Radiation Safety Information Computational Center

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"Talking and eloquence are not the same: to speak, and to speak well are two things. A fool may talk, but a wise man speaks." -- Ben Jonson

Printable PDF file of this newsletter available at: **http://www-rsicc.ornl.gov/NEWSLETTER.html**.

Don't Miss This Conference Deadline - Papers Due Soon!

The American Nuclear Society's Mathematics and Computation Topical Meeting, M&C 2003, will be held in Gatlinburg, Tennessee, **April 6-10, 2003**. The unique setup for this conference, entitled "Nuclear Mathematical and Computational Sciences: A Century in Review, A Century Anew," promises to provide an exciting and unprecedented opportunity for students and professionals in the field to learn about its rich intellectual heritage from leading figures. The Review section of the conference is comprised of eight lectures on selected topics of common interest to the membership of the Mathematics and Computation Division, the primary sponsor of the meeting. The Anew section of the meeting will include contributed and invited papers on standard topics in this series of conferences. Please refer to the conference web site **http://meetingsandconferences.com/MC2003/** for details on the lectures series and lecturers, a list of topics for contributed papers and special sessions, author instructions, and general information about the conference.

The web site for M&C 2003 is now open for submitting papers. Please check the "Call for Papers" link to learn about the topics of interest in this conference, including special sessions topics. The "Authors" link has templates for preparing full papers in MS Word, WordPerfect, and LaTeX. Please note that abstract submission is not required due to the Math & Computational Sciences Division's policy of reviewing only full papers for inclusion in meetings where the division is the primary sponsor.

Now is the time to start preparing the papers you intend to submit and to encourage your colleagues to do the same. **Please note the posted deadline for submitting papers is October 21, 2002.**

We look forward to welcoming you to Gatlinburg.

Dr. J. J. Wagschal Honored

Dr. J. J. Wagschal, physicist, Hebrew University, Jerusalem, has recently been honored as a "Distinguished Fellow" of the Department of Nuclear Engineering at the Ben Gurion University, Beer Sheva, Israel. Dr. Wagschal, a long time friend and supporter of RSICC, is past president of the Israel Nuclear Society and a continuing member of the American Nuclear Society.

Carbon Dioxide Information Analysis Center Celebrates 20 Years

The Carbon Dioxide Information Analysis Center (CDIAC) at the Oak Ridge National Laboratory, celebrated its 20th anniversary in August 2002. Betty F. Maskewitz was recognized during the ceremonies as one of the founders. Originating in 1982 as the Carbon Dioxide Information Center (CDIC), a spin-off from RSIC, the center was established to support a research program headed by Charles Weisbin in the ORNL Engineering Physics and Mathematics Division. CDIC was transferred into ORNL's Environmental Sciences Division in 1984 where it has flourished as CDIAC.

Obituary

Martin D. Kamen, 89, whose discovery of the radioactive element carbon-14 enabled biologists to decipher the complex chemistry of the living cell, died of pneumonia August 31 in California. His discovery made possible the radiocarbon dating that allows archaeologists to determine the age of artifacts dating back 50,000 years, leading to the development of timelines for early civilizations.

News Services
September 8, 2002

Available NRC Codes

Two U.S. Nuclear Regulatory Commission (NRC) software packages transferred from the Energy Science and Technology Software Center, Oak Ridge, Tennessee, to RSICC were processed this month. Please browse the computer code abstracts available at RSICC's web site for more information on these packages.

CCC-455/DEIS
CCC-498/MESODIF II

Changes to the Computer Code and Data Collection

Four changes were made to the computer code collection this month: one new package, two additions, and one newly frozen package.

CCC-712/DCHAIN-SP 2001

OP SYS: Unix
Language: Fortran 77
Computers: Sun, DEC, HP
Format: tar

Japan Atomic Energy Research Institute, Tokai-mura, Ibaraki-ken, Japan, contributed this code system for analyzing decay and build-up characteristics of spallation products. DCHAIN-SP 2001 estimates the nuclide inventories and radiation environment of high energy accelerator related facilities and was designed to resolve issues regarding spallation neutron utilization facilities. DCHAIN-SP2001 is an update of DCHAIN-SP. For analyzing the decay and build-up characteristics of spallation products, DCHAIN-SP was developed on the basis of CCC-370/DCHAIN2 by revising the decay data and implementing new neutron cross section data. The decay data are processed from the data libraries of EAF 3.1, FENDL/D-1 and ENSDF. The neutron cross section data taken from FENDL/A-2 are also prepared to take account of the transmutation of nuclides by the neutron field at the produced position. DCHAIN-SP solves the time evolution of decay and build-up of nuclides in every decay chain using the Bateman method. It can calculate the nuclide inventory, radioactivity, decay heat, and gamma-ray energy spectra on the basis of the nuclide production rate calculated by the nucleon-meson transport code NMTC/JAERI97. The package is transmitted on CD as a

GNU compressed Unix tar file. The Unix system Sun Sparc Compiler Fortran 77 Ver. 4.0 was used for code development. The code was tested at RSICC on a Sun UltraSparcStation using the Fortran 77 Ver. 5.0 Compiler under Solaris 2.5. Reference: JAERI-Data/Code-99-008 (March 1999). Fortran 77, Unix system, Sun, DEC, and HPUX-9 (C00712/MNYWS/00).

