Radiation Safety Information Computational Center

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No. 448 June 2002

"The measure of a man's real character is what he would do if he knew he never would be found out."
-- Thomas B. Macaulay

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

Azmy Elected as Fellow to ANS

Congratulations to **Dr. Yousry Azmy**, ORNL, for being elected to Fellow Membership of the American Nuclear Society. The ANS is recognizing Dr. Azmy's contributions to the advancement of nuclear science and technology through the years. Dr. Azmy is a member of the Radiation Protection and Shielding Division and Mathematics and Computation Division. He will be honored at the Awards Luncheon June 11, in Hollywood, Florida.

NOTICE

RSICC will be offering a few data, processing, and computational tools free of handling, testing, and other fees associated with package transmittal. A ***NO FEE*** label will appear next to the package name on the web request page. The ability to provide these packages at no charge is due in part to advanced funding from the sponsors. To acquire these tools, follow the normal registration procedure for first-time or updated users. Then complete the WWW Request Form. The license and export control statements will need the user signatures, which is standard procedure.

ACES POLE - Nuclear Community Needs for Computational Experts Online Reply

RSICC wishes to pole the user community on the needs for ACES (Atomic Computational Experts Services) for users needing instant expert consulting via email or phone. Experts are on-hand for immediate help on problem solving and tool use in work supported for the DOE/NNSA/NRC/DOD communities.

If you are interested in this service, please email us with a list of codes on which you want to receive help. Note the work scope areas to which you would apply the codes (GenIV, Homeland Defense, Reactor Safety, Consequence Analysis, Nuclear Criticality Safety, etc.) Please reply by June 30th to **ACES@ORNL.GOV**.

Error in Beryllium Metal Cross-Section Data

A very significant error in the beryllium metal cross-section data contained in the 238- and 44-Group ENDF/B-V libraries was recently discovered by SCALE users at ORNL. Several critical experiments that involved beryllium metal as the reflector were found to have > 1% difference in calculated k-eff values between different versions of SCALE (4.3 vs. 4.4a). The Be metal data in SCALE 4.4 and 4.4a contains a factor of 2 scaling error in the Be thermal scattering transfer arrays. This error can result in non-conservative errors in calculated k-eff values of greater than 1%. Users should download the corrected data from the **SCALE Download page** and install according to the directions provided in the **README** file. This error is NOT present in SCALE 4.3. For more information, read the discussion on **page 395 of the SCALE Notebook**.

ANS Presenting Historic Landmark Award to Argonne's IPNS Facility

The Intense Pulsed Neutron Source (IPNS) at Argonne National Laboratory was honored with the American Nuclear Society's Nuclear Historic Landmark Award on May 13 during a ceremony at Argonne's Illinois laboratory. ANS President Dr. Gail H. Marcus presented the award.

The ANS Historic Landmark Award identifies and memorializes sites or facilities where outstanding physical accomplishments instrumental in the development and implementation of, and the peaceful uses of, nuclear technology took place.

IPNS, a pulsed spallation neutron source sponsored by the U.S. Department of Energy, has served the scientific community with effective and efficient slow-neutron scattering capabilities since 1981. It functions as a national user facility, and accepts proposals from the world community of chemists, materials scientists, physicists, biologists and engineers.

The IPNS, which has achieved a remarkable lifetime-average record of reliability of more than 95 percent, was a trailblazer in the new generation of neutron research facilities, and it continues to serve science as the community grows into new installations.

The ANS Historic Landmark Award has been presented to 56 sites and facilities since 1985, and has recognized nuclear achievements across the globe such as the Experimental Breeder Reactor I in 1985, the High Flux Beam Reactor in 1987 and France's first nuclear reactor, ZOE, in 1994.

Released May 7, 2002, ANS

More on GEN IV

--- The Nuclear Energy Research Advisory Committee (NERAC) and the Generation IV International Forum (GIF) have prepared the following information for release this past month: “TECHNOLOGY GOALS FOR GENERATION IV NUCLEAR ENERGY SYSTEMS.” Approved by Generation IV Roadmap NERAC Subcommittee (GRNS) on April 13, 2001. For Presentation to NERAC on May 1, 2001 **http://gen-iv.ne.doe.gov/pdf/finalgenivgoals_may01.pdf**.

The Generation IV technology goals derive from a set of guiding principles:

· Technology goals for Generation IV systems must be challenging and stimulate innovation.
· Generation IV systems must be responsive to energy needs worldwide.
· Generation IV concepts must define complete nuclear energy systems, not simply reactor technologies.
· All candidates should be evaluated against the goals on the basis of their benefits, costs, risks, and uncertainties, with no technologies excluded at the outset.

--- Recent news from **http://gen-iv.ne.doe.gov/** Generation IV www site of the DOE Office of Nuclear Energy, Science and Technology, describes in detail the international need for new nuclear power and the evolution of nuclear power as a 'roadmap'. This roadmap describes the origination of the term GEN IV reactors, the deployment schedule, and the GIF, Generation IV International Forum formation.

ANS Calls for Deployment of New Nuclear Power Plants

Over the next 18 years, generating capacity of electricity is expected to increase 40 percent to meet the growing demand for energy. To meet this staggering increase, the near-term deployment of 40 to 50 new nuclear power plants will be required, says the American Nuclear Society.

Not only would the increased deployment of nuclear power plants help satisfy a growing demand for energy in the United States, it would benefit the environment and protect the atmosphere from emissions that many scientists believe is promoting global warming.

