovative Nuclear Energy Systems - Innovative Nuclear Technologies for Low-Carbon Society (INES-3) will be held on October 31–November 3, 2010, at Tokyo Institute of Technology, Tokyo, Japan. The Symposium aims to summarize recent research activities relevant to the development of innovative nuclear reactor systems and innovative separation/ transmutation systems with a broad perspective and flexible ideas for realization of a low-carbon society. The symposium is organized by the Center for Research into Innovative Nuclear Reactors, CRINES and Tokyo Tech.

Please refer to the conference webpage, http://www.nr.titech.ac.jp/ines3/, for information regarding the submission of abstracts, registration, etc. You may also contact Yukitaka Kato, Associate Professor, CRINES, Tokyo Institute of Technology, 2-12-1-N1-22, Ookayama, Meguro-ku, Tokyo, 152-8550, Japan (phone/fax +81 3 5734 2967, email ines3@nr.titech.ac.jp).

Technical Meeting on Low-Power Critical Facilities and Small Reactors

A mini-conference on small research reactors and critical facilities will be held in Ottawa, Ontario, Canada, November 1–3, 2010, approximately 1 week before the ANS Winter Meeting in Las Vegas. This conference is inspired by the upcoming 50th Anniversary of the ZED-2 Heavy Water Critical Facility at AECL - Chalk River Laboratories.

Those performing work relating to research reactors and/or critical facilities at government or national laboratories, or universities, will benefit from this opportunity to share experiences, exchange ideas, and to network with peers in the international community. Further information can be found at the website, http://www.cns-snc.ca/events/tmlpcfsr/.

CONTE 2011

The 2011 Conference on Nuclear Training and Education (CONTE 2011) will be held in Jacksonville, Florida, February 6–9, 2011. A call for papers has been issued for summaries on the following topics:

1. Human performance improvement
2. Workforce planning/recruiting

3. Personnel training/qualification/education
4. Accreditation
5. Developing educational partnerships—university/industry/government
6. Engineering education/distance learning
7. Leadership development
8. International perspectives
9. Training for new nuclear power facilities

Summaries must be submitted using the ANS template and "Guidelines for Summary Preparation" provided on the ANS Web site, www.ans.org, by **October 29, 2010**. General chair of the meeting is Stephen Kuczynski, Senior VP of Engineering and Technical Services, Exelon Nuclear. For further information, please visit the ANS website, www.ans.org/meetings.

NETS-2011

The Nuclear and Emerging Technologies for Space (NETS-2011) topical meeting will be held February 7–10, 2011, in Albuquerque, NM. The meeting is sponsored by the ANS Aerospace Nuclear Science and Technology Division and the ANS Trinity Section. NETS-2011 will address strategies for implementing advanced power and propulsion technologies, as well as radiation shielding protection, in support of manned and unmanned missions into space. It will provide a communications network and forum for information exchange for research and management personnel from government, industry, academia, and the national laboratory system who are involved in space nuclear activities. Registration, program, exhibit, and other information may be found on the conference website at http://anstd.ans.org/NETS2011/AboutNETS2011.htm.

WM 2011

The annual Waste Management Conference (WM 2011) will be held February 27–March 3, 2011, in Phoenix, Arizona. Regarded as the premier international organization for the management of radioactive material and related topics, the 2011 conference attracts decision makers, project managers, and technical and procurement specialists representing the government and private organizations from over 35 countries. The conference theme is Global Achievements and Challenges in Waste Management. In addition to the conference, two workshops are scheduled for March 3 and 4, titled "Commercial Low–Level Waste (LLW) Disposal Performance Assessment, the Safety Case, and Long–Term Monitoring " and "Joint Public Federal Workshop," respectively. Bookmark the website, http://www.wmsym.org/, to monitor the latest information with regard to the workshops, program, arrangements, etc.

PSA 2011

The 2011 Probabilistic Safety Analysis conference (PSA 2011) will be held in Wilmington, North Carolina, March 13–17, 2011. The conference is sponsored by the ANS Nuclear Installations Safety Division (NISD) and the Wilmington Area Local Section of the ANS (WLS). Those who intend to submit a paper should contact Dennis@psa2011.org.

Papers describing significant work may be submitted electronically beginning September 2010 on the following topics:

Accident Analysis Level 2 & 3
Advanced Nuclear Systems
Dynamic PSA
Common Cause Failures
Computer Codes
Configuration Risk Management
Digital I&C
Cyber Security
Environmental Impact
Fire & NFPA 805
Flooding PSA
Fuel Cycle (Proliferation Risk)
Generation Risk (All operating modes)
Human Reliability
Human Factors & Behavioral Sciences

Incorporation of Ageing Aspects
Low Power / Shutdown PSA
Next-Generation Reactors
Non-Light Water Reactor
Mitigating Systems Performance Index (MSPI) Issues
NASA & Space Applications
Natural Hazards & External Events
Non-Reactor, Nuclear Applications
Parameter & Modeling Uncertainty
Passive Systems Safety
Proliferation Risk
PSA Challenges – Manpower
PSA in DOE Facilities (Panel)
PSA Standards Development
Reliability Centered Maintenance
Risk Informed Plant Security
Risk Informed Regulation & Licensing
Risk Perception & Communication
Safety Culture & Organizational Factors
Safety Margins & PSA
Significance Determination Process (SDP) Issues
Seismic PSA
Software Reliability & Data Analysis
Spent Fuel & Rad Waste Issues
Standardized Plant Analysis Risk (SPAR) Models Status
Standards & Peer Reviews
Structural Reliability Methods
PSA Training & Education
Transportation Risks
Waste Management & Decommissioning

Bookmark and check the conference website at http://meetingsandconferences.com/psa2011/ often to remain informed about deadlines and activities.