CCC-715/MCNPX™ Version 2.4.0

OP SYS: Unix, Linux, Windows
Language: Fortran 90
Computers: Workstation & PC
Format: GZIP Unix tar

Los Alamos National Laboratory, Los Alamos, New Mexico, contributed a new version of this Monte Carlo N-particle transport code system for multiparticle and high energy applications. MCNPX extends the MCNP4C3 code to higher energies and more particle types. All capabilities of MCNP4C3 have been retained. MCNPX reads libraries for neutrons, photons, electrons, protons, and photonuclear interactions. Running the code requires continuous energy cross section data included in the D00205ALLCP03 MCNPXDATA package or equivalent data. **To receive the data from RSICC, users must include MCNPXDATA on their request, license and Export Control form.**

MCNPX runs under Unix, Linux, and Windows operating systems. Dynamic allocation makes memory demands variable on all platforms. C and Fortran 90 compilers are required to compile. The GNU make utility is required to build the system. The only graphics support for this release is X11. The code may be run in parallel at all energies via PVM. MCNPX uses standard F90 allocation schemes for dynamic variables on all platforms. Executables created by the LANL developers for the following systems are included in the distribution.

  Sun-Solaris/WorkShop Fortran Compilers 6, update 2 (Fortran 95 6.2)
  SGI-IRIX/MIPSpro Compilers: Version 7.30 under 64 bit IRIX and 32 bit IRIX
  HP-HPUX/HP F90 v2.4.10
  IBM-AIX/xlf90 Version 7 Release 1
  DEC Alpha-Tru64 running OSF1 V5.0 with Compaq Fortran V5.3-915
  Intel-Linux 7 with The Portland Group Fortran Group, Inc. f90 3.2-3
  Windows2000 on Pentium IV - Compaq Visual Studio 6.6

The package is transmitted on CD as a GNU compressed Unix tar file. WinZIP 8.0 is required to expand this file under Windows. References: LA-CP-02-408 (September 2002) and LA-UR-02-2607 (April 2002). Fortran 90 and C. IBM RS/6000, DEC Alpha, SGI, HP HP-UX, Sun, Intel Linux, Windows PC (C00715/MNYCP/00).

PSR-374/MICROX-2

OP SYS: Unix & Windows
Language: Fortran 90
Computers: Cray, DEC, PC
Format: tar & Windows

The Paul Scherrer Institut, Switzerland, through the Nuclear Energy Agency Data Bank, Issy-les-Moulineaux, France, contributed this code system to prepare broad-group neutron cross sections for use in diffusion and/or transport theory codes from an input library of fine group and pointwise cross sections. In this update, data libraries and PC Fortran source files for MICROX-2 were added to the package. This distribution is comprised of the NEA-1562/01 MICROX-2 package plus the NEA-1613/01 ZZ-MICROX-2-FSS-LIB package. The MICROX-2 code can explicitly account for the overlap and interference effects between resonances in both the resonance and thermal neutron energy ranges and allows the simultaneous treatment of leakage and resonance self-shielding in doubly heterogeneous lattice cells. Using data from pointwise and groupwise NJOY tapes, the stand-alone MICROR reformatting program produces files containing

basic nuclear data to be used by MICROX-2. MICROR edits PENDF and GENDF data files from NJOY to create FDTAPE, GGTAPE, and GARTAPE input files for MICROX-2.

The data libraries were generated from data in 193 groups as well as from point-wise cross sections from NJOY (Edition 89.62). The FDTAPE data set includes self-shielded cross sections up to P3.

Individual fission spectra are included. The thermal part of the GGTAPE consists of 101 energies and includes scattering matrices for the main moderators. The GARTAPE file contains point-wise, Doppler-broadened resonance cross sections in the resolved resonance range. It has been generated on the basis of equidistant velocity spacing. Data are tabulated for 24362 energy points between 2 eV and 8.0072 keV.

  The PSI version of the MICROX-2 code operates on the Cray J90 and DEC Alpha workstation, as well as on PC. There is no PC version of MICROR in this package. Approximately 520 MB is required to expand the package. Installation of MICROR requires the Cray F90 Fortran compiler for the Cray J90 and Cray-Y/MP computers. The NEA Data Bank ran MICROR and MICROX-2 on a DEC Alpha workstation running Unix V4.0C and included source code. They also tested MICROX-2 on PC computers under Windows98 using the Lahey Fortran 95 Version 5.50 (lf95) compiler. The MICROX-2 PC Fortran source files are included, but the PC executables are not. Source files for the utility codes to convert data libraries to binary run on Cray, DEC, or personal computers. The codes were tested at the NEA Data Bank and were not tested at RSICC. They are distributed as received. The package is transmitted on CD-ROM in both Unix compressed tar and self-extracting Windows formats. References: PSI Bericht Nr. 97-11 (November 1997), TM-41-97-17 (November 1997), EIR-Beiricht Nr. 539 (December 1984). Fortran 90; Cray, DEC ALPHA, IBM PC (P00374/MNYCP/01).