Nuclear energy accounts for about 70 percent of all the emission-free electric generation in the United States, says a position statement adopted by the ANS board of directors. Failure to build new nuclear power plants would mean a significant increase in the emission of greenhouse gases and harmful particulates; more rapid depletion of finite fossil fuels; decreased diversification of fuels; and growing reliance on foreign suppliers.

Nuclear energy, the second largest source of energy, contributes 20 percent of the United States' electricity production. To satisfy National Energy Policy goals of energy security and protecting against global climate changes produced by greenhouse gas emissions, the share of nuclear energy will have to increase.

"If we are to achieve any degree of control over the ever increasing emissions of greenhouse gases and harmful particulates, we must increase the share of our electricity mix from renewable fuels such as nuclear, hydropower, solar, wind and others," says the ANS position statement.

Released May 1, 2002, ANS

Obituaries

Dr. Ely M. Gelbard died April 18, 2002. His undergraduate work was at the City College of New York and after World War II he earned his Ph.D. in physics from the University of Chicago. During the war, he served in the US Army Air Corps as a radar technician. He was a Senior Scientist at Argonne National Laboratory and a Fellow of the American Nuclear Society.

Ely started his postgraduate career when the use of digital computers to solve the neutron balance equations for fission reactor core design and analysis was just starting to receive wide application. At Bettis during the mid 50's and 60's, he participated in the efforts which put the numerical methods for the solution of the finite difference form of the neutron transport equation on a firm mathematical basis, and he devised several approximation schemes that were suitable for numerical methods and also developed efficient algorithms for their solution. While at Bettis, he earned international stature in the field, authoring important papers in many variants of the solution procedures (spherical harmonics, Sn, synthetic methods, and Monte Carlo), including the book, “Monte Carlo Principles and Neutron Transport Problems,” with J. Spanier.

Since 1972, when Dr. Gelbard joined Argonne National Laboratory, fast reactors have been the focus of ANL's reactor program, with its emphasis on more accurate computation of the neutron spectrum. His work in this area produced fundamental advances in the analysis of neutron streaming, collision probabilities, improvements in Monte Carlo methods, and neutron diffusion and transport within the nodal approximation. He also brought improved iterative solution strategies to bear on the equations of single-phase computational thermal-hydraulics analysis of passively safe metal-cooled reactor systems. He was consulted by many at ANL, at other labs, and at universities on a wide variety of technical issues, and invariably provided important insights.

Ely's sustained record of high productivity of the highest quality technical work attracted a series of bright and vigorous visiting scholars and students whose participation magnified his work. He excelled at distilling complex technical issues to their essence, then performing the relevant mathematical analysis and, finally, computationally confirming the analysis. Ely was always careful, honest, and thoroughly scrupulous in his work. He earned the ANS Special Award for Computer Methods for the Solution of Problems in Reactor Technology, the ANS Mathematics and Computations Division Distinguished Service Award, the

ANS Reactor Physics Division Eugene Wigner Award, and the University of Chicago Distinguished Performance Award.

In spite of his great stature and many accomplishments, Ely was a mild and modest gentleman who always gave full credit to others' work, and was very approachable and an excellent listener. His technical questions at meetings were insightful, probing, and gentle. He also pursued the understanding of others' points of view in personal and political matters with both intellect and sensitivity. Ely's restaurant adventures at meetings and other venues have provided a rich array of gastronomic experiences and many fond memories to his many friends in our profession.

Thanks to Dr. Roger Blomquist for supplying RSICC with the above information.

Alvin Radkowsky, 86, ANS Fellow and member since 1978 passed away February 17, 2002, in Israel. His work led to major advances in nuclear submarine and aircraft carrier technology and in the deployment of commercial nuclear power. He became the original chief scientist for the U.S. Naval Nuclear Propulsion Division and headed the design teams for the Navy's nuclear submarines, aircraft carriers, and other surface ships in 1950. Radkowsky headed the design team that built the Shippingport station, the first full-scale civilian nuclear power plant and invented the seed-blanket type core that was utilized in the plant and which also formed the basis for the light water breeder reactor. In 1992, he formed what is now Washington, DC-based Thorium Power, Inc. He was elected to the National Academy of Engineering in 1991, and received the ANS Alvin M. Weinberg Award in November 2001.

NRC Codes Made Available

Four 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-312/LEAF
CCC-385/LPGS
CCC-497/MESOI
CCC-345/SEDONE

Changes to the Computer Code and Data Collection

Two changes were made to the computer code collection this month. One newly frozen was released and one correction was made.

CCC-702/ORIGEN-ARP 2.00

OP SYS: Windows
Language: Fortran 90, Basic
Computers: Pentium
Format: WinZip

Oak Ridge National Laboratory, Oak Ridge, Tennessee, contributed a newly frozen version of this isotope generation and depletion code system which was developed for the Nuclear Regulatory Commission and the Department of Energy to satisfy a need for an easy-to-use standardized method of isotope depletion/decay analysis for spent fuel, fissile material, and radioactive material. It can be used to solve for spent fuel characterization, isotopic inventory, radiation source terms, and decay heat. ORIGEN-ARP is an automated sequence to perform isotopic depletion/decay calculations using the ARP and ORIGEN-S codes of the SCALE system. The sequence includes the ORIGEN-ARP for Windows graphical user interface (GUI) that prepares input for ARP (Automated Rapid Processing) and ORIGEN-S. ARP automatically interpolates cross sections for the ORIGEN-S depletion/decay analysis using enrichment, burnup, and, optionally moderator density, from a set of libraries

generated with the SCALE SAS2 depletion sequence. Library sets for four LWR fuel assembly designs (BWR 8x8, PWR 14x14, 15x15, 17x17) are included. The libraries span enrichments from 1.5 to 5 wt% U-235 and burnups of 0 to 60,000 MWD/MTU. Other libraries (e.g., DLC-210/CANDULIB-AECL) are available from RSICC. SCALE users can generate their own libraries for other fuel assembly designs. The interpolated cross sections from ARP are passed to ORIGEN-S to perform the depletion/decay calculations. The ORIGEN-ARP sequence includes the post-processing utility module OPUS to generate ASCII plot data files and the PlotOPUS Windows GUI to plot the data.