MTAA 13

Texas A&M will host the 2011 Modern Trends in Activation Analysis (MTAA-13) Conference March 13–18, 2011—fifty years after the first MTAA conference also hosted by the what was then the A&M College of Texas. The scope of the conference will include activation analysis methodology, methodological enhancements, applications of activation analysis to the fields of energy, environment, biology and medicine, geology, archaeology, homeland security, etc. However, this conference will broaden the subject matter somewhat in that it will invite and entertain contributed presentations from all areas of nuclear analytical methods as well as competing technologies.

Conference organizers will provide incentives to selected potential attendees in the form of travel awards. We anticipate making up to twelve awards to students and another twelve to young scientists who submit applications. Awardees will be expected to participate in the meeting by submission of abstracts and manuscripts to the proceedings. While financial need will be considered, recipients will be those considered by the conference organizers to be most likely to provide meaningful participation and future advancement of the science. Details concerning application procedures and criteria for selection will appear in subsequent announcements as well as the conference website.

Make sure you are on the conference contact list by completing the form found at: https://tti.tamu.edu/conferences/mtaa13/registration_interest.htm. Information on the conference will be posted to http://tti.tamu.edu/conferences/mtaa13/. You may also contact William D. (Dennis) James, Center for Chemical Characterization and Analysis, Texas A&M University, 3144 TAMU, College Station, TX 77843-3144 (phone 979 845-7630, email wd-james@tamu.edu).

MC 2011

The 2011 International Conference on Mathematics and Computational Methods applied to Nuclear Science and Engineering (MC 2011) will be held in Rio de Janeiro, May 8–12, 2011. The conference will provide an international forum for scientists to present their most recent work and exchange ideas on a powerful class of methodologies extensively used for solving mathematical models of physical phenomena and processes applied to nuclear science and engineering. One of the aims is to promote new research tools and procedures that help link mathematics, applied sciences and technology. Therefore, MC 2011 will offer an opportunity for direct information exchange between participants from both academia and industry. The interdisciplinary technical program will consist of plenary sessions,

workshops, parallel oral presentation sessions and poster sessions. Papers may be submitted electronically by **October 31, 2010**, on the following subject categories:

- Accelerator & subcritical systems
- Advanced nuclear reactor concepts
- Atmospheric and ocean radiative transfer
- Computational fluid dynamics & thermal hydraulics
- Deterministic & stochastic neutral and charged particle transport modeling
- High-fidelity multiphysics simulations
- Medical physics
- Nuclear chemistry
- Nuclear criticality safety
- Nuclear data evaluation & application
- Nuclear fuel cycle
- Nuclear fuels
- Nuclear geophysics
- Nuclear materials sciences
- Nuclear non-proliferation and homeland security
- Nuclear production of hydrogen
- Nuclear radiation shielding & dosimetry
- Nuclear reactor analysis
- Optimization, data assimilation & artificial intelligence
- Plasma physics/fusion
- Radiobiology
- Structural mechanics
- Uncertainty quantification
- Verification & validation

General Chair of the meeting is Cassiano de Oliveira (cassiano@unm.edu). Bookmark the conference website, http://www.mc2011.org, to keep abreast of conference information.

ISRD-14

The 14th International Symposium on Reactor Dosimetry (ISRD-14) will be held May 22–27, 2011, at the Omni Mount Washington Resort, Bretton Woods, New Hampshire. This Symposium is held approximately every three years to provide a forum for the interchange of state-of-the-art techniques, data bases and standardization of radiation metrology. The Symposium will be of value to those involved in reactor dosimetry, including researchers, manufacturers and representatives from industry, utilities and regulatory agencies. The Symposium is jointly sponsored by ASTM International and the European Working Group on Reactor Dosimetry (EWGRD). It is organized by ASTM Committee E10 on Nuclear Technology and Applications.