DLC-205/MCNPXDATA

OP SYS: Unix
Language: N/A
Computers: Workstation, PC
Format: GZIP Unix tar

Los Alamos National Laboratory, Los Alamos, New Mexico, updated this package of standard neutron, photon, electron, and proton data libraries. This release includes all files in D00205ALLCP02 MCNPDATA plus the EL03 electron data library. EL03 requires new functionality in MCNP4C or MCNPX 2.4.0. EL03 cannot be used with MCNP4B, MCNPX2.3.0 or earlier versions. The data in EL03 are referenced by the ZAID ending of '.03e' and cannot be used in combination with data from the EL library (.01e). EL03 is roughly equivalent to the data used in the Integrated Tiger Series ITS Version 3.0.

  The ASCII libraries are distributed on a CD in a GNU compressed Unix tar file. WinZIP 8.0 or later is required to expand the files under Windows operating systems. References: Appendix G of the MCNP4C manual, README (May 2002), LA-12891 (1994), X-6:HGH-93-77 (revised 1996), XTM:95-259 and LA-UR-96- 24 (1995), X-6:RCL-87-225 (1987), XCI-RN(U)98-041, LA-UR-98-5718, (December 1998), XTM:96-153 (April 1996), and XCI:CJW-99-25 (April 1999), X-5:RN(U)-00-14 (May 25, 2000). ASCII (Type 1); (D00205/ALLCP/03).

Monthly Code Focus
Nuclear Particle Transport in Materials

  As years have gone by many different codes and applications have been sent to RSICC for stewardship. We currently have over 1700 analytical code and data packages and distribute as many each year to 73 countries in the world. To help 'categorize' each package, we have developed a database of 'Main Categories' to attach applications to the packages at RSICC. Doing so requires investigation into each code package, user feedback from end use statements, and extensive RSICC staff experience and analysis so that we can deliver useful information each month on the 30 different categories we have identified thus far. Links to the package abstracts are embedded into the WWW version of the RSICC Newsletter. Feedback from our Newsletter community is very valuable so please direct your comments and/or suggestions to **PDC@ORNL.GOV**. Many packages in the RSICC code collection are in this subject category. A few are highlighted here for your review.

ANISN-ORNL	**CEPXS/ONELD 1.0**	**DDXCODES**
ANISN-PC	**CHAINT-MC**	**DOORS 3.2**
AUS98	**CRIT_SLIDE_RULE**	**DRAGON3.2**
BERMUDA	**DANTSYS 3.0**	**DTK**
CCRMN	**DCTDOS**	**EGS4**

ELAST2	MCNP-DSP	REBUS3/VARIANT8
FOTELP-2KG	MCNP4C2	SCALE 4.4A
FPZD	MCNPX 2.3.0	SHIELD
G33-GP	MRIPP 1.0	SKYIII-PC
GBANISN	NESTLE 5.0.2	SKYSHINE-III
GGG-GP	O5R	SKYSHINE-KSU
GNOMER	PALLAS-1D(VII)	SOURCES-4C
HIMAC	PALLAS-2DCY-FX	SUSD3D
ICOM	PENELOPE-2001	TART2000
ITS 3.0	PTRAN	TDA
KERNEL	QAD-CGGP-A	TDTORT
LAHET 2.8	QADMOD-GP	VALE 1.1
LSHINSE	REBUS-PC 1.4	VIM 4.0

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. More details are listed following the table.

Condensed Table of Conferences

Name of Conference	Time and Place	Web Site	Date of Abstract/Paper Submission
Computed Tomography: Patient Dose Symposium	Nov. 6-7, 2002 Arlington, Virginia	**http://www.ncrp.com**	n/a
48th Annual Radiobioassay and Radiochemical Measurements	Nov. 11-15, 2002 Knoxville, Tennessee	**www.bioassay.org/2002/**	July 15, 2002
SC2002	Nov. 16-22, 2002 Baltimore, Maryland	**http://www.sc2002.org/**	see website
ANS 15th Topical Meeting on Technology of Fusion Energy	Nov. 17-21, 2002 Washington, DC	**www.ans.org/meetings**	June 21, 2002
14th Annual U.S. Hydrogen Meeting	Mar. 4-6, 2003 Washington, DC	**http://www.hydrogenconference.org/**	Feb. 3, 2003

ENS TopFuel 2003/ANS LWR Fuel Performance Meeting	Mar. 16-19, 2003 Wurzburg, Germany	**http://www.topfuel2003.de**	Nov. 4, 2002
Software Quality Forum 2003 (SQF 2003)	Mar. 25-26, 2003 Arlington, Virginia	**http://cio.doe.gov/sqas**	Nov. 15, 2002
M&C 2003	Apr. 6-10, 2003 Gatlinburg, Tennessee	**meetingsandconferences. com/MC2003**	Oct. 21, 2002
9th International Symposium on Radiation Physics (ISRP-9)	October 27-31, 2003 Cape Town, South Africa	**www.medrad.tlabs.ac.za/isrp9.htm**	
International Congress on Advanced Nuclear Power Plants (ICAPP '03)	May 4-7, 2003 Cordoba, Spain	**www.ans.org/goto/icapp03**	Oct. 15, 2002
21st International System Safety Conference	Aug. 4-8, 2003 Ottawa, Canada	**http://www.system-safety.org/**	Jan. 17, 2003
Advances in Nuclear Fuel Management III	Oct. 5-8, 2003 Hilton Head Island, South Carolina	**http://rpd.ans.org/nfm.htm**	Mar. 15, 2003
The 11th International Conference on Fusion Reactor Materials (ICFRM-11)	Dec. 7-12, 2003 Kyoto, Japan	**icfrm.iae.kyoto-u.ac.jp**	Apr. 30, 2003