ORIGEN-ARP 2.00 (February 2002) differs from the previous release ORIGEN-ARP 1.0 (July 2001) in the following ways:

1. The neutron source and energy spectrum routines were replaced with computational algorithms and data from the SOURCES-4B code (RSICC package CCC-661) to provide more accurate spontaneous fission and (alpha,n) neutron sources, and a delayed neutron source capability was added.
2. The printout of the fixed energy group structure photon tables was removed. Gamma sources and spectra are now printed for calculations using the Master Photon Library only.

This package is intended for users who do not need the entire SCALE package. SCALE users can download the components that are not distributed in SCALE 4.4a (OrigenArp GUI, OPUS, and PlotOPUS) from the ORIGEN-ARP page at the SCALE web site **http://www.ornl.gov/origen-arp/origen-arp.html**.

Note that the CCC-371/ ORIGEN2.1 package is no longer being developed, and all new ORIGEN users are advised to request the ORIGEN-ARP package.

ORIGEN-ARP runs on Pentium personal computers with a minimum of 32 MB RAM under Windows 95/NT or later. Fortran executables included in the package were created using the Lahey F90 Fortran compiler version 4.00e in a DOS window of Windows 2000. Makefiles, source files, and batch files are also included in the package. The OrigenArp GUI was created using Microsoft Visual C++, and PlotOPUS was created with Microsoft Visual Basic and GigaSoft ProEssentials. The self-extracting WinZip files are transmitted on CD. References: Readme.pdf, sections of NUREG/CR-0200, Rev. 6 and 7 (ORNL/NUREG/CSD-2/R6), Vols. I, II, and III (March 2000 and April 2002). Fortran 90 and Basic; PC (Pentium or later), Windows 95/NT or later (C00702/PC586/01).

PSR-158/SAMMY-M6-Beta

OP SYS: Unix; Windows
Language: Fortran 77
Computers: DEC, IBM, PC
Format: tar; self-extracting compressed Windows

Oak Ridge National Laboratory, Oak Ridge, Tennessee, contributed a corrected version of this code system for multilevel R-matrix fits to neutron and charged-particle cross-section data using Bayes' equations. Minor corrections were made to ensure portability of some of the SAMMY codes. SAMDIS, which is used to calculate statistical properties of resonance parameters, was corrected; under certain circumstances, the code had not been counting the number of resonances properly.

Users should be aware that Version M6-Beta is essentially a pre-release of version M6. In order to make the incident-charged-particle version available as soon as possible, no attempt has been made to complete the update of the documentation (users' manual). Though “old” features of the code, and the new incident-charged-particle capability, have been thoroughly tested prior to this release, implementation is in preliminary stages.

The code runs on IBM RS/6000, DEC Alpha computers under both Open/VMS and OSF1 operating systems, Sun UltraSparc, HP, PC using RedHat Linux operating system, and on the PC running Windows. The included PC executables were created on a Dell Dimension 4100 operating under Windows 2000 with Compaq Visual Fortran Professional Edition 6.5. All Unix and Linux systems require a Fortran compiler to create executables. SAMMY-M6-Beta was tested on the following machines:

IBM RS/6000 Model 270 AIX 4.3.3 with XLF 7.1 and XLC 4.4
SUN UltraSparc 60 Solaris 2.6 using f77 V 5.0 or f90
HP B1000 under HP-UX B.10.20 using f77 10.2
DEC/Alpha 500au under Digial Unix 4.0D with Fortran 77 5.1-8

Micron P3 running Windows 2000 using included executables.

SAMMY is transmitted on a CD with both Unix and Windows distribution files. The Unix tar file contains source codes, scripts, tutorials, and test cases for Unix and Linux users. The self-extracting compressed Windows file contains source codes, executables, batch files, and test cases for Windows PC users. Reference: ORNL/TM-9179/R5 (October 2000). Fortran; DEC Alpha (Unix and VMS), IBM RS/6000, SUN, HP, PC (P00158/IRISC/08).

Monthly Code Focus

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 devised thus far. Feedback from our Newsletter community is very valuable so please direct your comments and/or suggestions to **PDC@ORNL.GOV**.

This month we present **Computation and Data Coefficients** for the main category of analytical tool packages at RSICC. Links to the package abstracts are embedded into the WWW version of the RSICC Newsletter. Next month we will focus on DOSE Computation and Factors.

