Radiation Safety Information Computational Center

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"Minds are like parachutes - they only function when open." -- Lord Thomas Dewar

Robert Roussin is Recipient of the Rockwell Award

Dave Anderson (2004-05 Chair of ANS/RPSD) congratulates Robert Roussin for the Rockwell Award

  Robert W. Roussin, Director of RSIC from to 1983 to 1996, received the Rockwell Award in May 2004 at the ICRS-10 Conference in Madeira. Following Bob's tenure as Director of RSIC, he became the Director of the Radiation Information Analysis Section until his retirement in 2000.

  The Rockwell Award is a lifetime achievement award based on long-term or lifetime achievement in research, technology development, or education in the fields of radiation protection, shielding or dosimetry.

  Following are some remarks taken from Bob's acceptance speech at the conference.

    "It is a tremendous honor to be thought of in the same light as the previous winners of this Award: Ted Rockwell (1987), Arthur Chilton (1987), Herbert Goldstein (1989), David Trubey (1991), Norman Schaeffer (1995), Wilbur Bunch (1997).

    "My thanks to the American Nuclear Society Radiation Protection and Shielding Division Executive Committee for the Award and for support to attend the ICRS-10.

Thanks also to the ICRS-10 Organizing Committee for providing this wonderful forum for its presentation.

"This Award could only be possible for me because of my career at the Radiation Shielding Information Center (RSIC) at Oak Ridge National Laboratory. RSIC, now known as the Radiation Safety Information Computational Center (RSICC), has the objective of advancing the field of radiation protection and safety through implementation of Dr. Alvin Weinberg's ideas for the Information Analysis Center (IAC) concept. RSICC has developed into the best example of an IAC in a specialized field.

"From the RSICC platform, many useful development, collaborations, and transfers of technology have been possible. It is not possible to mention, individually, all who have worked with me over the years and, in so doing, should share this Award. But I would like to thank all the RSICC staff members whose efforts really put value into the products of the Center. I give my thanks also to colleagues in this audience and elsewhere throughout the world who were my collaborators. Also, thanks are due to agencies that sponsored our work.

"In closing, I would like to mention, specifically, Dr. Chilton, my advisor at the U. Illinois, who encouraged me to join RSIC; Dave Trubey and Betty Maskewitz, who hired me into RSIC and were my mentors over the years; Dr. Tanaka at JAERI and the support for RSICC from Japan; Dr. Enrico Sartori at the Nuclear Energy Agency Data Bank, who really understands the importance to our field of Centers like RSICC and the NEA DB. Finally, I thank my wife, Georgia, for her encouragement and support over the years."

10th International Conference on Radiation Shielding / 13th Topical Meeting of the ANS Radiation Protection and Shielding Division

ICRS10/RPS2004 was held May 9-14 in Funchal, Madeira Island, Portugal. The ANS Radiation Protection and Shielding Division (RPSD) combined its biennial topical meeting with the ICRS10. The combined conference was a great success. About 375 scientists and engineers attended and there were a total of about 350 oral paper presentations and posters. Highlights included plenary sessions on Monday, Tuesday, and Wednesday, and a closing Plenary session on Friday, with speakers covering a wide and interesting variety of topics. The opening session featured Paul DeLuca on Radiation Medical Sciences, Alex Bielejew speaking about Challenges in Monte Carlo, and Berndt Grosswendt on Nanodosimitry. Tuesday featured a discussion on the direction of radiation protection standards with Roger Clarke (ICRP Chair), Bob Dixon (NCRP Chair), and Hanx-Georg Menzel (CERN). Wednesday's plenary focused on challenging projects with talks on SNS by Franz Gallmeier, J-PARC by Shun-Ichi Tanaka, and the European ADS Initiative by Hamid Abderrahim. The closing plenary on Friday featured future directions, in keeping with the meeting theme, "21st Century Challenges in Radiation Protection and Shielding." Ali Haghighat talked about future needs and directions for transport methods, Francesco d'Arrico discussed trends in radiation detection techniques, and Larry Townsend gave a presentation on the challenges of the space radiation environment in long term deep space missions. We were privileged at lunch on Thursday to receive a talk on realism by Larry Foulke, President of the American Nuclear Society. And at the Wednesday evening banquet it was my pleasure to be able to present the Rockwell Award for lifetime achievement to Bob Roussin, longtime director of RSIC (now RSICC).