Advances in Nuclear Fuel Management III - Call For Papers

Preparations for the American Nuclear Society's Advances in Nuclear Fuel Management III Topical Meeting to be held in Hilton Head Island, South Carolina, during the period of **October 5-8, 2003**, have now begun in earnest. You are invited to serve on the Meeting's Technical Program Committee (TPC). In this capacity your commitment will include:

1. Electronically submit one or more papers, and encourage colleagues to do the same,
2. Help identify and organize special session(s) on timely topics you are interested in, and solicit participation, and
3. Electronically review papers assigned to you in a timely and professional manner

Please return the following information (name, affiliation, phone, alternative email if preferable, topics of interest) to Youssef A. Shatilla at **shatilya@westinghouse.com**.

The success of this meeting depends on your active support and involvement. Finally, please bookmark the conference web site: **http://rpd.ans.org/nfm.htm** and visit it occasionally for news and updates. Comments and suggestions are most welcome.

American Nuclear Society 15th Topical Meeting on Technology of Fusion Energy

The American Nuclear Society, in cooperation with the U.S. Department of Energy and the Fusion Engineering Division of the Atomic Energy Society of Japan, will hold the 15th Topical Meeting on

Technology of Fusion Energy. This meeting will be held as an embedded topical of the American Nuclear Society 2002 winter meeting, held **November 17-21, 2002,** in Washington, DC.

The purpose of this meeting is to bring together specialists in the area of fusion energy to discuss current work and future challenges in the area of fusion technology. In addition to bringing together the varied expertise of this aggressive research area, special sessions are planned to focus on similarities and differences between the inertial and magnetic fusion energy concepts and the interface between materials and design communities. The technical program will include paper and poster presentations as well as invited speakers. Co-sponsors of this meeting are INEEL, LLNL, NRL, ORNL, and Kyoto University. For more information, visit **www.ans.org/meetings**.

ENS TopFuel 2003/ANS LWR Fuel Performance Meeting

The American Nuclear Society (ANS) and the European Nuclear Society (ENS) have agreed to bundle their conference activities concerning nuclear fuel. The well established ANS "LWR Fuel Performance Meeting" and the ENS "TopFuel Conference" will from now on be jointly held, alternating the location between the USA and Europe.

The first joined conference will be organized by the local nuclear society in Germany, the KTG (Kerntechnische Gesellschaft e.V.) from **March 16-19, 2003**, at Würzburg. The program will comprise invited and contributed papers. Please visit our website for more information: **http://www.topfuel2003.de**. Abstracts should be sent to **conferences@inforum-gmbh.de** before November 4, 2002.

The 11th International Conference on Fusion Reactor Materials (ICFRM-11)

The first announcement of "The 11th International Conference on Fusion Reactor Materials (ICFRM-11)," which will be held in Kyoto, Japan, **December 7-12, 2003**, is now available on the ICFRM-11 website at **http://icfrm.iae.kyoto-u.ac.jp**. For further information, contact ICFRM-11 secretariat at **icfrm@iae.kyoto-u.ac.jp** or phone +81-774-38-3597, fax +81-774-38-3467.

2003 International Congress on Advanced Nuclear Power Plants (ICAPP '03)

We are pleased to announce the call for papers for the "2003 International Congress on Advanced Nuclear Power Plants" (ICAPP '03) which will be held in Cordoba, Spain, **May 4-7, 2003,** at the Congress Palais. Please make note of the October 15, 2002 deadline for abstracts.

Following the highly successful ICAPP '02 meeting held in Hollywood, Florida, this international congress will bring together international experts of the nuclear industry involved in the operation, development, building, regulation, and research related to nuclear power plants. The conference is sponsored by the leading nuclear societies of Europe, Asia, and the USA.

The program will cover the full spectrum of nuclear power plant issues from design, deployment and construction of plants to research and development of future designs and advanced systems. The program is expected to cover lessons learned from power, research and demonstration reactors from over 50 years of experience with operation and maintenance, structures, materials, technical specifications, human factors, system design, and reliability. You may visit the ICAPP '03 website at **www.ans.org/goto/ icapp03** for updated information on the congress and to download a copy of the Call For Papers.

21st International System Safety Conference

The System Safety Society is pleased to announce the 21st International System Safety Conference, **August 4-8, 2003**, in Ottawa, Ontario, Canada. The conference is an international forum for the technical presentation and discussion of all aspects and issues regarding system safety engineering and management. The conference theme is "Broader Perspectives, Focused Solutions." The emphasis is on knowledge and skills necessary to create the system safety solutions for increasingly complex technologies and missions. The range of topics will cover both the art and science of system safety and the organizational issues influencing the effective management of system safety in the product life cycle. This is the major conference for system safety and related professionals, with a week of technical sessions, tutorials,

workshops, special events, social affairs, luncheons, and the society's awards banquet. The conference proceedings are the premier collection of work in the system safety field. For more information, please visit: **http://www.russona.com/issc21/**.

