Radiation Safety Information Computational Center

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Everywhere in life the true question is, not what we have gained, but what we do.—Carlyle

New Instrumentation Journal Launched

A new paperless electronic, peer reviewed journal created by the International School of Advanced Studies (SISSA) and the Institute of Physics (IOP) is launched January 2006. The *Journal of Instrumentation* (JINST) will cover all areas of scientific instrumentation and deal with both concepts and experimental techniques as well as with related theoretical aspects, modeling and simulations. JINST belongs to the family of J-journals published jointly by SISSA (International School for Advanced Studies, Trieste, Italy) and the Institute of Physics Publishing (Bristol, UK). The J-journals family includes *Journal of High Energy Physics* (JHEP), *Journal of Cosmology and Astroparticle Physics* (JCAP), and *Journal of Statistical Mechanics: Theory and Experiment* (JSTAT). JINST will start accepting contributions January 9, 2006. The announcement at http://www.iop.org/EJ/journal/1748-0221 includes a list of the Advisory & Editorial Boards, a description of the scope covered by the journal, author guidelines, as well as related content.

Amos Breskin
JINST Scientific Director

Changes to the Computer Code and Data Collection

CCC-729/SERA 1C0

Idaho National Laboratory, Idaho Falls, Idaho, contributed the Simulation Environment for Radiotherapy Applications (SERA) developed for boron-neutron capture therapy (BNCT) patient treatment planning by researchers at the Idaho National Engineering and Environmental Laboratory (INEEL) and students and faculty at Montana State University (MSU) Computer Science Department. This is the first release through RSICC, but it is the final release of the Version 1 CO program. SERA has a flexible, user-friendly GUI for all modules. It allows the use of CT, MRI, or PET image data. Unique neutron transport geometry provides rapid Monte Carlo solutions. Geometric modeling fidelity is equivalent to image resolution.

SERA is a suite of command line or interactively launched software modules, including graphical, geometric reconstruction, and execution interface modules for developing BNCT treatment plans. The program allows the user to develop geometric models of the patient (derived from CT and MRI images), perform dose computation for these geometric models, and display the computed doses as three dimensional representations on overlays of the original images. A three-dimensional Monte Carlo radiation transport model, seraMC, developed at INL, is used to calculate the complex radiation fields present in BNCT treatment.

This release of SERA was developed to run under the RedHat Linux Operating System (version 7.2 or newer) or the Solaris™ Operating System (version 2.6 or newer) in the X Windows environment (X 11 R6), Motif 1.2 or equivalent, OpenGL. The packages needed for installation are gcc and g77 compilers, OpenMotif development libraries, and OpenGL development libraries. Included are the INL report in PDF format and a Unix tar file which includes source codes, scripts and test cases. Reference: INEEL/EXT-02-00698 (June 2002). C (70%) and Fortran (30%); PC running Linux and Sun running Solaris (C00729MNYCP00).

CCC-731/ORIP-XXI

The State Scientific Center of Russia, Research Institute of Atomic Reactors, Division of Radionuclide Sources and Preparations, Ulyanovsk region, Russia, contributed the ORIP-XXI software. This suite of computer codes was developed for the study of radioactive and stable isotope transmutation chains, i.e. networks with feedbacks. Using these programs, it is possible to estimate various quantitative characteristics of a transmutation chain both for nuclide irradiations in neutron fluxes and in case of pure radioactive decays. The main parts of ORIP-XXI are NKE, the electronic nuclide chart; ChainFinder, the program for finding transmutation chains; and ChainSolver, the program for simulating transmutation.

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

The Windows 32 applications run on personal computers. The Borland Delphi™ Object Pascal and GNU Fortran compiler (MinGW port for Windows) were used to create the executables in the package. The package is transmitted on a CD in a WinZIP file which contains the source files, PC executables, and test data. References: Papers from State Scientific Centre of Russia – Research Institute of Atomic Reactors (May 2003). Pascal, Fortran 95; Pentium computers (C00731PC58600).

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.