Dave Anderson, Bob Roussin, Pedro Vaz at ICRS-10

Preliminary plans were laid to change the every 5 year ICRS schedule to a 4 year cycle, so that in the future, more joint meetings can be held to build on the success of this meeting. At the closing session it was announced that the next ICRS (and joint RPSD topical) would be held in Atlanta in 2008. The conference co-chairs, David Anderson and Pedro Vaz, would like to extend our gratitude to all those who participated and worked very hard to organize the meeting. They made the conference successful.

David Anderson
Co-Chair of ICRS10/RPS2004

SCALE 5 Electronic Notebook

RSICC has added an electronic notebook dedicated to SCALE 5. Please post your questions and comments at: **http://www-rsicc.ornl.gov/cgi-bin/enote.pl?nb=scale5**.

Changes to the Computer Code and Data Collection

CCC-725/SCALE5

OP SYS: Unix, Linux, Windows XP
Language: Fortran 95 & C
Computers: Dec, IBM, Sun, & Pentium
Format: Windows & Unix

Oak Ridge National Laboratory, Oak Ridge, Tennessee, contributed a newly frozen version of the SCALE system, which was developed for the Nuclear Regulatory Commission to satisfy a need for a standardized method of analysis for the evaluation of nuclear fuel facility and package designs. In its present form, the system has the capability to perform criticality, shielding, radiation source term, spent fuel depletion/decay, and heat transfer analyses using well established functional modules tailored to the SCALE system.

SCALE 5 contains several significant new modules and sequences for nuclear safety analyses and marks the most important update to SCALE in more than a decade. Significant new modules include:

* CENTRM: Continuous energy flux spectra for multigroup cross-section processing
* TSUNAMI: Sensitivity/uncertainty for criticality safety in 1-D and 3-D

* SMORES: 1-D material optimization for criticality safety
* JAVAPENO: Interactive plotting of results from KENO, TSUNAMI, SMORES, XSDRN
* STARBUCS: Burnup credit sequence for criticality safety
* TRITON/NEWT: 2-D flexible mesh discrete ordinates for fuel depletion and criticality safety

In addition, extensive updates have been made to the ORIGEN-S data libraries:
* Fission yields updated from ENDF/B-V to -VI; new library increased from 879 to 1119 fission products
* Extended number of actinides with explicit fission yields from 5 to 30
* Basic cross sections updated with LWR-weighted data from ENDF/B-VI, EAF-99, and FENDL-2.0
* Master photon library upgraded with ENDF/B-VI and ENSDF yield data; number of nuclides with photon line data increases from 418 to 2101
* Updated neutron source methods and data

See the developers' website and the electronic notebook for news, updates, additional configuration files, and tips on running the code. The SCALE website is located at: **http://www.ornl.gov/sci/scale/**. Please read more about these new features in the July 2003 SCALE Newsletter at the above website. A new SCALE-5 notebook was added to the web so that information on this release can be more easily accessed. It is at located at: **http://www.ornl.gov/sci/scale/scale_notebook.html**.

The SCALE system consists of easy to use analytical sequences which are automated to perform the necessary data processing and manipulation of well established computer codes required by the sequence. Thus the user is able to select an analytical sequence characterized by the type of analysis (criticality, shielding, or heat transfer) to be performed and the geometric complexity of the system being analyzed. The user then prepares a single set of input for the control module corresponding to this analytical sequence. The control module input is in terms of easily visualized engineering parameters specified in a simplified, free form format. The control modules use this information to derive additional parameters and prepare the input for each of the functional modules in the analytical sequence. Provisions have also been made to allow the user to execute the functional modules on a stand alone basis. The radiation transport codes employ either discrete ordinates or Monte Carlo methods.

SCALE runs on Pentium Personal computers running Windows XP or 2000, IBM RS/6000, DEC, and Sun workstations and requires approximately 1.6 GB of disk space to create executables and data libraries and run sample problems. Additional space (up to 1 GB) is required for temporary files.

Windows executables included in the Windows package were created using the Lahey F95 Fortran compiler version 7.1 on Windows XP. They also run under Windows 2000.

Fortran 95 and C compilers are required to install the Unix and Linux versions. No executables are included for these platforms because of incompatibilities in runtime libraries. Makefile flags are included to allow the source code to compile on DEC Alpha OSF/1, IBM/AIX, Sun/Solaris, and Linux PC workstations. Flags are also included for MAC OSX and HP/HP UX10 although SCALE-5 was not fully implemented on these computers at the time of the release. Note that makefiles are included for creating executables, installing libraries and running sample problems on Unix and Linux. Both binary and ASCII formatted AMPX master libraries are included in this distribution. The make installation will process binary libraries (if required) and store them in the data directory. See the README files for more information. This version was developed using Digital Fortran 90 V4.1 270 on a DEC Alpha 500/500 workstation under Digital Unix 4.0. Scale5 was tested on the following systems.