9th International Symposium in Radiation Physics (ISRP-9)

The 9th International Symposium on Radiation Physics (ISRP-9) will be held in Cape Town, South Africa, **October 27-31, 2003**. This triennial event will be organized jointly by the International Radiation Physics Society (IRPS) and iThemba Laboratory for Accelerator Based Sciences (iThemba LABS) [formerly the National Accelerator Centre]. The Symposium is the latest one in a series which began in Calcutta in 1974 and thereafter continued in Penang (1982), Ferrara (1985), São Paulo (1988), Dubrovnik (1991), Rabat (1994), Jaipur (1997) and Prague (2000). A 2½ day "Workshop on Radiation-Based Analytical Techniques" (WoRBAT) will be held prior to ISRP-9 (October 24-26, 2003) with the emphasis on x-ray fluorescence and diffraction (XRF, XRD) and particle-induced x-ray emission (PIXE). For more information, please visit **www.medrad.tlabs.ac.za/isrp9.htm**.

2nd International Workshop on Advanced Radiation Transport Simulation with PENELOPE

Dr. Francesc Salvat of the Universitat de Barcelona, Spain, announces the "2nd International Workshop on Advanced Radiation Transport Simulation with PENELOPE," to be held in Salou (Tarragona, Spain) on **January 8-10, 2003**. You can reach Dr. Salvat at: (tel 34-9340-21186, fax 34-9340-21174, email **cesc@ecm.ub.es**). Please see attached **information** in pdf format.

MCNP Course Announcement for 2003

Registration: **http://www-xdiv.lanl.gov/x5/MCNP/registration.html**
MCNP home page: http://www-xdiv.lanl.gov/x5/MCNP/index.html
LANL contact: **selcow@lanl.gov**
European contact: **sartori@nea.fr**

2003

January 27-30	Introductory class	Mass. Inst. of Technology
February date TBA	To be determined	North Carolina State University
May 12-16	Introductory class	Japan
June date TBA	Introductory class	Los Alamos National Laboratory
August date TBA	Advanced MCNP Topics	Los Alamos National Laboratory

The introductory class is for people who have little or no experience with MCNP. The intermediate to advanced class will be held for people who have used MCNP and want to extend their knowledge and understanding of the code system.

The classes will be based on MCNP5. The code and data package will be available through RSICC at a reduced rate to class participants. The new capabilities of version 5 will be covered.

The other capabilities on MCNP will also be covered, including: basic and advanced geometry, source definitions, tallies, data, variance reduction, statistical analysis, criticality, plotting of geometry, and particle tracks, neutron/photon/electron physics.

All classes provide interactive computer instruction. Time will be available to discuss individual questions and problems with MCNP experts or to pursue in more detail topics mentioned in the talks. Please note that other classes are offered based on MCNP. The classes mentioned here are the only ones that are taught by the people who develop and write MCNP.

MCNP Visual Editor Classes

The Visual Editor is a powerful visualization tool that can be used to rapidly create complex Monte Carlo N Particle (MCNP 4C2) geometry models, including lattices, universes, fills, and other geometrical transformations. The Visual Editor can:

Display MCNP 4C2 geometries in multiple plot windows,
Create surfaces and cells to build a geometry,
Create materials using the local xsdir file,
Store commonly used materials in a material library,
Sub-divide large cells into smaller cells,
Create cells containing universes and lattices,
Interactively set cell importances from the plot window, and
Display source points and collision points in the plot window.

Two classes are scheduled **March 17-21, 2003**, and **September 8-12, 2003,** both in Richland, Washington. The class will focus on the use of the visual editor, with an overview of MCNP. The fifth day is optional and will focus on using the Visual Editor and MCNP to do some example problems.

Class will include computer demonstrations and exercises that will focus on creating and interrogating input files with the Visual Editor. Advanced visualization work using MCNP will also be demonstrated. The class will be taught on Pentium computers running the Linux operating system and Windows NT. Class attendees can use either the Linux or Windows version of the visual editor. Attendees are encouraged to bring their own input files for viewing and modifying in the visual editor. Further information on this class can be located at: **http://www.mcnpvised.com/train.html**, or by contacting Randy Schwarz (email **randyschwarz@mcnpvised.com**).

MCNPX Workshops for 2002 & 2003

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

2002

November 11-15	Intermediate	Tokyo, Japan
November 18-22	Intermediate	Mol, Belgium

2003

January 13-17	To be decided	Orlando, Florida
February 17-21	To be decided	Las Vegas, Nevada
March 31-April 4	To be decided	Knoxville, Tennessee
May	To be decided	Los Alamos/Santa Fe
June	To be decided	Europe

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. For more information on code versions and their capabilities, go to the MCNPX Workshops web site **http://mcnpxworkshops .com**.