Short Courses on Modeling and Computation of Multiphase Flows

The Swiss Federal Institute of Technology (ETH) in Zurich is hosting the 23rd of the Series, "Modeling and Computation of Multiphase Flow," March 20–24, 2006, in Zurich. The series will consist of:

Part I: Bases

Part IIA: New Reactor Systems and Methods

Part IIB: Computational Multi-Fluid Dynamics (CMFD)

Part IIC: CMFD with Commercial Codes

Detailed information is available at http://www.ascomp.ch/ShortCourse and correspondence may be addressed to Prof. G. Yadigaroglu, Short Course Multiphase Flow, ETH WEN B-13, Weinbergstr. 94, CH-8006 Zurich, Switzerland (phone: + 41 44 632 4615, fax: + 41 44 632 1105, email: yadi@ethz.ch, url: http://www.ascomp.ch/ShortCourse/Short-Course.html.)

MCNPX Workshops

Lead Teachers: Drs. John Hendricks, Gregg McKinney, Laurie Waters
Organizer: HQC Professional Services
Contact: bill@mcnpxworkshops.com
Information: http://mcnpxworkshops.com and MCNPX homepage: http://mcnpx.lanl.gov

2006 Schedule		
March 27–31	Intermediate	Cape Town, South Africa
June 12–16	Introductory	Santa Fe, NM

MCNPX is packed with new and exciting plotting features, including numerous mesh tally options which can be superimposed on your geometry plot and plotted within the MCNPX run, eliminating the need for post-processing and costly additional plotting package(s). You can plot particle flux, tracks, dosage, and energy deposition as well as source points and many others.

The workshops include hands-on instruction, generally on PC Windows machines. Subject to participant export approval from the MCNPX beta test team, participants will be able to access the Fortran 90 version of MCNPX 2.4, the LA150 (150 MeV) cross-section data for over 40 isotopes for incident neutrons and protons and 12 for photonuclear interactions, and a notebook of viewgraphs.

Follow-up consultation for class participants will be provided.

The classes are taught by experienced MCNPX code developers and instructors. More information on code versions and capabilities is available at MCNPX Workshops web site http://mcnpxworkshops.com.

To register go to http://mcnpxworkshops.com/regform.html.

ANS RP&S Division Biennial Topical Meeting

The American Nuclear Society Radiation Protection and Shielding Division Biennial Topical Meeting will be held April 3–6, 2006, at the Pecos River Village in Carlsbad, New Mexico. The conference will open with a keynote address by Dr. Glenn Knoll. Other outstanding plenary speakers will include Dr. Kenneth Shultis, Dr. Cassiano de Oliveira and other special speakers.

Workshops will be offered on April 2 and 6, both morning and afternoon. These continuing education classes with the time and location are listed in the conference website.

There will be no charge to those registered for the conference for any of the workshops, although pre-registration is requested. Attendance at the conference will provide continuing education credits for various technical certifications depending on the degree of participation by the attendee.

Tours will be offered of the Waste Isolation Pilot Plant (WIPP), a licensed and operating deep geological repository for transuranic waste. The actual number of visitors WIPP can accommodate will depend on operational conditions and the work schedule of the facility. The WIPP site is a federal facility and advance notice will be required for a site visit so early registration is strongly encouraged.

The Trinity Site is also available to the general public independent of the conference on Saturday, April 1, 2006. The Trinity Site is the location of the world's first detonation of a nuclear weapon.

The call for papers, program and contact information for the conference can be found at http://www.ans-rpsw-carlsbad.com/.

NCRP 2006 Annual Meeting, "Chernobyl at Twenty"

The National Council on Radiation Protection and Measurements (NCRP) will hold its 2006 Annual Meeting April 3–4, at the Crystal City Marriott in Arlington, Virginia. The April 26, 1986, accident at the Chernobyl nuclear power plant near Kiev in the Ukrainian Republic of the Former Soviet Union was the worst nuclear power accident in history. Large numbers of people were contaminated in the Ukraine Republic, Belarus Republic, Western Russia, Western Europe, and Scandinavia. More than 200,000 people in the Ukraine and Belarus Republics were evacuated and resettled as a result of significant fallout from the Chernobyl accident.