* DEC6600 running Tru64 UNIX V5.0A, Tru64 UNIX V5.1A with HP Fortran V5.5A and C compiler V6.1 and V6.4
* DEC6600, DEC4100, and other DEC's running Digital UNIX V4.0D, V4.0F, V4.0D with Compaq Fortran V5.5 and DEC C V5.9
* IBM RS/6000 580 running AIX 4.3 with XL Fortran Compiler 6.1.0.9 and C 4.3.0.1
* IBM RS/6000 590 running AIX 5.1 with XL Fortran 08.01.0000.0003 and C 5.0.0.0
* Sun SPARCstation-20 running Solaris 5.7 with Fortran 95 6.0 and C 5.1
* AMD Athlon running Red Hat Linux 7.3 with Lahey/Fujitsu Fortran 95 L6.10a and GNU gcc 2.96

The package, which is distributed on six CD's, includes source codes, Windows executables, ASCII and binary data libraries, makefiles, batch files, and sample problem input and output. References: NUREG/CR 0200, Rev. 7 (ORNL/NUREG/CSD 2/R6), Vols. I, II, and III (June 2004, DRAFT). Fortran 95 and C; DEC, IBM RS/6000, and Sun Unix workstations; Linux, and Windows 2000/XP (C00725/MNYCP/00).

CONFERENCES, COURSES, SYMPOSIA

RSICC attempts to keep its users/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 **FINCHSY@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. Below is a condensed list of the **conferences** only listed chronologically. More details (if available) are listed alphabetically following the table.

Condensed Table of Conferences

Name of Conference	Date and Location	Web Site	Abstract/Paper Due Date
AAPM 46th Annual Meeting	July 25-29, 2004 Pittsburgh, Pennsylvania	**http://www.aapm.org/meetings/04AM/MtgPrgmTOC.asp**	NA
1st International Symposium on Radionuclide Therapy and Radiopharmaceutical Dosimetry	Sept. 4-8, 2004 Helsinki, Finland	**http://www.eanm.org/eanm.php?kopf=head/hd_calendar.html&worte=calendar/calendar.php**	

Name of Conference	Date and Location	Web Site	Abstract/Paper Due Date
12th International Conference on the Physics of Highly Charged Ions	Sept. 6-10, 2004 Vilnius, Lithuania	**http://www.itpa.lt/hci2004/**	passed
International Conference Nuclear Energy for New Europe 2004	Sept. 6-9, 2004 Portoroz, Slovenia	**http://www.drustvo-js.si/port2004/**	passed
16th American Nuclear Society Topical Meeting on the Technology of Fusion Energy	Sept. 14-16, 2004 Madison, Wisconsin	**http://fti.neep.wisc.edu/tofe**	passed
International Conference on Nuclear Data for Science and Technology "ND2004"	Sept. 26-Oct. 1, 2004 Santa Fe, New Mexico	**http://t16web.lanl.gov/nd2004/**	passed
5th International Conference of Yugoslav Nuclear Society (YUNS)	Sept. 27-30, 2004 Belgrade, Serbia & Montenegro	**http://www.vin.bg.ac.yu/YUNS/Yunsc2004.html**	
Americas Nuclear Energy Symposium 2004	Oct. 3-6, 2004 Miami Beach, Florida	**http://anes.fiu.edu/2004/**	NA
11th International Congress on Neutron Capture Therapy (ISNCT-11)	Oct. 11-15, 2004 Boston, Massachusetts	future site	
ANS Annual Winter Meeting and Nuclear Technology Expo	Nov. 14-18, 2004 Washington, D.C.	**http://www.ans.org/meetings/**	
2005 HEART Conference	Mar. 21-25, 2005 Tampa, Florida		Sept. 17, 2004
Monte Carlo 2005 Topical Meeting	Apr. 17-21, 2005 Chattanooga, Tennessee	**http://MonteCarlo2005.org**	**call for papers**
Twelfth International Symposium on Reactor Dosimetry	May 8-13, 2005 Gatlinburg, Tennessee	**announcement / call for papers in pdf** **http://reactordosimetry.com**	Aug. 1, 2004
International Nuclear Chemistry Society (INCS)	May 22-29, 2005 Kusadasi, Turkey	**http://incs.ege.edu.tr/1st-INCC.html**	Oct. 1, 2004

