
Radiation Safety Information Computational Center



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No. 461

July 2003

“The smallest good deed is better than the grandest good intention.” -- Duguet

RSICC's New License and Export Control Information Restrictions

In today's world, software licenses and export control regulations are integral parts of software distribution. Adherence to both is the shared responsibility of RSICC and its user community.

Our users should be aware of a major change in the software licensing of RSICC code and data packages. In mid-April 2003, the former site license each requester submitted to receive RSICC software was replaced by a new single user license.

The previous site license restricted use of RSICC software to the site to which it was sent. The software could not leave that physical location and could not be placed on a network accessible by off-site users. Use of the software could be shared with colleagues located at that same site, and any software received under that site license continues to be governed by those terms.

Requests submitted for RSICC code and data packages since mid-April 2003 now include a single user license. RSICC software is currently restricted to use by the recipient only. It can no longer be shared with others either on or off site. With the change to the new individual license, any software received through RSICC is now solely for use by the licensee.

The new license allows software to be installed and run on a shared network under the following condition: Each user of the RSICC software package on the network must first submit his own RSICC registration form, request form, license form, and export control understanding and agreement form. On receipt of his own licensed copy of the software from RSICC, the network user can then be given network access to that particular code or data package.

If you have particular questions related to the new license, feel free to contact us. Our staff will do its best to clarify issues as they arise both through our monthly newsletter and our web site. A new FAQ's for the RSICC License will be instituted on our web site home page at

<http://www-rsicc.ornl.gov/rsicc.html>.

Thank you for your considerable efforts to help RSICC continue to be the leader in nuclear system safety, design, and research.

Hamilton T. Hunter, Director of RSICC, June, 2003

Naughton, de Planque are Award Winners

from ANS News May/June 2003

William F. Naughton, general manager of research and development for Exelon Generation Company, was honored on April 14 as an Outstanding Engineering Alumnus by Penn State University. This is the highest honor conferred by Penn States' College of Engineering: Only 231 men and women - out of 75,000 alumni worldwide - have received the award during the 37-year history. He received his master's and Ph.D degrees in nuclear engineering from Penn State. An ANS member since 1973, Naughton is the newly elected ANS treasurer for 2003-05.

E. Gail de Planque, Fellow and past president (1988-89) of ANS and renowned nuclear technology expert, is the 2003 recipient of the Henry DeWolf Smyth Nuclear Statesman Award. This is awarded jointly by ANS and the Nuclear Energy Institute to recognize outstanding contributions to the development of peaceful uses of nuclear energy. The Smyth award was established in 1972 in honor of Henry DeWolf Smyth, chairman of Princeton University's physics department.

Du Temple Honored

ANS News May/June 2003

Octave J. Du Temple, executive director emeritus of the American Nuclear Society, received Michigan Technological University's highest honor, the Melvin Calvin Medal of Distinction, which is given to individuals affiliated with the university who have exhibited truly distinguished professional and personal accomplishments. Du Temple received his bachelor's and master's degrees in chemical engineering from Michigan Tech, and went on to earn a master's degree in business administration from Northwestern University in 1955. He joined ANS in July 1958 as the Society's first full-time executive director, a position he held for 32 years. The ANS headquarters building, in La Grange Park, Illinois was dedicated to Du Temple in 1992.

Available NRC Code

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

TACT III

Changes to the Computer Code and Data Collection

One new package was added to the computer code collection this month.

PSR-521/UNF

OP SYS: Windows

Language: Fortran 90

Computers: PC

Format: Windows

The Chinese Institute of Atomic Energy, Beijing, People's Republic of China, contributed this code system to calculate multistep compound nucleus neutron cross-sections and spectra for structural materials. The UNF code (2003 version) calculates fast neutron reaction data of structure materials with incident energies from about 1 keV up to 20 MeV. It consists of the spherical optical model, the unified Hauser-Feshbach and exciton model. The angular momentum dependent exciton model is established to

describe the emissions from compound nucleus to the discrete levels of the residual nuclei in pre-equilibrium processes, while the equilibrium processes are described by the Hauser-Feshbach model with width fluctuation correction. The emissions to the discrete level in the multi-particle emissions for all opened channels are included. The double-differential cross sections of neutrons and protons are calculated by the linear momentum dependent exciton state density. Since the improved pickup mechanism has been employed based on the Iwamoto-Harada model, the double-differential cross sections of alpha-particle, ^3He , deuteron and triton can be calculated by using a new method based on the Fermi gas model. The recoil effects in multi-particle emissions from continuum state to discrete level as well as from continuum to continuum state are strictly taken into account, so the energy balance is held accurately in every reaction channel. If the calculated direct inelastic scattering data and the calculated direct reaction data of the outgoing charged particles are available from other codes, one can input them so that the calculated results will include the effects of the direct reaction processes. To keep the energy balance, the recoil effects are taken into account for all of the reaction processes. The gamma-production data are also calculated. The calculated neutron reaction data can be output in ENDF/B-6 format.