On the twentieth anniversary of this disastrous event, the 2006 NCRP Annual Meeting will provide a comprehensive retrospective review and analysis of the effects of the Chernobyl nuclear accident on human health and the environment. Topics to be discussed by international experts include:

- the initial release, distribution and migration of radiation from Chernobyl;
- efforts to clean up, contain and dispose of radionuclides released by the accident;
- health effects observed in emergency responders and cleanup workers;
- exposures and health effects among populations living close to, and distant from, the Chernobyl reactor site;
- lessons learned from the Chernobyl accident, including improved nuclear safety procedures, better preparedness for future nuclear accidents, and more effective management and mitigation of human health consequences of such events; and
- international perspectives on the future use of nuclear technology and nuclear power in comparison with other power sources.

The program and registration for the meeting can be accessed at http://www.ncrponline.org/dates.html.

TRAINING COURSE ON NEUTRON SPECTRA UNFOLDING

This two-day training course on neutron spectra unfolding will be held April 7–8, 2006, in Cape Town, South Africa. The training course is organized by the Neutron Radiation Department of the Physikalisch-Technische Bundesanstalt (PTB), Braunschweig, Germany. Additional support is provided by EURADOS. The course is intended for those who do spectrometry in neutron or mixed neutron/photon fields and need to analyze their data using unfolding procedures; emphasis is on practical aspects of unfolding.

A series of lectures in the morning sessions will provide an introduction to unfolding as well as allow for discussions on the theory of unfolding. In the afternoon sessions participants will work on specific examples

at PC-workplaces using the UMG software package provided by PTB (UMG: Unfolding with GRAVEL and MAXED, currently distributed by NEA as code package NEA-1665 and by RSICC as code package PSR-529). We will focus on Bonner sphere measurements for our discussion of few-channel unfolding, and on liquid scintillation spectrometer (NE213) measurements for our discussion of multi-channel unfolding.

The number of participants will be restricted due to the limited number of PC-workplaces available. Therefore, you should register as soon as possible. For on-line registration and further information please visit the website at: http://www.ptb.de/utc2006/. Contact: Burkhard Wiegel, PTB, email Burkhard.Wiegel@ptb.de The fee for the course is 800 Euro and includes a CD with a complete set of notes and unfolding software, as well as refreshments.

PRACTICAL MCNP FOR THE HP, MEDICAL PHYSICIST, AND RAD ENGINEER

DATES: 17–21 July 2006 (4.5 days)

FEE: $1,450 per person

PLACE: The MESA Complex, Room 130, University of New Mexico-Los Alamos Campus

Monte Carlo type calculations are ideally suited to solving a variety of problems in radiation protection and dosimetry. The Los Alamos MCNP™ code is a general and powerful Monte Carlo transport code for photons, neutrons, and electrons, and can be safely described as the "industry standard." This course is aimed at the HP, medical physicist, and rad engineer with no prior experience with Monte Carlo techniques. The focus is almost entirely on the application of MCNP™ to solve a variety of practical problems in radiation shielding and dosimetry. The intent is to "jump start" the student toward using MCNP™ productively. With a little practice and study of the examples, many will find they are able to solve problems that have, in the past, been out of reach.

Course content: Extensive interactive practice sessions are conducted on a personal computer. Topics will include an overview of the MCNP™ code and the Monte Carlo method, input file preparation, geometry, source definition, standard MCNP tallies, interpretation of the output file, exposure and dose rate calculations, radiation shielding, photon skyshine, detector simulation and dosimetry. Students will be provided with a comprehensive class manual and a diskette containing all of the practice problems. This course has been granted 32 Continuing Education Credits by the AAHP (2005-00-003), and 4.5 CM points by the American Board of Industrial Hygiene. The course is offered by the Health Physics Measurements Group at the Los Alamos National Laboratory.

Registration is available online at: http://drambuie.lanl.gov/~esh4/mcnp.htm. Make checks (U.S. dollars on a U.S. bank) payable to the University of California and mail with name, address, and phone number to: David Seagraves, Mail Stop J573, Los Alamos National Laboratory, Group HSR-4, MCNP Class, Los Alamos, NM 87545.