Name of Conference	Date and Location	Web Site	Abstract/Paper Due Date
ANS Annual Summer Meeting	June 5-9, 2005 San Diego, California	**http://www.ans.org/meetings/**	
Seventh Topical Conference on Nuclear Applications of Accelerator Technology "AccApp05"	Aug. 28-Sept.1, 2005 Venice, Italy	**http://AccApp05.infm.it**	Mar. 31, 2005
230th American Chemical Society National Meeting	Aug. 28-Sept.1, 2005 Washington, D.C.	**www.cofc.edu/~nuclear**	April 2005
Eleventh International Topical Meeting on Nuclear Reactor Thermal Hydraulics	Oct. 2-6, 2005 Avignon, France	**http://nureth11.com/**	passed

2004 Conferences and Courses

Advanced Training Course/Workshop on Electron-Photon Transport Modeling with PENELOPE-2003 Physics, Code Structure and Operation

The Advanced Training Course/Workshop on Electron-Photon Transport Modeling with PENELOPE-2003 Physics, Code Structure and Operation will be held **October 18-21, 2004**, in Athens, Greece.

This course is addressed to researchers in Radiation Physics and Applications. The main objective is to provide the participants with a detailed description of PENELOPE and an ampler perspective on Monte Carlo methods for simulation of electron/photon transport. The emphasis will be on the reliability of the interaction models and on the accuracy of the numerical methods and approximations implemented in the codes. A number of practical cases will be discussed, including benchmark comparisons with experiments. The course will include practical sessions on the efficient use of the example main programs for planar and cylindrical geometries and on the design of the main program for specific applications.

For more information contact Marios Anagnostakis (tel +30-210-7722912, fax +30-210-7722914, email **managno@nuclear.ntua.gr**, url **http://www.nea.fr/lists/penelope.html**, registration **http://www.nea.fr/html/dbprog/penelope2004-1reg.html**).

Americas Nuclear Energy Symposium 2004

The United States Department of Energy and the American Nuclear Society are pleased to announce the next Americas Nuclear Energy Symposium (ANES 2004), which will take place Sunday through Wednesday, **October 3-6, 2004,** at the Deauville Beach Resort in Miami Beach, Florida.

ANES 2004 will feature the theme "Building Bridges to Greater Cooperation." The symposium will provide you with the latest information about the use and development of nuclear energy technology throughout the Americas. The format will include open panel discussions, case studies, technical

breakout sessions, and an exhibit of international organizations, not to mention great opportunities to network.

ANES 2004 will include sessions on nuclear reactors; technology development and deployment; production, disposal and usage of isotopes; fuel cycle and waste management; new applications; finance; and environmental, infrastructure and communications issues.

Another successful event is anticipated with the largest number of participants yet attending from across Canada, the Caribbean, Latin America and the United States. Please visit the website at **http://anes.fiu.edu** for frequent updates.

16th American Nuclear Society Topical Meeting on the Technology of Fusion Energy

The ANS Topical Meeting on the Technology of Fusion Energy will be held **September 14-16, 2004**, in Madison, Wisconsin. You are cordially invited to submit one-page abstract(s) describing work that is new, significant, and relevant to both magnetic and inertial fusion technologies. A Microsoft Word template that can be used to create the abstract is available on the TOFE website: **http://fti.neep.wisc.edu/tofe** .

The 16th Topical Meeting on the Technology of Fusion Energy (TOFE) will continue the tradition of stand-alone topical meetings originated in the early 1970's, continued through the 80's, and re-established in the year 2000 in Park City, Utah. The scope of the TOFE meeting is to provide a forum for sharing exciting new progress that has been made in fusion research as well as presenting the future of the national and worldwide fusion program.

The 2½ day program of the 16th TOFE meeting will have plenary, oral, and poster sessions, including a mix of invited oral papers and a significant number of contributed oral and poster papers. Key deadlines follow: one-page abstracts (May 1, 2004); nominations for ANS-FED awards (May 31, 2004); notification to authors (June 1, 2004); early registration deadline (August 10, 2004); hotel reservation cutoff date (August 10, 2004); full papers due at the meeting (September 14, 2004).

MCNPX Workshops

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

July 12-16	Intermediate	Houston, TX
Sept. 20-24	Intermediate	Las Vegas, NV
Nov. 15-19	Introductory	Europe (TBA)

MCNPX is the LANL all-particle, all-energy (eV-TeV) Monte Carlo transport code based on MCNP4C, LAHET, CEM, etc. MCNPX has been in active development since 1995, sponsored by the particle accelerator community. It has now become an accepted tool for a broad range of applications by nuclear engineers, physicists, and scientists. The MCNPX development effort has expanded the use of the Los Alamos tools to applications such as APT, waste transmutation, accelerator shielding and health physics, particle beam cancer therapy, space shielding and cosmic ray analysis, single event effects in semiconductors, radiography, and more detailed analysis of the effects of light and heavy ions in matter. In addition, the entire functionality of MCNP4C is retained. New variance reduction and data analysis

techniques, many adapted from high-energy accelerator methodologies, have also been added, such as the extensive "mesh tally" capability which allows up to 3-d plotting of particle tracks, fluence and fluence-derived quantities, energy deposition, next event estimator generation contributions and particle sources.