Hamilton Hunter - RSICC Director

ABBN-90
ACTL82
ACTV-F/H
ACTV-FUS/INT
AMPX01
ANS643
ANSL-V
BABEL
BARC-35
BREESE-II
BUGLE-80
BUGLE-96
CAD
CANDULIB-AECL
CARP-82
CASK
CLAW-IV
CLEAR
COBB
COVERV
COVERX
COVFILS
COVFILS-2
CTR DATA
DABL69
DANCOFF-MC
DDXLIB
DECAYREM
DOSCOV
DOSDAM77-81
DOSDAM81-82
DOSDAM84
DPL-400 GEDT1
E3LWR
EAF-99
ECPL82
EGS4
ELAN
ELAST2
ELIESE-3
ENDL82
ENDLIB-97
ENSL82-CDRL82
EPR
EPR MASTER
ESG
EURLIB-III
FCXSEC
FENDL -2.0
FGXRRS
FIPDOR
FIS-PROD
FLEP
FLUNG
FORSS
FPDL
FSX96
FSXLIB-J3
FTF
GAMDAT-78
GAMLIB
GAMMON
GAMTAB
GARG
GARLIB
GEAF-1
GICX40
GROUP STRUCTURE
HELLO
HILO
HILO86
HILO86R
HPICE
HUGO
HUGO VI
IRAN-LIB
JENDL-1
JENDL-2
JENDL/D-99
JFS
JFS3J2
JIMCOF
KAOS/LIB-V
KDDK
KEDAK3
KERMAL
KX-RAY
L26P3S34
LA100
LAFPX-V

LAHIMACK
LENDL
LENDL V
LIB123
LUMP
MACKLIB
MACKLIB-IV-82
MASS
MATXS1
MATXS10
MATXS11
MATXS175/42-JE
MATXS5A
MATXS6A
MATXS70-JEF87
MATXS7A
MCJEF22NEA.BOLI B
MCNPDATA
MCNPXDATA
MCNPXS
MENSLIB
MGCLIB
MONTUK-80
NAB
NCSP-DAT
NMTC/JAERI97
NOX
NPCSL-81
ORIGEN-JENDL32
ORYX-E
PHOTX
PNESD
POINT2000
POINT97
POPLIB
PUCOR
PUDK
PVC
PVE
RECOIL
RITTS
SAIL
SAILOR
SCALE-LIB
SENPRO
SENSIT
SHAMSI
SIGMA-A
SKYDATA-KSU
SKYPORT
SNLRML
STORM-ISRAEL
SUGGEL
SUSD
SUSD3D
SWANLAKE
THERMGAM
TRIGLAV
UKCTRI-81
UKFY2
UKNDL
UKNDL-81
UTXS6
VELM
VITAMIN-4C
VITAMIN-B6
VITAMIN-C
VITAMIN-E
VITAMIN-J/COVA
VITAMIN-J/COVA/EFF
VITAMIN-J/KERMA
WIMKAL-88
WIMS-ANL 4.0
WIMSLIB-IJS0
WIMSLIB-JEF87
XCOM
XG-IAEA

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 alphabetically. 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 after the table.

Condensed Table of Conferences

Name of Conference	Time and Place	Web Site	Date of Abstract/Paper Submission
5th International Topical Meeting on Industrial Radioisotope and Radiation Measurement Application (IRRMA-V).	June 9-14, 2002 Bologna, Italy	**www.irrma.unibo.it**	April 1, 2002

IAEA Technical Meeting on Physics and Technology of Inertial Fusion Energy Targets and Chambers	June 17-19, 2002 San Diego, California	**web.gat.com/conferences/iaea-tm/main.html**	April 1, 2002
48th Annual Radiobioassay and Radiochemical Measurements	Nov. 11-15, 2002 Knoxville, Tennessee	**www.bioassay.org/2002/**	July 15, 2002
ANS 15th Topical Meeting on Technology of Fusion Energy	Nov. 17-21, 2002 Washington, DC	**www.ans.org/meetings**	June 21, 2002
M&C 2003	Apr. 6-10, 2003 Gatlinburg, Tennessee	**meetingsandconferences.com/MC2003**	October 21, 2002
Advances in Nuclear Fuel Management III	Oct. 5-8, 2003 Hilton Head Island, South Carolina	**rpd.ans.org/nfm.htm**	March 15, 2003
The 11th International Conference on Fusion Reactor Materials (ICFRM-11)	Dec. 7-12, 2003 Kyoto, Japan	**icfrm.iae.kyoto-u.ac.jp**	April 30, 2003

2002 Criticality Safety Courses

The University of New Mexico announces their 2002 schedule for Criticality Safety Courses. Dates are: **July 9-11** for the Double Contingency & Criticality Safety Evaluation Workshop, **July 15-19** is the Short Course, and **July 23-25** is the Manager's Course.

For more detailed information about the 2002 Course offerings for Criticality Safety and online registration, check out the web page at **http://www-chne.unm.edu/crit/information.htm** or contact Cheryl Brozena at the University of New Mexico, Albuquerque (tel 505-277-2225, fax 505-277-5433, email **busch@unm.edu**).

5th International Topical Meeting on Industrial Radioisotope and Radiation Measurement Applications (IRRMA-V)

The Fifth International Topical Meeting on Industrial Radioisotope and Radiation Measurement Applications (IRRMA-V), **June 9-14, 2002**, will be in Bologna, Italy.

This Conference, held for the first time in Europe, is the fifth in a series of topical meetings sponsored by the American Nuclear Society for the purpose of bringing together scientists and engineers from around the world who share an interest in radiation and radioisotope measurement applications. Attendees will have opportunities to share ideas having to do not only with industrial uses of radiation and radioisotopes but also with basic research and applications in related fields such as medicine, art and archaeometry, environment, analytical techniques, and new trends in sources and detector development.

More information on the scientific program, the conference site, the city of Bologna, the list of invited speakers, the call for papers, and on-line registration can be found on the conference web site **http://www.irrma.unibo.it/**.