Inquiries regarding registration and class space availability should be made to David Seagraves, 505-667-4959, fax: 505-665-7686, e-mail: dseagraves@lanl.gov. Technical questions may also be directed to Dick Olsher, 505-667-3364; e-mail: dick@lanl.gov.

Please note that this course is separate from and independent of the courses being offered by the MCNP and MCNPX Teams at LANL.

Richard H. Olsher

PHYSOR 2006

The Canadian Nuclear Society has announced that the ANS Reactor Physics Topical PHYSOR-2006, "Advances in Nuclear Analysis and Simulation," will be held in Vancouver, BC, Canada, Sept. 10–14, 2006. The meeting is sponsored by the Reactor Physics Division of the ANS and co-sponsored by several international societies. The conference will be held at the Hyatt Regency in downtown Vancouver.

You are invited to visit the meeting website at http://www.cns-snc.ca/physor2006/ to obtain updated information and to download a copy of the call for papers. The conference chair is Benjamin Rouben, FCNS Manager, Reactor Core Physics Branch, AECL Sheridan Park (phone 905-823-9060 x 4550, fax: 905-822-0567, email: roubenb@aecl.ca). The technical program co-chair is Ken Kozier, Atomic Energy of Canada Limited (AECL), Chalk River Laboratories, Chalk River, Ontario, Canada K0J 1J0 (Phone: +1-613-584-8811 + ext.5059, email: physor2006@aecl.ca).

ISRP-10

The 10th International Symposium on Radiation Physics (ISRP-10) will be held at the University of Coimbra, Portugal, 17–22 September 2006. This event is organized jointly by the International Radiation Physics Society (IRPS) and the Physics Department of Coimbra University. The meeting is devoted to current trends in radiation physics research and will include a series of plenary talks given by prominent international researchers. The symposium in Coimbra is the latest in a series of triennial symposia which began in Calcutta in 1974 and continued in Penang (1982), Ferrara (1985), São Paulo (1988), Dubrovnik (1991), Rabat (1994), Jaipur (1997), Prague (2000) and Cape Town (2003). A 2½ day Workshop on the Use of Monte Carlo Techniques for Design and Analysis of Radiation Detectors will be held immediately prior to ISRP-10 (15–17 September 2006).

More information on the Symposium, the associate workshop, as well as on the venue, can be found at http://pollux.fis.uc.pt/isrp10.

ICNCT-12

The Twelfth International Congress on Neutron Capture Therapy (ICNCT-12) will be held October 9–13, 2006, in Takamatsu, Kagawa, Japan. The meeting is sponsored by the International Society for Neutron Capture Therapy (ISNCT) with the society president, Yoshinobu Nakagawa of the Kagawa National Children's Hospital, acting as chairman of the organizing committee. The meeting will focus on the many significant developments that have been made in neutron capture therapy in biology, medicine, chemistry, medical physics and engineering, and clinical trials. The most up-to-date information can be found at the conference website: http://icnct-12.umin.jp/index.html.

First European Workshop on Monte Carlo Treatment Planning

The European Workgroup on MCTP (EWG-MCTP) is sponsoring the First European Workshop on Monte Carlo Treatment Planning, October 22–25, 2006, in Gent, Belgium. The conference theme is "Introduction of MCTP into the Clinic." The workshop will offer the opportunity for scientists to exchange information, to develop new ideas and initiate international collaborative programs on the exciting and fast developing research domain of Monte Carlo treatment planning. This workshop will also provide an overview of the current state of the art to clinical physicists who are thinking of introducing MCTP into their clinic.

The venue of the meeting is "Het Pand," a former Dominican monastery located in the historical centre of the city. The oldest parts of the building date from the 13th century and houses some valuable collections

of the University such as the Museum for the History of Medicine and the ethnographical and archaeological collections.

Scientific sessions will consist of general talks and poster presentations. The research topics covered will be the following:

- Industry – MCTPS
- 4D MCTP
- General multipurpose codes
- Dosimetry
- Photon MCTP
- Electron MCTP
- Proton MCTP
- Brachytherapy MCTP
- Clinical studies
- MC in optimisation
- Portal dosimetry

Inquiries may be sent to N. Reynaert, Lab for Standard Dosimetry Gent, Gent University –FANC, Proeftuinstraat 86 – B-9000 Gent, BELGIUM phone: + 32 9 264 66 48, fax: + 32 9 264 66 96, email: nick.reynaert@ugent.be. Details and updated information can be found at http://www.ewg-mctp.ugent.be/.