The workshops include hands-on instruction, generally on PC Windows machines. Subject to participant export approval for 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.

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**.

Monte Carlo Analysis and Nuclear Criticality Safety - Short Course

The Department of Nuclear Engineering at the University of Tennessee-Knoxville is offering two short courses for radiation transport and criticality safety specialists during Tennessee Industries Week (TIW-39), **August 9-13, 2004.**

Engineers, scientists, and technical managers who wish to increase their knowledge and understanding of nuclear criticality safety will be interested in the criticality safety course, which also runs for five days. The topics covered in the course are based primarily on the experience of the five instructors which totals over 120 years of nuclear criticality safety related experience. Such a wealth of experience needs to be shared with the criticality safety community including both new professionals in the field as well as experienced professionals.

Monte Carlo is often the method of choice to solve complex problems in nuclear criticality safety and radiation shielding. To use Monte Carlo effectively the analyst must understand the theoretical and computational fundamentals of the method, as well as the computational options available in particular computer tools. Also, it is sometimes advantageous to create new special-purpose Monte Carlo programs to solve particular problems rather than use an existing program. The Monte Carlo course runs for five days.

The deadline for registration is July 23, 2004. Classes are limited in size and will be filled on a first-come first-serve basis. For additional information on these and other courses offered during TIW-39, contact Kristin England at the University of Tennessee, phone (865) 974-5048, email **kengland@utk.edu**, url **http://www.engr.utk.edu/nuclear/TIW.html**.

Nuclear Data for Science and Technology "ND2004" - International Conference

The International Conference on Nuclear Data for Science and Technology will be held **September 26-October 1, 2004**, in Santa Fe, New Mexico. This is an OECD-Nuclear Energy Agency Conference, which is held approximately every 3 years. Recent conferences in this series were held in Antwerp (1982), Santa Fe (1985), Mito (1988), Jüelich (1991), Gatlinburg (1994), Trieste (1997) and Tsukuba (2001). This International Conference focuses on nuclear data, their production, dissemination, testing and application. The data are produced through both experimental and theoretical models; they are compiled and evaluated to form data libraries for use in applications; and they are tested through benchmark experiments and a very wide range of applications. This Conference includes all of these activities with the goal of improving nuclear data for applications including fission and fusion energy, accelerator driven systems, accelerator technology, spallation neutron sources, nuclear medicine, environment, space, non-proliferation, nuclear safety, astrophysics and cosmology, and basic research. Please see the web site for more information: **http://t16web.lanl.gov/nd2004/**.

Physics of Highly Charged Ions - 12th International Conference

HCI-2004 will be the 12th conference in an international series taking place every two years around the world. This year's conference will be in Vilnius, Lithuania, **September 6-10, 2004.** Born in Stockholm in 1982, HCI became a major forum for the presentation and discussion of important new research results in the physics of highly charged ions. The conference will continue to emphasize basic, fundamental science at the atomic and molecular level, and its application to important technology challenges. Opportunity will be given to provide insights in other disciplines where HCI physics have a strong impact like nuclear physics, material science, radiation chemistry, radiobiology, etc.

For more information, please email **hci2004@itpa.lt** or see the website: **http://www.itpa.lt/hci2004/**.

Radionuclide Therapy and Radiopharmaceutical Dosimetry - 1st International Symposium

The 1st International Symposium on Radionuclide Therapy and Radiopharmaceutical Dosimetry will take place in conjunction with the annual European Association of Nuclear Medicine (EANM) Congress in Helsinki, Finland, **September 4-8, 2004.**

The format of the meeting has evolved from a series of seven interesting and important radiopharmaceutical and dosimetry symposia held approximately every 5 years since 1970, with distribution of published proceedings. The last meeting (7th International Radiopharmaceutical Dosimetry Symposium) was held in Nashville, Tennessee in 2002.

The decisions of the scientific committee and the set-up of the program for Helsinki will be coordinated by the EANM Task Group on Dosimetry and EANM Therapy Committee. All organisational matters will be handled by the EANM.

A call for abstracts (also electronic) will go out in a few months, with authors notified of the outcome in May 2004. Contributors will be asked either to bring an electronic version of their manuscript to the meeting in September 2004 or to submit it within two months after the meeting; early plans are to have extended peer-reviewed abstracts published as a supplement to a journal.