SAMMY WORKSHOP ANNOUNCED

RSICC is pleased to announce that a five-day workshop on Oak Ridge National Laboratory's (ORNL) SAMMY code will be held **May 12-16, 2003**, in Knoxville, Tennessee. This training course is intended for those who are interested in the theory of neutron cross sections in the resonance region, and in the use of SAMMY for the analysis of experimental neutron-induced cross-section data for extracting values and covariances for resonance parameters. Both novice and experienced SAMMY users would benefit from the intensive and extensive examination of all aspects of resonance parameter analyses.

During the workshop, lectures and computer applications will alternate. Lectures will include both theoretical discussion and practical examples for each topic. The lecturer is Dr. Nancy Larson of the Nuclear Data and Information Analysis Group, Nuclear Science and Technology Division of ORNL, author of the SAMMY code.

Topics include (but are not limited to) the following:
   I.   R-matrix formalisms (both resolved and unresolved resonance region)
   II. Simulation of experimental conditions
         A. Multiple nuclides in the sample
         B. Doppler- and resolution-broadening
         C. Self-shielding and multiple-scattering corrections
         D. Other data-reduction effects
   III. Mathematical methods used for experimental data-fitting
         A. Use of covariance information
   IV. Reporting results for Evaluated Nuclear Data Files
   V.   Features in the latest version of the analysis code SAMMY

The workshop will include hands-on computer applications using the latest version of SAMMY (M6). Computer exercises will lead participants through the various features of the code beginning with simple examples and leading to realistic situations. Participants who are experienced SAMMY users are encouraged to bring their own examples as well.

The number of PC workplaces available at the training center restricts the number of workshop participants accepted. Therefore, we encourage you to register as early as possible. The SAMMY workshop web site with further detailed information and on-line registration can be accessed at **http://www-rsicc.ornl.gov/SAMMY/intro.html**). Please bookmark the site and visit it occasionally for news and updates as they become available.

SC2002

SC2002 will be held **November 16-22, 2002**, in Baltimore, Maryland, and will offer leading edge technology with stunning exhibits and faster-than-lightning computer systems. Academic and industry

researchers draw on this conference as an arena to feature high-performance computing and networking discoveries designed to transform terabytes of data into insights about the origins of our universe, our own genetic makeup, the condition of our planet and its ecosystems, and how to keep ourselves safe in a dangerous world. For more information, see **http://www.sc2002.org/**.

48th Annual Radiobioassay and Radiochemical Measurements Conference

The 48th Annual Radiobioassay and Radiochemical Measurements Conference will be held **November 11-15, 2002**, at the Marriott (formerly the Hyatt Regency) in Knoxville, Tennessee. This conference is a continuation of an informal conference with a long history.

The objectives of the Conference (as adapted from the proceedings of the First Annual Bioassay and Analytical Chemistry Conference) are as follows:

1. To bring everyone up to date on some of the latest developments in the field of bioassay, analytical, and environmental radiochemistry;
2. To enable all persons actively engaged in the field of bioassay, analytical, and environmental radiochemistry to discuss mutual problems;
3. To standardize some of the procedures commonly used by the various laboratories;
4. To enable each laboratory to become familiar with procedures used elsewhere; and
5. To plan for future meetings.

For more information, please visit the web site at: **http://www.bioassay.org/2002/**.

SCALE 5 Workshop Announced

The first workshop on SCALE 5 is being planned in conjunction with the American Nuclear Society M&C 2003 Topical Meeting in Gatlinburg, Tennessee. The workshop will be hosted by Oak Ridge National Laboratory in nearby Oak Ridge, Tennessee. The course is scheduled for the week of **March 31 - April 4, 2003**, immediately before the M&C 2003 meeting.

The workshop will feature some of the new modules to be released in SCALE 5, such as the SEN3 3-D sensitivity/uncertainty sequence and the STARBUCS burnup credit sequence for criticality safety. The workshop will emphasize hands-on experience solving practical problems on PCs. There will be workgroups of two persons each. No prior experience in the use of SCALE is required to attend. The registration fee is $1800 (there is a $300 early registration discount). You can register online at **www.ornl.gov/scale/register_scale5.html** or as part of your M&C 2003 registration. The early registration deadline is February 28, 2003. *(See announcement on M&C 2003 Conference)*.

Software Quality Forum 2003 (SQF 2003)

The Forum will be held **March 25-26, 2003,** at the Crystal Gateway Marriott Hotel, which is conveniently located in Arlington, Virginia.

The Program Committee is now accepting presentation proposals for the Software Quality Forum 2003 (SQF 2003). The Forum offers an exciting opportunity for software professionals in the Department of Energy (DOE), other government agencies, private industry, and academia to share their knowledge about trends and technologies in the acquisition, development, support, and management of software intensive systems. Well-known keynote speakers, tutorials on key Forum topics, a showcase for high-visibility IT projects using cutting-edge technologies, and a vendor exhibit area are included in the program.

This is a tri-annual event sponsored by the Software Quality Assurance Subcommittee (SQAS) of the Quality Managers within the DOE Nuclear Weapons Complex. The 2003 Forum is co-hosted by the DOE Office of the Chief Information Officer and the National Nuclear Security Administration, Office of Advanced Simulation and Computing within the Office of Defense Programs.