For more information please contact: Chairman Prof. Jorge E. Fernandez, Laboratory of Montecuccolino-DIENCA, University of Bologna, via dei Colli, 16 - 40136 Bologna, Italy (tel +39-051.644.1718, fax +39-051.644.1747, e-mail **chairman@irrma.unibo.it**) (also for any request of information and inclusion in the mailing list).

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 **Dec. 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.

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
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**.

Please remember that 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**.

IAEA Technical Meeting on Physics and Technology of Inertial Fusion Energy Targets and Chambers

This is the "Second Announcement and Call for Papers" for the IAEA Technical Meeting on Physics and Technology of Inertial Fusion Energy Targets and Chambers, which will be held at the General Atomics main site in San Diego, California, **June 17-19, 2002**. The Technical Meeting will include invited and contributed papers on all aspects of the following:

1. Target design and physics, including fast ignition,
2. Chamber physics and technologies,
3. Target fabrication, injection, and tritium handling, and
4. Accident analysis and safety assessment.

We would greatly appreciate your efforts in further distributing this announcement to your colleagues. Detailed meeting information including Abstract Submittal, Participation Procedures, Hotels, Social Events, etc. can be found at the meeting website **http://web.gat.com/conferences/iaea-tm/main.html**. Contacts: Dan Goodin, Chair, General Atomics (fax 858-455-3181, e-mail **dan.goodin@gat.com**), Art Nobile, Co-Chair, Los Alamos National Laboratory (e-mail **anobile@lanl.gov**).

M&C 2003

To mark the beginning of the second century of nuclear science, the American Nuclear Society's Mathematics and Computation Division 2003 Topical Meeting is organized around the theme: Nuclear Mathematical and Computational Sciences: A Century in Review, A Century Anew. The conference will be held at the Park Vista Hotel, Gatlinburg, Tennessee, **April 6-10, 2003**. It is 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, Korean Nuclear Society, and the Canadian Nuclear Society.

As the Conference's title suggests, the technical sessions are arranged in two major components. The Anew component includes the typical mix of contributed papers in regular sessions and invited papers in special sessions. Members of the Technical Program Committee have been extended an invitation to help organize special sessions on timely topics and to stimulate paper submission by colleagues. As is customary for M&C topical meetings, full papers must be submitted for review by October 21, 2002. Additional instructions to authors, including format requirements, will be posted on the Conference's web site (see below) at a later date.

The Review component of the conference is a marked departure from the standard Plenary Session format. It is comprised of eight invited lectures by world-renowned leaders in selected topics. Each half-day of conference sessions will commence with one such lecture extending for one hour, followed by a 15-minute Question/Answer session, a 15-minute break, then the regular and special sessions proceed.

The complete list of topics and invited lecturers is:

1. Deterministic Methods for the First-Order Transport Equation, Ed Larsen (University of Michigan) & Jim Morel (Los Alamos National Lab.)
2. Deterministic Transport Methods of the Second Order, Elmer Lewis (Northwestern University)
3. Monte Carlo Methods, Jerome Spanier (University of California at Irvine)
4. Reactor Core Methods, Kord Smith (Studsvik Scandpower)
5. Resonance Theory in Reactor Applications, R. N. Hwang (Argonne National Lab.)
6. Reactor Kinetics and Dynamics, Jack Dorning (University of Virginia)
7. The Role of Perturbation Theory in Sensitivity and Uncertainty Analysis, Dan Cacuci (Forschungszentrum Karlsruhe, Germany)
8. Criticality Safety Methods, Elliott Whitesides (Oak Ridge National Lab. - retired)

The topics were selected to provide broad coverage of the major areas of research in nuclear mathematical and computational sciences in the twentieth century. The lectures will capture for future students and researchers a snapshot of what the field looked like at the turn of the century and how it got to that point since its inception. The stature of the invited lecturers promises to make this lecture series a unique opportunity for nuclear scientists and engineers to "hear it from the lion's mouth"!

The conference's web site is: **http://meetingsandconferences.com/MC2003/**. It will be updated with new information as it becomes available. Please bookmark and visit it occasionally for news and

updates. Comments and suggestions are most welcome. Contact: Yousry Azmy 865-574-8069, **azmyyy@ornl.gov** or Bernadette Kirk 865-574-6176, **kirkbl@ornl.gov**. *(See announcement on SCALE 5 workshop, that will be held immediately before the M&C Conference.)*

MACCS Meeting

The Fourth Meeting of the International MACCS Users Group (IMUG) will be held on **September 6, 2002**, in the Principality of Monaco. The focus of the Fourth IMUG Meeting will be the exchange of technical information relating to the application of MACCS, MACCS2, and COSYMA codes to relevant problems involving atmospheric dispersion of radioactive materials and resulting consequences.

There is no fee to participate in the meeting; however, for planning purposes, advance registration is requested. Everyone, including COSYMA users, is invited to present a paper. Please visit the website **www.bnl.gov/est/IMUG2002/default.htm**, and **http://www.bnl.gov/est/IMUG2002/Latest_News.htm** to find out about IMUG, register for the meeting or request notification of web updates. The website will be updated as additional information becomes available.

MCNP Course Announcement for 2002

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

The MCNP code developers will present several classes in 2002 in the United States and two classes in Europe. The dates for these classes are:

June 4-7	Introductory class	Los Alamos, NM
July 30-August 1	Variance reduction class	Los Alamos, NM
September 9-13	Introductory class	Stuttgart, Germany

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 gain depth of understanding.

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 geometry 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 learning. 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
Display source points and collision points in the plot window

Two five-day classes will be held in **2002**: **June 17-21**, and **September 9-13**, both in Richland, Washington. These classes 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 these classes can be located at: **http://www.mcnpvised.com/train.html**, or by contacting Randy Schwarz (email **randyschwarz@mcnpvised.com**).