For more information contact: Michael Lassmann, Chair T/G Dosimetry EANM, **Lassmann@nuklearmedizin.uni-wuerzburg.de** or Val Lewington, Chair Therapy Committee EANM, **vjlewington@hotmail.com** or visit **http://www.eanm.org/eanm.php?kopf=head/hd_calendar.html&worte=calendar/calendar.php**

RESRAD Family Workshops

Argonne National Laboratory will conduct two training workshops on the RESRAD family of risk assessment codes. The first workshop is for the RESRAD (6.22) and RESRAD-BUILD (3.22) codes on **August 10-13, 2004.** The second workshop is for the newly released RESRAD-BIOTA (1.0) code on **September 15-16, 2004.** The tentative agenda and registration information can be found on the RESRAD web site **http://web.ead.anl.gov/resrad/training/**. If you have questions contact: Dr. Charley Yu, CHP RESRAD Program Manager, phone 630-252-5589, fax 630-252-4624, email **cyu@anl.gov**.

SCALE Training Courses at ORNL (July)
http://www.ornl.gov/sci/scale/trcourse.html

Date	Title	Registration Fee*	Description
July 26-28, 2004	TSUNAMI Sensitivity/Uncertainty Tools (experienced KENO users only)	$1200	1-D and 3-D sensitivity/uncertainty analysis using XSDRNPM and KENOV.a
July 29-30, 2004	STARBUCS Burnup Credit (experienced KENO users only)	$1000	Automated burnup credit analysis using ORIGEN-ARP and KENO (V.a or VI).

*A late fee of $300 will be applied after June 25, 2004.
A discount of $400 will be applied for registration to both courses.

SCALE Training Courses at ORNL (Fall 2004)
http://www.ornl.gov/sci/scale/trcourse.html

Date	Title	Registration Fee*	Description
Oct. 25-29, 2004	SCALE Source Terms and Shielding Course	$1800	SCALE shielding and depletion/decay sequences (including ORIGEN-ARP)
Nov. 1-5, 2004	KENO V.A Criticality Safety	$1800	CSAS/KENO V.a (including KENO3D and GeeWiz
Nov. 8-10, 2004	TSUNAMI Sensitivity/Uncertainty Tools (KENO V.a course prerequisite for new users)	$1200	1-D and 3-D sensitivity/uncertainty analysis using XSDRNPM and KENOV.a
Nov. 11-12, 2004	STARBUCS Burnup Credit (KENO V.a course prerequisite for new users)	$1000	Automated burnup credit analysis using ORIGEN-ARP and KENO (V.a or VI).

*A late fee of $300 will be applied after September 24, 2004.
A discount of $600 per each additional week will be applied for registration to multiple courses.

Yugoslav Nuclear Society (YUNS) - 2004 - 5th International Conference

The Conference will be held **September 27-30, 2004**, at the Chamber of Commerce of the Republic of Serbia, Belgrade, Serbia & Montenegro. For more information visit **http://www.vin.bg.ac.yu/YUNS/Yunsc2004.html**.

2005 Conferences and Courses

Monte Carlo 2005 Topical Meeting

Monte Carlo 2005 will be held **April 17-21, 2005,** (Sunday-Thursday). The theme of the conference will be "The Monte Carlo Method: Versatility Unbounded in A Dynamic Computing World".

The conference site is the Chattanooga Marriott and Convention Center in Chattanooga, Tennessee. The conference will be hosted by the American Nuclear Society (ANS) Oak Ridge/Knoxville Section, with ANS Radiation Protection and Shielding Division (RPSD) as the sponsoring division and Mathematics and Computations Division (MCD) as a co-sponsor. Co-sponsors will also include Oak Ridge National Laboratory (ORNL), Radiation Safety Information Computational Center (RSICC) and the Organization for Economic Cooperation and Development (OECD) Nuclear Energy Agency Data Bank (NEADB).

The Monte Carlo method and its applications have been frequently addressed at several major conferences and workshops organized in recent years in the area of nuclear applications. Monte Carlo topics have included radiation shielding, radiation physics, medical physics, and high energy physics. Significant developments have taken place in computational and data issues, resulting in state-of-the-art computer codes and tools. Monte Carlo 2005 is the next in a series devoted to the topic, following Monte Carlo 2000 which was held in Lisbon, Portugal, in October 2000.