The Symposium theme is dosimetry for the assessment of irradiated reactor materials and reactor experiments, featuring radiation metrology techniques, data bases and standardization. Under this theme, summaries must be submitted electronically by **September 10, 2010,** in the following areas:

- Reactor surveillance and plant-life management
- Data evaluation, uncertainty analysis, and adjustment methods
- Retrospective dosimetry and decommissioning
- Dosimetry for assessment of reactor structural materials
- Neutron and gamma-ray transport calculations
- Dosimetry for core characterization and reactor physics
- Characterization of neutron and gamma-ray environments
- Damage correlation and exposure parameters
- Monitoring of irradiation experiments
- Nuclear data for dosimetry
- Benchmarking, calibrations and standards
- Fusion and high-energy neutrons
- Reactor and accelerator neutron sources
- Irradiation processing and testing of electronics
- Experimental techniques, new developments and optical methods
- Dosimetry for space nuclear power

Papers in these and other areas are expected to cover such applications as fission and fusion energy research and test and research reactor experiments. Health physics papers are outside the scope of this Symposium. The Symposium will be organized into oral and poster presentations, as well as informal round-table workshops. The meeting language will be English. All papers presented at the symposium will be subject to peer-review before acceptance for publication in the on-line *Journal of ASTM International*. Bookmark the conference website, http://www.reactordosimetry.com/, to remain current with conference information.

CALENDAR

October 2010

Supercomputing in Nuclear Application and the 3rd Monte Carlo (SNA + MC2010), Oct. 17–20, 2010, Tokyo. Contact: CCSE, Japan Atomic Energy Agency, 8F, Sumitomo-Ueno Bldg. No.8, 6-9-3 Higashi-Ueno, Taito-ku, Tokyo 110-0015, Japan (email info@sna-mc-2010.org, fax +81-3-5246-2537) url: http://www.sna-mc-2010.org/.

3D S.UN.COP 2010, Oct. 18–22, 2010, Amsterdam, and Oct. 25–Nov. 5, 2010, Petten, The Netherlands. Contact: Alessandro Petruzzi (email: a.petruzzi@ing.unipi.it, fax 0039 050 2210384) url http://nrgspg.ing.unipi.it/3dsuncop.

International Symposium on Innovative Nuclear Energy Systems (INES-3), Oct. 31–Nov. 3, 2010, Tokyo. Contact:Yukitaka Kato, Associate Professor, CRINES, Tokyo Institute of Technology, 2-12-1-N1-22, Ookayama, Meguro-ku, Tokyo, 152-8550, Japan (phone/fax +81 3 5734 2967, email ines3@nr.titech.ac.jp) url http://www.nr.titech.ac.jp/ines3/.

November 2010

Technical Meeting on Low-Power Critical Facilities and Small Reactors, Nov. 1–3, 2010, Ottawa, ON, Canada. Contact: Blair Bromley, Computational Reactor Physics Branch (New), AECL - Chalk River Laboratories, Building 889 - Keys School - Room 130, 1 Plant Road, Chalk River, ON, K0J 1J0 (phone 613-584-8811 ext. 43676, fax 613-584-8055, email bromleyb@aecl.ca) url http://www.cns-snc.ca/events/tmlpcfsr/.

2010 ANS Winter Meeting and Nuclear Technology Expo, Nov. 7–11, 2010, Las Vegas, NV. The website is: http://www.new.ans.org/meetings/c_1.

February 2011

Conference on Nuclear Training and Education (CONTE 2011), Feb. 6–9, 2011, Jacksonville, Florida. Contact: Stephen Kuczynski, Senior VP of Engineering and Technical Services, Exelon Nuclear. The website is www.ans.org/meetings.

Nuclear and Emerging Technologies for Space 2011 (NETS 2011), Feb. 7-10, 2011, Albuquerque, NM The website is http://anstd.ans.org/NETS2011/AboutNETS2011.htm

March 2011

International Topical Meeting on Probabilistic Safety Assessment and Analysis (PSA 2011), March 13-17, 2011, Hilton Wilmington Riverside, Wilmington, NC. Meeting information: http://www.ans.org/goto/nad.cgi?id=1273208400-24

Modern Trends in Activation Analysis (MTAA-13), March 13–18, 2011, College Station, TX. Contact: William D. (Dennis) James, Center for Chemical Characterization and Analysis, Texas A&M University, 3144 TAMU, College Station, TX 77843-3144 (phone 979 845-7630, email wd-james@tamu.edu) url: http://tti.tamu.edu/conferences/mtaa13/.

May 2011

MC 2011, May 8–12, 2011, Rio de Janeiro, Brazil. Meeting information: http://www.mc2011.org/.

International Symposium on Reactor Dosimetry (ISRD-14), May 22–27, 2011, Bretton Woods, New Hampshire. Contact: Dr. David W. Vehar, Sandia National Laboratories (dwvehar@sandia.gov) url http://www.reactordosimetry.com/.

June 2011

Workshop on Activation Data (Kopeck), June 1-3, 2011, Charles University in Prague, Czech Republic. Contact: Jean-Christophe.Sublet@ccfe.ac.uk, url http://www.ccfe.ac.uk/EASY_workshops.aspx.

ANS Annual Meeting, June 26–30, 2011, Hollywood, FL. The website is http://www.new.ans.org/meetings.

Industrial Radiation and Radioisotope Measurement Applications (IRRMA-8), June 26–July 1, 2011, Kansas City, MO. Contact: William L. Dunn, Kansas State University (email dunn@k-state.edu) url http://www.dce.k-state.edu/conf/irrma/.