Three classes are scheduled for **2003**: **March 17-21, June 23-27**, and **September 8-12**, all in Richland, Washington.

MCNPX Workshops for 2002 & 2003

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

2002

June 24-28	Intermediate	Lisbon, Portugal
July 8-12	Intermediate	Santa Fe / Los Alamos
August 12-16	Intermediate	(TBA) East Coast, USA
September 23-27	To be decided	San Diego, California
November 11-15	Intermediate	Tokyo, Japan

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 directly 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**.

MCNPX Workshop in Lisbon, Portugal

RSICC is co-sponsoring an intermediate level workshop on "Computing Radiation Dosimetry" which will be held **June 22-23, 2002**, and "Training Course on MCNP-X" to be held **June 24-28, 2002**, in Lisbon, Portugal.

The workshop on "Computing Radiation Dosimetry" with embedded training course on MCNPX - Monte Carlo Code System for Multiparticle & High Energy Applications, will take place at the Instituto Tecnológico e Nuclear (ITN), Sacavém, Lisbon.

During the weekend of June 22-23 a series of tutorial lectures will be held. From June 24 through June 28, a daily tutorial lecture will be delivered by a senior expert on a subject related to the MCNPX module(s) being taught that day.

The workshop and training course will be focusing on computational issues and state-of-the-art techniques in dosimetry, radiation protection, radiation shielding, biophysics, medical physics, etc.

The training course and workshop are organized by I.T.N. (Nuclear and Technological Institute, in Lisbon). At the international level formal sponsorship has been granted from:

- The Nuclear Science Committee of the Nuclear Energy Agency (NEA) of the Organization for Economic Co-operation and Development (OECD)
- The Radiation Safety Information Computational Center (RSICC) of the U.S.A.
- The European Radiation Dosimetry Group (EURADOS).

For more information, please visit the web site: **http://itn1.itn.pt/MCNPX/**.

Short Courses on Monte Carlo Analysis and Nuclear Criticality Safety

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-37), **August 12-16, 2002**.

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 five days.

Engineers, scientists, and technical managers who wish to increase their knowledge and understanding of nuclear criticality safety will be interested in the intensive five-day short course. 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.

For additional information on these two and other courses offered during TIW-37, contact Kristin England at The University of Tennessee, phone (865) 974-5048, email **kengland@utk.edu,** url **www.engr.utk.edu/nuclear/TIW.html**.

Neutron Spectra Unfolding Training Course

Dates: **August 5-7, 2002** in Braunschweig, Germany
September 24-26, 2002 in Los Alamos, New Mexico
Contact: Burkhard Wiegel, PTB
Email: **Burkhard.Wiegel@ptb.de**
Web Site: **http://www.ptb.de/utc2002/**

Fee: 1200 Euro (course at PTB) and US$1100 (course at Los Alamos), which includes a CD with a complete set of notes and unfolding software, as well as refreshments and a dinner for the participants.

A training course on neutron spectra unfolding is being organized by the Neutron Dosimetry section of the Physikalisch-Technische Bundesanstalt (PTB), Braunschweig, Germany, in collaboration with the Health Physics Measurements Group (ESH-4) of the Los Alamos National Laboratory (LANL). Additional support is provided by the Helmholtz-Fonds e.V. The course will be given in August 2002 at PTB in Braunschweig, Germany, and in September 2002 in Los Alamos, New Mexico, USA.

We will emphasize practical aspects of unfolding. The course is intended for those who do spectrometry in neutron or mixed neutron/photon fields and who need to analyze their data using unfolding procedures. In the morning sessions we will have a series of lectures which will provide an introduction to unfolding as well as allow for discussions concerning the theory of unfolding. In the afternoon sessions the participants will work on specific examples at PC workplaces using unfolding software provided by PTB (the HEPRO package of unfolding codes and the MAXED code). We will focus on Bonner-sphere measurements for our discussion of few-channel unfolding, and liquid scintillation spectrometer (NE-213) measurements for our discussion of multi-channel unfolding.

The number of participants is restricted by the limited number of PC workplaces at our disposal at each of the training centers. We therefore encourage you to register as soon as possible. For online registration and further information please visit our web site at: **http://www.ptb.de/utc2002/**.

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 that has a long history. Over the past 47 years, the conference has also been known as:

Annual Bioassay and Analytical Chemistry Conference,
Annual Conference on Bioassay, Analytical, & Environmental Radiochemistry, and
Annual Radiochemical Measurements Conference.

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/**.

Radiopharmaceutical Internal Dosimetry

This online course is designed to teach current techniques for calculating the radiation dose from radionuclides administered in nuclear medicine. Lectures include Internal Dose Assessment Techniques, Resources for Internal Dose Assessment in Nuclear Medicine, Kinetic Modeling, Standard Kinetic Models and Phantoms, Extrapolation of Animal Data, Bone Marrow Dosimetry, Study Design for Radiopharmaceutical Dose Assessment, Patient Specific Dosimetry, and Small Scale and Microdosimetry. Problem-solving exercises and a comprehensive online exam are included. Users completing the exam will receive a certificate of completion. Users may also interact with instructors by email about any aspect of the course. The cost of this course is $495; access to the course is through **www.internaldosimetry.com**. For questions or comments contact either of the course instructors, Dr. Michael G. Stabin, (tel 615-322-3190, fax 615-322-3764, email **michael.g.stabin@vanderbilt.edu**) or Dr. Richard B. Sparks (tel 865-938-4949, fax 865-947-1550, email **rsparks@creativedevelopment.com**, url **http://www.creative development.com**, **http://www.internaldosimetry.com**).