Conference topics will include: Methods Advancements (Physics) (proton transport, neutron transport, gamma transport, electron transport, heavy ion transport); Nuclear Data Advancements (proton transport, neutron transport, gamma transport, electron transport, heavy ion transport); Mathematical and Computational Advances (experiments & benchmarks, mathematical advances, computational advances, visualization); Applications (reactor, medical, accelerator, neutron science, dosimetry, shielding, fuel cycle, waste management, space & aviation, fusion, criticality safety, non-nuclear applications).

The website is **http://MonteCarlo2005.org**. Full papers are due September 10, 2004. For information contact Bernadette Kirk (**kirkbl@ornl.gov**, 865-574-6176), General Chair, or Jeff Johnson (**johnsonjo@ornl.gov**, 865-574-5262), Technical Chair.

Nuclear Applications of Accelerator Technology "AccApp05" - 7th Topical Conference

The forthcoming International Topical Meeting on Nuclear Applications of Accelerator Technology (AccApp'05) is the seventh in a series of international meetings of the Accelerator Applications Division of the American Nuclear Society. It is scheduled for **August 28-September 1, 2005,** at the Island of San Servolo, Venice, Italy. The purpose of AccApp'05 is to provide an international forum for presenting and discussing the use of particle accelerator technology for a variety of applications. It is intended to focus on a wide area of applications including, among others, spallation neutron sources, isotope production, medical therapy, nuclear waste transmutation, energy production, high power accelerators under construction and future projects, material issues in a particle environment, nuclear data and experiments, codes and models for particle transport, system engineering, thermo hydraulics, contraband detection and radiation protection. For more information see: **http://www.nea.fr/listsmh/satif/pdf00004.pdf**.

Eleventh International Topical Meeting on Nuclear Reactor Thermal Hydraulics

NURETH is the foremost international technical meeting on nuclear technology thermal hydraulics. The NURETH-11 meeting will be held in the historic Palace of the Popes in Avignon, France, **October 2-6, 2005**. For more information please go to **http://nureth11.com/**.

Reactor Dosimetry - 12th International Symposium

The 12th International Symposium on Reactor Dosimetry will be held **May 8-13, 2005,** in Gatlinburg, Tennessee.

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.

This Symposium is jointly sponsored by ASTM International, the European Working Group on Reactor Dosimetry (EWGRD), and the Atomic Energy Society of Japan (AESJ). It is organized by ASTM Committee E10 on Nuclear Technology and Applications and EWGRD.

The Symposium will be organized into oral and poster presentations, informal round-table workshops and tutorials. The meeting language will be English. No translations will be provided.

All papers presented at the Symposium will be subject to peer-review before acceptance for publication in the on-line Journal of ASTM International. Registrants will receive a complimentary CD of the papers presented at the Symposium. For more information visit the website at: **http://reactordosimetry.com/**.

CALENDAR

July 2004

MCNPX Intermediate Workshop, July 12-16, 2004, Houston, TX. Contact: Bill Hamilton (tel 505-455-0312, email **bill@mcnpxworkshops.com**, url **http://mcnpxworkshops.com** for details).

AAPM 46th Annual Meeting, July 25-29, 2004, Pittsburgh, PA. For more information: **http://www.aapm.org/meetings/04AM/ MtgPrgmTOC.asp**

August 2004

RESRAD (6.22) and RESRAD-BUILD (3.22) Workshop, Aug. 10-13, 2004. Argonne, IL. Contact: Charley Yu (tel 630-252-5589, fax 630-252-4624, email **cyu@anl.gov**, url **http://web.ead.anl.gov/resrad/training/**).

September 2004

1st International Symposium on Radionuclide Therapy and Radiopharmaceutical Dosimetry, Sept. 4-8, 2004, Helsinki, Finland. Contact: Michael Lassmann or Val Lewington, (emails **lassmann@ nuklearmedizin.uni-wuerzburg.de**; **vjlewington@ hotmail.com**).

12 International Conference on the Physics of Highly Charged Ions, Sept. 6-10, 2004, Vilnius, Lithuania. For more information: **http://www.itpa.lt/hci2004/**.

International Conference Nuclear Energy for New Europe 2004, Sept. 6-9, 2004, Portoroz, Slovenia. For more information: **http://www.drustvo-js.si/port2004/**.

16th American Nuclear Society Topical Meeting on the Technology of Fusion Energy, Sept. 14-16, 2004, Madison, WI. For more information: url **http://fti.neep.wisc.edu/tofe**.

RESRAD-BIOTA (1.0) Workshop, Sept. 15-16, 2004, Argonne, IL. Contact: Charley Yu (tel 630-252-5589, fax 630-252-4624, email **cyu@anl.gov**, url **http://web.ead.anl.gov/resrad/training/**).