PHYTRA1

The First International Conference on Physics and Technology of Reactors and Applications (PHYTRA1), will be held March 14–16, 2007, in Marrakech City, Morocco. This is the first International Conference organized by the Moroccan Association for Nuclear Engineering and Reactor Technology "GMTR" after a series of three national conferences. The objective is to provide scientists and engineers from different countries an opportunity to present their recent work in reactor physics and nuclear technology. Industrial vendors may exhibit their products and innovations in different domains related to reactor physics and nuclear technology. The PHYTRA1 conference will also be a celebration for the operation of the first research reactor (TRIGA Mark II) in Morocco which is expected to be commissioned in 2006.

Conference topics include:

- Deterministic and Monte Carlo Transport Theory Methods
- Reactor Core and Lattice Physics Methods
- Physics and Computational Methods for Advanced Reactors
- Reactor Theory and Reactor Concepts
- Neutron Kinetics and Dynamics
- Criticality and Safety Analysis
- Fuel Loading Optimization and Fuel Design
- Nuclear Data Analysis and Methods
- Computer Codes and Benchmarks
- Computational Methods for Research Reactors
- High Temperature Reactor Physics and Methods
- Reactor Thermal Hydraulics
- Radioactive Waste Management
- Research Reactor Utilization
- Reactor Dosimetry and Reactor Shielding

A one-page abstract should be sent by **June 15, 2006**, via email, to Pr. A. Jehouani, Faculty of Sciences SEMLALIA, Dept. of Physics, University Cadi Ayyad- Marrakech Morocco (email: phytra@ucam.ac.ma or jehouani@ucam.ac.ma, fax : 212-44-43-74-10) or Pr. L. Erradi, GMTR President, Mohammed V Agdal University, Faculty of Sciences, Department of Physics, B. P. 1014 RABAT Morocco (email: erradi@fsr.ac.ma or fax: 212-0-37-77-89-73) http://www.ans.org/meetings/index.cgi?c=c.

ND2007

The International Conference on Nuclear Data for Science and Technology will be held April 22–27, 2007, in Nice, France. The conference is organized by the Commissariat à l'Énergie Atomique (CEA) under the auspices of the OECD Nuclear Energy Agency (NEA). The General Chairs are B. Bigot, Haut commissaire à l'Énergie Atomique and L. Echávarri, NEA Director-General. Abstracts should be submitted by **September 2006** on the following topics:

- Nuclear structure and decay data
- Experimental facilities and detection techniques
- Nuclear data measurements and analysis
- Nuclear theories, models and data evaluation
- Standards
- Evaluated nuclear data libraries and processing
- Validation, benchmarking of evaluated data
- Integral experiments
- Uncertainties quantification
- Data dissemination and international collaboration
- Fission energy applications
- Accelerator-related applications
- Fusion technology applications
- Dosimetry and shielding applications
- Safeguards and security
- Space, cosmic-ray applications, radiation effects on electronics
- Astrophysics and cosmology applications
- Medical and environmental applications

The most current information will be posted to the website at http://www-dapnia.cea.fr/Sphn/nd2007/site_nd2007/ and questions or comments may be addressed to nd2007@cea.fr.

International Conference on Emerging Nuclear Energy Systems (ICENES 2007)

The committee for the 13th International Conference on Emerging Nuclear Energy Systems (ICENES 2007) has issued a call for papers for the conference to be held September 2–7, 2007, at Gazi University in Istanbul.