Please note the following due dates: submission of proposal, abstract, and biography is November 15, 2002, notification of acceptance is December 31, 2002, final abstract is January 15, 2003, and electronic and paper versions of presentation are due February 1, 2003.

For more information visit the web site **http://cio.doe.gov/sqas**. Look for the "Forum 2003" heading on the left side of the home page. There will be a website devoted to the SQF 2003 in a week or so, which will be linked from the above website. If you have questions, send email to Kathleen Canal at **kathleen.canal@ hq.doe.gov**. If interested in submitting a presentation proposal, please contact Brenda Coblentz, Program Committee Chair, at **brenda.coblentz@hq.doe.gov**.

CALENDAR

October 2002

2002 International Topical Meeting on Probabilistic Safety Assessment (PSA '02), Oct. 6-10, 2002, Detroit, MI. Contact: Rebecca Steinman (phone 734-930-7500, email **rls@adventengineering.com**, url **http://www-ners.engin.umich.edu/PSAConf/**).

PHYSOR 2002, Oct. 7-10, 2002, Seoul, Korea, sponsored by the American Nuclear Society and hosted by the Korean Nuclear Society. Contact: Prof. Nam Zin Cho (tel +82-42-869-3819, fax +82-42-869-5859, email **tpc@physor2002.kaist.ac.kr**, url **http://physor2002.kaist.ac.kr**).

SCALE Source Terms & Shielding Course, Oct. 14-18, 2002, Oak Ridge, TN. Contact: Kay Lichtenwalter (tel 865-574-9213, email **x4s@ornl.gov**, url **http://www.ornl.gov/ scale/trcourse.html**).

The Americas Nuclear Energy Symposium (ANES 2002), Oct. 16-18, 2002, Miami, FL. Contact: Martha Santos (tel 305-348-3942, email **msantos@hcet.fiu.edu**, url **http://www.anes2002.org**.

First Asian and Oceanic Congress for Radiation Protection (AOCRP-1), Oct. 20-24, 2002, Seoul, Korea, sponsored by the Korean Association for Radiation Protection (KARP). Contact: Dr. Myung-Jae Song (tel +82-42-870-0202, fax +82-42-870-0269, email **mjsong@khnp.co.kr**, url **www.aocrp-1.com**).

SCALE KENO V.a Criticality Course, Oct. 21-25, 2002, Oak Ridge, TN. Contact: Kay Lichtenwalter (tel 865-574-9213, email **x4s@ornl.gov**, url **http://www.ornl.gov/ scale/trcourse.html**).

November 2002

Computed Tomography: Patient Dose Symposium, Nov. 6-7, 2002, Arlington, VA. Contact: William Beckner (tel 301-657-2652, fax 301-907-8768, url **http://www.ncrp.com**).

MCNPX Intermediate Workshop, Nov. 11-15, 2002, Tokyo, Japan. Contact: Bill Hamilton (tel 505-662-9097, email **registrar@mcnpxworkshops.com,** url **http://mcnpxworkshops.com** for details).

The 48th Annual Radiobioassay and Radiochemical Measurements Conference, Nov. 11-15, 2002, Knoxville, TN. Contact: Tom Rucker (tel 865-481-2993, email **ruckert@saic.com** url **http://www.bioassay.org/2002/**).

SC2002, Nov. 16-22, 2002, Baltimore, MD. Contact: (**sc2002-info@sc-conference.org**, url **http://www.sc2002.org/**).

15th ANS Topical Meeting on the Technology of Fusion Energy, Nov. 17-21, 2002, Washington, DC. (url **www.ans.org/**).

MCNPX Intermediate Workshop, Nov. 18-22, 2002, Mol, Belgium. Contact: Bill Hamilton (tel 505-662-9097, email

 registrar@mcnpxworkshops.com, url **http://mcnpxworkshops.com** for details).

International Symposium on Standards and Codes of Practice in Medical Radiation Dosimetry, Nov. 25-28, 2002, IAEA, Vienna. Contact: Dr. Ken R. Shortt (tel +43 1 2600 21664, fax +43 1 26007 21662, email **Dosimetry@iaea.org**, url **www.iaea.org/ worldatom/Meetings/2002/infcn96.shtml**).

January 2003

2nd International Workshop on Advanced

Radiation Transport Simulation with PENELOPE, Jan. 8-10, 2003, Tarragona, Spain. Contact: Dr Francesc Salvat (tel 34 9340 21186, fax 34 9340 21174, email **cesc@ecm.ub.es**).

MCNPX Workshop, Jan.13-17, 2003, Orlando, FL. Contact: Bill Hamilton (tel 505-662-9097, email **registrar@ mcnpxworkshops.com**, url **mcnpxworkshops.com** for details).

MCNP Course, Jan. 27-30, 2003, Mass. Inst. of Technology, Cambridge, MA. Contact: Elizabeth Selcow (email **selcow@lanl.gov**, url **http://www-xdiv.lanl.gov/x5/MCNP/ index.html**).