UNF is written in Fortran 90. An executable created on a Pentium IV 1400 MHZ under Windows 2000 with the Compaq Visual Fortran Version 6.6a compiler is included. The package is transmitted on a CD which includes documentation, the Fortran source, PC executable, and test case input and output in a self-extracting compressed Windows file. Reference: CNDC-0032 (December 2001). Fortran 90; Pentium (P00521PC58600).

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 'Subject 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. This month's code focus is **Thermodynamics and Fluid Dynamics**.

BWRLTAS
COBRAEN
COBRA4I
COMMIX1B
COMPAREMODIA
D2O
FRANCO
FRAPCON2

GNOMER
GT2R2
HATCHES
HEATING 7
LAPUR5
MINTEQ
MORECA
PARET-ANL

POLYRES
RELAP5/MOD1/025
RODBURN/FEMAXI V
SCRELA
TRACPF1/EN MOD3
USINT
WREMTOODEE2

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 | Date and Location | Web Site | Abstract/Paper Submission Date |
|--|--|--|--------------------------------|
| 2003 IEEE Nuclear and Space Radiation Effects Conference (NSREC) | July 21-23, 2003 Monterey, California | http://www.nsrec.com/ | passed |
| 21st International System Safety Conference | Aug. 4-8, 2003 Ottawa, Canada | http://www.system-safety.org/ | passed |
| 9th International Conf. on Environmental Remediation and Radioactive Waste Mgmt. | Sept. 21-25, 2003 Oxford, England | http://www.icemconf.com | passed |
| Supercomputing in Nuclear Applications (SNA-2003) | Sept. 22-24, 2003 Paris, France | http://sna-2003.cea.fr/ | passed |
| Advances in Nuclear Fuel Management III | Oct. 5-8, 2003 Hilton Head Island, South Carolina | http://rpd.ans.org/nfm.htm | passed |
| 6th International Symposium on ESR Dosimetry and Applications | Oct. 12-16, 2003 Campos do Jordão, Brazil | http://www.if.usp.br/VI_ESR_2003/ | June 30, 2003 |
| 7th International Conference on Nuclear Criticality Safety (ICNC2003) | Oct. 20-24, 2003 Tokai-mura, Japan | http://www.icnc.jp/ | passed |
| 9th International Symposium on Radiation Physics (ISRP-9) | Oct. 27-31, 2003 Cape Town, South Africa | www.medrad.tlabs.ac.za/isrp9.htm | |
| 11th International Conference on Fusion Reactor Materials (ICFRM-11) | Dec. 7-12, 2003 Kyoto, Japan | icfrm.iae.kyoto-u.ac.jp | passed |

| Name of Conference | Date and Location | Web Site | Abstract/Paper Submission Date |
|---|--|---|--------------------------------|
| PHYSOR 2004 | Apr. 25-29, 2004 Chicago, Illinois | www.td.anl.gov/PHYSOR2004 | Sept. 5, 2003 |
| Current Topics in Monte Carlo Treatment Planning | May 3-5, 2004 Montreal, Canada | http://mctp.medphys.mcgill.ca | Nov. 1, 2003 |
| International Conference on Radiation Shielding (ICRS-10) and Topical Mtg. on Radiation Protection & Shielding (RPS 2004) | May 9-14, 2004 Funchal, Madeira Island (Portugal) | http://www.itn.mces.pt/ICRS-RPS/ | |

Advances in Nuclear Fuel Management III

American Nuclear Society's Advances in Nuclear Fuel Management III Topical Meeting will be held in Hilton Head Island, South Carolina, **October 5-8, 2003**. 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.

Current Topics in Monte Carlo Treatment Planning

This workshop will be held at McGill University, Montreal, Canada, from **May 3-5, 2004**, and aims to bring together medical physicists and researchers to discuss development, clinical implementation and clinical evaluation of Monte Carlo treatment planning techniques in radiotherapy. The meeting will have both invited speakers and proffered contributions and is designed to have plenty of opportunity for informal and in-depth discussions.

For details regarding registration, program, invited speakers, abstract submission, etc, please consult our workshop website: <http://mctp.medphys.mcgill.ca>. Early registration is encouraged as the number of participants will be limited to around 100.

International Conference on Radiation Shielding (ICRS-10) and Topical Meeting on Radiation Protection & Shielding (RPS 2004)

The Tenth International Conference on Radiation Shielding (ICRS-10) and the Thirteenth Topical Meeting of the Radiation Protection and Shielding Division of the American Nuclear Society (RPS 2004) will be held **May 9-14, 2004**.

The Local Organization has been assigned to ITN (the Nuclear and Technological Institute, in Lisbon), a laboratory of the Portuguese Ministry of Science and Higher Education. At the international level, the joint organization is co-sponsored by the Nuclear Energy Agency (NEA) of the Organization for Economic Co-operation and Development (OECD), the Radiation Protection and Shielding Division (RPSD) of the American Nuclear Society (ANS), and the Radiation Safety Information Computational Center (RSICC, Oak Ridge National Laboratory).