MCNPX Intermediate Workshop, Sept. 20-24, 2004, Las Vegas, NV. Contact: Bill Hamilton (tel

505-455-0312, email **bill@mcnpxworkshops.com**, url **http://mcnpxworkshops.com** for details).

International Conference on Nuclear Data for Science and Technology "ND2004", Sept. 26-Oct. 1, 2004, Santa Fe, NM. For more information: **http://t16web.lanl.gov/nd2004/**.

5th International Conference of Yugoslav Nuclear Society (YUNS) - 2004, Sept. 27-30, 2004, Belgrade, Serbia & Montenegro. Contact: Dr. Milan Pesic, (tel 381-11-245-82-22/ext. 681, email **mpesic@vin.bg.ac.yu**, url **http://www.vin.bg.ac.yu/YUNS/index.htm**).

October 2004

Americas Nuclear Energy Symposium 2004, Oct. 3-6, 2004, Miami Beach, Florida. For more information: **http://anes.fiu.edu/2004/**.

11th World Congress on Neutron Capture Therapy (ISNCT-11), Oct. 11-15, 2004, Boston, MA. Contact: Robert G. Zamenhof (tel 617-636-1681, fax 617-636-5867, email **rzamenhof@tufts-nemc.org**, url **http://meetingsandconferences.com/ISNCT-11/**).

Advanced Training Course / Workshop on Electron-Photon Transport Modeling with PENELOPE-2003 Physics, Code Structure and Operation, Oct. 18-21, 2004, Athens, Greece. Contact: Marios Anagnostakis (tel +30-210-7722912, fax +30-210-7722914, email **managno@nuclear.ntua.gr**, url **http://www.nea.fr/lists/penelope.html**).

November 2004

ANS Annual Winter Meeting and Nuclear Technology Expo, Nov. 14-18, 2004, Washington, D.C. For more information: **http://www.ans.org/meetings/**.

MCNPX Introductory Workshop, Nov. 15-19, 2004, Europe (TBA) Contact: Bill Hamilton (tel 505-455-0312, email **bill@mcnpxworkshops.com**, url **http://mcnpxworkshops.com** for details).

April 2005

Monte Carlo 2005 Topical Meeting, Apr. 17-21, 2005, Chattanooga, TN. Contact: Bernadette Kirk (tel 865-574-6176, fax 865-241-4046, email **kirkbl@ornl.gov**, url **http://meetingsandconference.com /MonteCarlo2005**).

May 2005

12th International Symposium on Reactor Dosimetry, May 8-13, 2005, Gatlinburg, TN. Contact: Dr. James M. Adams (tel 301-975-6205, fax 301-926-1604, url **http://reactordosimetry.com**).

1st International Nuclear Chemistry Society (INCS), May 22-29, 2005, Kusadasi, Turkey. For more information: **http://incs.ege.edu.tr/1st-INCC.html**.

June 2005

ANS Annual Summer Meeting, June 5-9, 2005, San Diego, CA. For more information: url **http://www.ans.org/meetings/**.

August 2005

Seventh Topical Conference on Nuclear Applications of Accelerator Technology "AccApp05", Aug. 28-Sept. 1, 2005, Venice, Italy. For more information: **http://www.nea.fr/ listsmh/satif/pdf00004.pdf**.

230th American Chemical Society National Meeting, Aug. 28-Sept. 1, 2005, Washington, DC. Contact: Thomas Semkow (tel 518-474-6071, fax 518-474-8590, email **tms15@health.state.ny.us**, url **www.cofc.edu/~nuclear**).

October 2005

Eleventh International Topical Meeting on Nuclear Reactor Thermal Hydraulics, Oct. 2-6, 2005, Avignon, France. For more information: **http://nureth11.com**, **nureth11@cea.fr**.

ACCESSION OF NUCLEAR SYSTEMS LITERATURE

The nuclear systems literature (shielding, safety, materials) cited below has been reviewed and placed in the RSICC Information Storage and Retrieval Information System (SARIS) now searchable on the RSICC web server **(http://www-rsicc.ornl.gov/rsiccnew/AT-SARISquery.htm)**. We now include medical physics in addition to material science, radiation dosimetry, radiation safety, reactor dynamics, reactor safeguards, risk assessment, waste management, fuel cycle, fusion and plasmas, high energy particle transport, and shielding. This early announcement is made as a service to the nuclear sciences community. Copies of the literature are not distributed by RSICC. They may generally be obtained from the author or from a documentation center such as the National Technical Information Service (NTIS), Department of Commerce, Springfield, Virginia 22161 (**http://www.ntis.gov**).

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