February 2003

MCNPX Workshop, Feb. 17-21, 2003, Las Vegas, NV. Contact: Bill Hamilton (tel 505-662-9097, email **registrar@mcnpxworkshops.com**, url **http://mcnpxworkshops.com** for details).

MCNP Course, Feb. 2003, (TBA), North Carolina State University. Contact: Elizabeth Selcow (email **selcow@lanl.gov**, url **http://www-xdiv.lanl.gov/x5/MCNP/index.html**).

March 2003

14th Annual U.S. Hydrogen Meeting, Mar. 4-6, 2003, Washington, DC. Contact: Catherine E. Grégoire Padró (tel 303-275-2919, fax 303-275-2905, email **owner-hydrogen@mail.nrel.gov**, url **http://www.hydrogenconference.org/**).

Software Quality Forum 2003, Mar. 24-26, 2003, in Arlington, VA. Contact: Kathleen Canal

(email **kathleen.canal@hq.doe.gov**, url **http://cio.doe.gov/sqas**).

MCNPX Workshop, Mar. 31-Apr. 4, 2003, Knoxville, TN. Contact: Bill Hamilton (tel 505-662-9097, email **registrar@mcnpxworkshops.com** url **http://mcnpxworkshops.com** for details).

SCALE5 Workshop, Mar. 31-Apr. 4, 2003, Oak Ridge, TN. Contact: Kay Lichtenwalter (email **x4s@ornl.gov**, **scalehelp@ornl.gov**, url **http://www.ornl.gov/scale/ workshop_mc2003.html**).

April 2003

ANS Topical Meeting, Nuclear Mathematical and Computational Sciences: A Century in Review, A Century Anew, Apr. 6-10, 2003, Gatlinburg, TN. Co-sponsored by the American Nuclear Society's Reactor Physics, and Radiation Protection and Shielding Divisions, as well as the ANS Oak Ridge/Knoxville Local Section, Oak Ridge National Laboratory's Radiation Safety Information Computational Center, the Nuclear Energy Agency of the OECD, the Korean Nuclear Society, and the Canadian Nuclear Society. Contacts: Yousry Azmy (tel 814-865-0039, email **yya3@psu.edu** or Bernadette Kirk (tel 865-574-6176, email **kirkbl@ornl.gov**, url **http://meetingsandconferences.com/MC2003/index.html**).

May 2003

MCNP Course, May 12-16, 2003, Japan. Contact: Elizabeth Selcow (email **selcow@lanl.gov,** url **http://www-xdiv.lanl.gov/x5/MCNP/ index.html**).

MCNPX Workshop, May 2003, Los Alamos/Santa Fe, NM. Contact: Bill Hamilton (tel 505-662-9097, email **registrar@mcnpxworkshops.com,** url **http://mcnpxworkshops.com** for details).

June 2003

MCNPX Workshop, June 2003, Europe. Contact: Bill Hamilton (tel 505-662-9097, email **registrar@mcnpxworkshops.com,** url **http://mcnpxworkshops.com** for details).

MCNP Course, June 2003, (TBA), Los Alamos National Laboratory, Los Alamos, NM. Contact: Elizabeth Selcow (email **selcow@lanl.gov**, url **http://www-xdiv.lanl.gov/x5/MCNP/ index.html**).

August 2003

21st International System Safety Conference, Aug. 4-8, 2003, Ottawa, Canada. Contact: Gerry Einarsson, Chair, (tel 613-824-2468, email **einargk@rogers.com**, url **http://www.russona.com/issc21/**).

MCNP Course, Aug. 2003, (TBA), Los Alamos National Laboratory, Los Alamos, NM.

Contact: Elizabeth Selcow (email **selcow@lanl.gov**, url **http://www-xdiv.lanl.gov/x5/MCNP/ index.html**).

September 2003

International Conference on Supercomputing in Nuclear Applications, SNA 2003, Sept. 22-24, 2003, Paris, France. Organizers: CEA, SFANS, co-organizer: OECD/NEA. (email **SNA-2003@cea.fr**, url **http://SNA-2003.cea.fr**).

October 2003

American Nuclear Society's Advances in Nuclear Fuel Management III Topical Meeting, Oct. 5-8, 2003, Hilton Head Island, SC. Contact: Youssef A. Shatilla (email **shatilya@westinghouse.com**, url **http://rpd.ans.org/nfm.htm**).

9th Triennial International Symposium in Radiation Physics, Oct. 27-31, 2003, Cape Town, South Africa. Contact: Dr. D. T. L. Jones (tel +27-21-843-1336, fax +27-21-843-3382, email **Jones@tlabs.ac.za** url **www.medrad.tlabs.ac.za/isrp9.htm**).

December 2003

The 11th International Conference on Fusion Reactor Materials (ICFRM-11), Dec. 7-12, 2003, Kyoto, Japan. Contact ICFRM-11 secretariat (tel +81-774-38-3597, fax +81-774-38-3467, email **icfrm@iae.kyoto-u.ac.jp**,, url **http://icfrm.iae.kyoto-u.ac.jp**.

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/SARIS.html**). 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. For literature listed as available from INIS contact INIS Clearinghouse, International Atomic Energy Agency, P.O. Box 100, A-1400 Vienna. *This section will return in the November issue.*