SCALE Training Course Schedule for 2002

The SCALE staff at Oak Ridge National Laboratory (ORNL) will be offering two training courses this fall (**October 14-18 and October 21-25**) at ORNL. The courses 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 for one course or $3000 for both courses ($300 discount if you register at least one month before the course). A copy of the SCALE software and manual on CD may be obtained for an additional fee of $700, and the KENO3D 3-D visualization tool on CD is available for $800 (single license). Registrations will be accepted on a first-come basis. Registration forms submitted directly from the Web are preferred. Registration via fax or email is also acceptable. The registration fee must be paid by check, travelers checks, bank transfer, or credit card (VISA or MasterCard only). The agenda and registration form are on the web page at **http://www.ornl.gov/scale/trcourse.html**. Contact: Kay Lichtenwalter (tel 865-574-9213, email **x4s@ornl.gov**).

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 $1,800 (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)*.

CALENDAR

June 2002

ANS Annual Meeting, The Revival of the Nuclear Power Option, June 9-13, 2002, Hollywood, FL (url **http://www.ans.org/**).

Topical Meeting: Industrial Radiation and Radioisotope Measurement Applications IRRMA-V A Class IV Topical, June 9-14, 2002, Bologna, Italy, co-sponsored by the American Nuclear Society. Contact: Prof. Jorge Fernandez, Chair (e-mail: jorge.fernandez@mail.ing.unibo.it**,** url **www.irrma.unibo.it**).

IAEA Technical Meeting on Physics and Technology of Inertial Fusion Energy Targets and Chambers, June 17-19, 2002, San Diego, CA. Contact: Dan Goodin (tel 858-455-2977, email **dan.goodin@gat.com**, url **http://web.gat.com/conferences/iaea-tm/main.html**).

Visual Editor Class, June 17-21, 2002, Richland WA. Contact: Randy Schwarz (tel 509-372-4042, email **randy.schwarz@mcnpvised.com**, url **http://mcnpvised.com/train.html**).

14th International Conference on High-Power Particle Beams and 5th International Conference on Dense Z-Pinches, June 23-28, 2002, Albuquerque, NM (email for general inquiries **beams02@sandia.gov**; url **http://www.sandia.gov/BeamsDZP**).

MCNPX Intermediate Workshop, June 24-28, 2002, Lisbon, Portugal. Contact Bill Hamilton (tel 505-662-9097, email **registrar@mcnpxworkshops.com**, url **http://mcnpxworkshops.com** for details).

Win Global 2002 10th Annual Meeting, June 27-28, 2002, Paris, France. Hosted by the French Nuclear Energy Society (url **http://www. win-global.org/**, fax 33-0-15358-3211, email **win-global2002@sfen.fr**).

July 2002

Snowmass Fusion Summer Study, July 8-19, 2002, Snowmass Village, CO (url **http://fire.pppl.gov/snowmass02.html**).

MCNPX Intermediate Workshop, July 8-12, 2002, Santa Fe /Los Alamos, NM. Contact: Bill Hamilton (tel 505-662-9097, email **registrar@mcnpxworkshops.com,** url **http://mcnpxworkshops.com** for details).

August 2002

Spectrum 2002, Exploring Science-Based Solutions and Technologies, 9th Biennial International Conference on Nuclear and Hazardous Waste Management, Aug. 4-8, 2002, Reno, NV. Contact: Dr. Richard Jacobsen (email **jacor@inel.gov**, url **www.ans.org/spectrum**).

Neutron Spectra Unfolding Training Course, Aug. 5-7, 2002, in Braunschweig, Germany. Contact: Burkhard Wiegel, PTB (email **Burkhard.Wiegel@ptb.de,** url **http://www.ptb.de/utc2002/**).

MCNPX Intermediate Workshop, Aug. 12-16 2002, East Coast, USA. Contact: Bill Hamilton (tel 505-662-9097, email **registrar@mcnpxworkshops.com,** url **mcnpxworkshops.com** for details).

September 2002

Fourth Meeting of the International MACCS Users Group (IMUG), Sept. 6, 2002, in the Principality of Monaco (url **http://www.bnl.gov/est/IMUG2002**).

22nd Symposium on Fusion Technology - SOFT, Sept. 8-13, 2002, Helsinki, Finland. Contact: Symposium Secretary Mrs. Merja Asikainen (tel +358 9 456 6854; fax +358 9 456 7002; email: **soft2002@vtt.fi**; url **http://www.vtt.fi/val/soft2002/**).

Visual Editor Class, Sept. 9-13, 2002, Richland, WA. Contact: Randy Schwarz (tel 509-372-4042, email **randy.schwarz@mcnpvised.com**, url **mcnpvised.com /train.html**).

MCNPX Workshop, Sept. 23-27, 2002, San Diego, California. Contact: Bill Hamilton (tel

505-662-9097, email **registrar@mcnpxworkshops.com,** url **http://mcnpxworkshops.com** for details).

Neutron Spectra Unfolding Training Course, Sept. 24-26, 2002, in Los Alamos, NM. Contact: Burkhard Wiegel, PTB (email: **Burkhard.Wiegel@ptb.de**, url **http://www.ptb.de/utc2002/**).

YUNSC 2002 - The 4th International Conference of Yugoslav Nuclear Society, Sept.30-Oct.3, 2002, Belgrade, Yugoslavia. Contact (tel ++381 11 454-796; fax ++381 11 444-74-57; email **yuns@rt270.vin.bg.ac.yu**, url **www.vin.bg.ac.yu/YUNS**).