The main objective of ICENES is to provide a broad review and discussion of various advanced, innovative and non-conventional nuclear energy production systems to scientists, engineers, industry leaders, policy makers, decision makers and young professionals who will shape future energy supply and technology. ICENES 2007 will also open the forum to innovative non-nuclear technologies, such as hydrogen energy, solar energy, deep space exploration, etc. with an emphasis on *unthinkable ideas* with a sound scientific-technical basis. The program will include invited papers, submitted contributions in oral and poster sessions, as well as an industrial exhibition and social tours. Topical areas include:

- Advanced Fission Systems
- Fusion Energy Systems
- Accelerator Driven Systems
- Exotic Nuclear Reactor Concepts
- Transmutation and Fuel Cycle
- Co-Generation and Non-Electricity Production Applications
- Generation IV Reactors
- Space Power and Propulsion
- Deep Space Exploration, general
- Nuclear Hydrogen Production
- Radiation Protection & Shielding
- Hydrogen Energy, general including non-nuclear applications
- Solar Energy
- Other Alternative Energies
- Societal Issues

The official language of the conference will be English. Authors should submit abstracts of 300–500 words to abstract@icenes2007.org for review by the Program Committee. Abstracts should include sufficient information to explain and support the new and significant results to be presented in the proposed paper. The topical area appropriate to the abstract and the name and address of the author to whom correspondence should be addressed must be clearly stated at the top of the first page. Abstracts may be submitted in "pdf" or "doc" format via e-mail by **December 22, 2006.** Authors will be notified by February 23, 2007. The deadline for full papers is **June 29, 2007**. The proceedings will be produced on an interactive CD-ROM with an ISBN registration number. A selection of ICENES 2007 papers will be published in a special edition of the journal *Energy Conversion & Management*. Updated information will be posted to http://www.icenes2007.org/.

CALENDAR

February 2006

German Atomic Forum Winter Meeting, Feb. 8–9, 2006, Berlin. Contact: Anette Wiederhold, dbcm GmbH, Conference Office WT 2006, Kamillenweg 16-18, D-53757 Sankt Augustin, Germany. (fax 49-0-2241-9389712, email Annette.wiederhold@dbcm.de).

Waste Management 2006 (WM'06) Feb. 26–Mar. 2, 2006, Tucson, AZ. Contact: WM Symposia, Inc., P.O. Box 35340, Tucson, AZ 85740 (phone 520-696-0399, fax 520-615-8997, www.wmsym.org).

March 2006

HEART Conference, March 6–10, 2006, Santa Clara, CA. Contact: Technical Program Chair, Dennis Breuner (phone 858-720-7072, email dbreuner@titan.com).

TopNux: Securing the Future—The Role of Nuclear Energy, March 21–23, 2006, London, England. Contact: Dionne Bosma, ENS (phone 32-2-505-3054, fax 32-2-502-3902, email Dionne.boxma@euronuclear.org).

23rd Short Course Series on "Modeling and Computation of Multiphase Flow," March 20–24, 2006, Zurich. Contact: Prof. G. Yadigaroglu, Short Course Multiphase Flow, ETH WEN B-13, Weinbergstr. 94, CH-8006 Zurich, Switzerland (phone: + 41 44 632 4615, fax: + 41 44 632 1105, email: yadi@ethz.ch, url: http://www.ascomp.ch/ShortCourse/Short-Course.html.)

MCNPX Intermediate Workshop, March 27–31, 2006, Cape Town, South Africa. Contact: Bill Hamilton (phone 806-928-6021, email bill@mcnpxworkshops.com, url http://mcnpxworkshops.com).

April 2006

NCRP 2006 Annual Meeting April 3–4, 2006, Arlington, Virginia. URL: http://www.ncrponline.org/dates.html.

14th Biennial Topical Meeting of the ANS Radiation Protection and Shielding Division, April 3–6, 2006, Carlsbad, New Mexico. Contact: Dr. Chuan-Fu Wu (phone: 505-234-7552, email chuan.wu@wipp.ws) or Mr. Russell McCallister (phone 505-234-7395, russell.mccallister@wipp.ws) http://www.ans-rpsw-carlsbad.com/.

Methods and Applications of Radioanalytical Chemistry (MARC VII), April 3–7, 2006, Kona, Hawaii. Contact: B. Stephen Carpenter, General Chair, National Institute of Standards and Technology, 100 Bureau Dr., Stop 1090, Gaithersburg, MD 20899 (phone 301-975-4119) http://www.min.uc.edu/nuclear/marc/.

Two-day training course on neutron spectra unfolding, April 7–8, 2006, Cape Town, South Africa. Contact: Burkhard Wiegel, PTB, email Burkhard.Wiegel@ptb.de or http://www.ptb.de/utc2006/.

International High-Level Radioactive Waste Management Conference (2006 IHLWM), April 30–May 4, 2006, Las Vegas, Nevada. Contact: Daniel B. Bullen, General Chair, Exponent, 185 Hansen Court, Suite 100, Wood Dale, IL 60191 (phone 630-274-3223, fax 630-274-3299, email dbullen@exponent.com) http://www.ans.org/meetings/index.cgi?c=t.

June 2006

ANS Annual Meeting, "A Brilliant Future: Nexus of Public Support in Nuclear Technology," June 4–8, 2006, Reno, Nevada. URL: http://www.ans.org/meetings/index.cgi?c=n.

MCNPX Introductory Workshop, June 12–16, 2006, Santa Fe, NM. Contact: Bill Hamilton (phone 806-928-6021, email bill@mcnpxworkshops.com, url http://mcnpxworkshops.com).

EXRS 2006–European Conference on X-Ray Spectrometry, June 19–23, 2006, Paris, France. Contact: exrs2006@cea.fr, http://www.nucleide.org/exrs2006/.

September 2006

PHYSOR-2006, "Advances in Nuclear Analysis and Simulation," Sept. 10–14, 2006, Vancouver, BC, Canada. Contact: Ken Kozier, Technical Program Co-Chair, Atomic Energy of Canada Limited (AECL), Chalk River Laboratories, Chalk River, Ontario, Canada K0J 1J0 (Phone: 613-584-8811 ext.5059, email: physor2006@aecl.ca, web http://www.cns-snc.ca/physor2006/).

Workshop on the Use of Monte Carlo Techniques for Design and Analysis of Radiation Detectors, Sept. 15–17, 2006, Coimbra, Portugal. Contact: workshop@lipc.fis.uc.pt (http://pollux.fis.uc.pt/isrp10/workshop/index.htm).

ISRP-10, Sept. 17–22, 2006, Coimbra, Portugal. Contact: isrp10@pollux.fis.uc.pt (http://pollux.fis.uc.pt/isrp10).

October 2006

First European Workshop on Monte Carlo Treatment Planning, Oct. 22–25, 2006, Gent, Belgium. Contact: N. Reynaert, Lab for Standard Dosimetry Gent, Gent University –FANC, Proeftuinstraat 86 – B-9000 Gent, BELGIUM (phone: + 32 9 264 66 48, fax: + 32 9 264 66 96, email: nick.reynaert@ugent.be, url: http://www.ewg-mctp.ugent.be/).

November 2006

ANS Winter Meeting and Nuclear Technology Expo, "Securing the Future in Times of Change," Nov. 12–16, 2006, Albuquerque, NM. Contact: Robert W. Kuckuck (phone 505-667-5101, email bobkuck@lanl.gov) http://www.ans.org/meetings/index.cgi?c=n.

March 2007

First International Conference on Physics and Technology of Reactors and Applications (PHYTRA1), March 14–16, 2007, Marrakech City, Morocco. Contact: Pr. A. Jehouani, Faculty of Sciences SEMLALIA, Dept. of Physics, University Cadi Ayyad- Marrakech Morocco (email : phytra@ucam.ac.ma or jehouani@yahoo.com, fax : (212) 44 43 74 10) or Pr. L. Erradi, GMTR President, Mohammed V Agdal University, Faculty of Sciences, Department of Physics, B. P. 1014 RABAT Morocco (email: erradi@fsr.ac.ma or erradi@hotmail.com, fax: 212-0-37-77-89-73).

September 2007

ICENES 2007, Sept. 2–7, 2007, Istanbul. Contact: Prof Dr. Sümer Şahin, Gazi University 06500 ANKARA/TURKEY (phone +90.(0312).212.43.04, fax +90.(0312) 212.43.04, email sumersahin@icenes2007.org, url http://www.icenes2007.org/).