8th Annual Workshop on Monte Carlo Simulation of Radiotherapy Treatment Sources using the BEAM Code System, Sept. 30-Oct. 3, 2002, Ottawa, Canada. Contact: Blake Walters, Ionizing Radiation Standards, National Research Council of Canada, Ottawa, Canada, K1A 0R6 (tel 613-993-2715, fax 613-952-9865, e-mail **bwalters@irs.phy. nrc.ca**, url **www.irs.inms.nrc.ca/inms/irs/BEAM/beamhome.html**).

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**).

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

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, Tennessee. Contact Tom Rucker (tel 865-481-2993, email **ruckert@saic.com** url **http://www.bioassay.org/2002/**.)

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

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

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

February 2003

MCNPX Workshop, Feb. 17-21, 2003, Las Vegas, Nevada. Contact: Bill Hamilton (tel 505-662-9097, email

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

March 2003

MCNPX Workshop, Mar. 31-Apr. 4, 2003, Knoxville, Tennessee. 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, Tennessee. 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 865-574-8069, email **azmyyy@ornl.gov**) or Bernadette Kirk (tel 865-574-6176, email **kirkbl@ornl.gov**, url **http://meetingsandconferences.com/MC2003/index.html**).

May 2003

MCNPX Workshop, May 2003, Los Alamos / Santa Fe, New Mexico. 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).

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, South Carolina. Contact: Youssef A. Shatilla (email **shatilya@westinghouse.com**, url **http://rpd.ans.org/nfm.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**). 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.

ANL-01/15 . . . *Alternative Implementations of the Monte Carlo Power Method.* . . . Blomquist, R.N.; Gelbard, E.M. . . . December 2001 . . . Argonne National Laboratory, Argonne, IL.

Ann. Nucl. Energy, 29, 1625-1632 . . . *Heat Generation and Corresponding Energy Saving in Shielding Materials Due to Different Geometry Radioactive Sources.* . . . Bakos, G.C.; Tsagas, N.F. . . . September 2002 . . . Democritus University of Thrace, Xanthi, Greece.

Ann. Nucl. Energy, 29, 1633-1640 . . . *HELIOS: Analysis of MOX Critical Experiments.* . . . Kriangchaiporn, N.; Ivanov, K.N.; Stamm'ler, R.J.J. . . . September 2002 . . . Pennsylvania State University, University Park, PA; Studsvik Scandpower AS, Norway.

Ann. Nucl. Energy, 29, 1641-1660 . . . *Investigation of the Effects of the Resonance Absorption in a Fusion Breeder Blanket.* . . . Sahin, S.; Sahin, H.M.; Yildiz, K. . . . September 2002 . . . Gazi Üniversitesi, Ankara, Turkey.

Ann. Nucl. Energy, 29, 1661-1687 . . . *The Effect of Random Geometry on the Time Constant of a Multiplying System.* . . . Williams, M.M.R. . . . September 2002.

Ann. Nucl. Energy, 29, 1689-1706 . . . *Inherent Shutdown Capabilities in Accelerator-Driven Systems.* . . . Eriksson, M.; Cahalan, J.E. . . . September 2002 . . . Royal Institute of Technology, Stockholm, Sweden; Argonne National Laboratory, Argonne, IL.

Ann. Nucl. Energy, 29, 1707-1720 . . . *Evaluation of the Unresolved Resonance Range of ^{238}U.* . . . Maslov, V.M.; Porodzinskij, Yu.V.; Baba, M.; Hasegawa, A. . . . September 2002 . . . Radiation Physics and Chemistry Problems Institute, Minsk-Sosny, Belarus; Tohoku University, Sendai, Japan; Tokai Research Establishment, Japan; Atomic Energy Research Institute, Ibaraki-ken, Japan.

Ann. Nucl. Energy, 29, 1721-1733 . . . *Assessment of Core Characteristics During Transition from 37-Element Fuel to CANFLEX-NU Fuel in CANDU 6.* . . . Jeong, C.J.; Suk, H.C. . . . September 2002 . . . Korea Atomic Energy Research Institute, Taejon, South Korea.

Ann. Nucl. Energy, 29, 1735-1745 . . . *A Computer Program with Graphical User Interface to Plot the Multigroup Cross Sections of WIMS-D Library.* . . . Thiyagarajan, T.K. et al. . . . September 2002 . . . Bhabha Atomic Research Centre, Mumbai, India.

Ann. Nucl. Energy, 29, 1747-1764 . . . *A Multi-Particle Model Applicable to Social Issues - Time-Evolution of Japanese Public Opinion on Nuclear Energy.* . . . Ohnishi, T. . . . October 2002 . . . Wakasa Wan Energy Research Center, Tsuruga, Japan.

Ann. Nucl. Energy, 29, 1765-1778 . . . *Higher Order Analytical Nodal Methods in Response-Matrix Forumlation for the Multigroup Neutron Diffusion Equations.* . . . Guessous, N.; Akhmouch, M. . . . October 2002 . . . Ecole Normale Supérieure de Fès, Fès, Morocco; FST-Fes-Saiss, Fès, Morocco.

Ann. Nucl. Energy, 29, 1779-1794 . . . *Characterization and Optimization Analysis of a BNCT Biological Facility.* . . . Quinteiro, G.F.; Calabrese, C.R. . . . October 2002 . . . Comisión Nacional de Energía Atomica-CAC, Buenos Aires, Argentina.

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