It is anticipated that this will be the most important event in the areas of Radiation Shielding and Radiation Protection during 2004. For further information please refer to the Conferences' Web pages at the

following URL <http://www.itn.mces.pt/ICRS-RPS>. Please don't hesitate to contact the Conference Secretariat at icrs-rps@itn.mces.pt.

In addition, if you would be interested in serving on the Scientific Program Committee, and contribute to the success of the meeting by either submitting or encouraging colleagues to submit papers, and participating in the technical review process, please contact the Conference Secretariat at the above email and provide your name, organization, email and topics of interest or expertise. The Organizing Committee welcomes your comments and suggestions to make your meeting a success.

6th International Symposium on ESR Dosimetry and Applications

The 6th International Symposium on ESR Dosimetry and Applications will be held **October 12-16, 2003**, in Campos do Jordão, Brazil. For complete information, please see [http://www.if.usp.br/VI ESR 2003/](http://www.if.usp.br/VI_ESR_2003/) and click on "second announcement (PDF version)" on the left side of the screen.

7th International Conference on Nuclear Criticality Safety (ICNC2003)

The 7th International Conference on Nuclear Criticality Safety (ICNC2003) will be held **October 20-24, 2003**, in Tokai-mura, Japan. This conference has been held approximately every 4 years under the support of OECD/Nuclear Energy Agency/Nuclear Science Committee. The last conference, hosted by Japan, was the 3rd conference held in Tokyo in 1987. In the Versailles conference held in 1999, over 300 people from 25 countries participated, and more than 200 presentations were given on the recent activities in research work, industrial applications, regulatory studies, and other topics related to criticality safety. ICNC2003 will provide a good opportunity for communication among researchers, engineers, plant operators, and regulators. The Conference will consist of invited talks, contributed talks, and poster sessions. On the final day of the conference, technical tours to nuclear facilities are scheduled, and social programs are planned during conference. Please see the website for more information: <http://www.icnc.jp/>.

9th International Conference on Environmental Remediation and Radioactive Waste Management

The conference will be held in Oxford, England, **September 21-25, 2003**. Session M-6 - Applying Strategic Planning, Decision-making, and Risk Reduction Methodologies in EM, includes the following:

- Applications of strategic planning, decision-making, and/or risk reduction methodologies and tools (e.g., roadmapping) to resolve environmental management issues
- Innovative approaches to decision-making to resolve problems/issues related to environmental management
- Innovative approaches to assessing risk and cost-effective reduction of risk for issues related to environmental management
- Innovative approaches to strategically plan for and implement science and technology (S&T) to resolve environmental barriers to project completion
- Ways to effectively integrate strategic planning, decision-making, and risk reduction techniques and tools to resolve environmental management issues
- Methodologies used in developing the sites' plans to meet DOE EM's goals of site closures, cost savings, schedule acceleration, and risk reduction

Additional details on the ICEM conference are on the website at <http://www.icemconf.com>.

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 the knowledge and skills necessary to create 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 professions, 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 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 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.

MCNP Courses 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

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|-----------------|----------------------|--------------------------------|
| August date TBA | Advanced MCNP Topics | Los Alamos National Laboratory |
| Sept. 15-19 | Introductory | Issy-les-Moulineaux, France |

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 class will be based on MCNP5 and will cover the new capabilities of version 5. Attendees may elect to receive the new package. If you have previously received an older registered version of MCNP from RSICC, you may request that the MCNP5 package be sent to you at no charge. If you have not received an older version of MCNP from RSICC, you will be charged the applicable transmittal fee.

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 class 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 Class

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.

The class is scheduled **September 8-12, 2003**, 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 2003 & 2004

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>

2003

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|--------------|--------------|---------------------|
| July 14-18 | Intermediate | Los Alamos/Santa Fe |
| August 25-29 | Advanced | Los Alamos/Santa Fe |
| October 6-10 | Introductory | Stuttgart, Germany |
| November | Advanced | Japan |

2004

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|---------------|--------------|---------------|
| January 12-16 | Introductory | Las Vegas, NV |
|---------------|--------------|---------------|

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

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

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

Classes are taught by experienced MCNPX code developers and instructors. More information on code versions and capabilities is available at MCNPX Workshops web site <http://mcnpworkshops.com>.

Workshop on Nuclear Data for the Transmutation of Nuclear Waste

The "Workshop on Nuclear Data for the Transmutation of Nuclear Waste" will be held **September 1-5, 2003**, at GSI-Darmstadt, Germany. The workshop is organized on the occasion of the end of the HINDAS research program, a collaboration of several European Institutes working on the subject of "High and Intermediate Nuclear Data for Accelerator Driven Systems." Please note that the topics included in the workshop are not restricted to the HINDAS research program. All contributions to the subject of the workshop are more than welcome.

The workshop time-schedule will be organized in the following way: Monday will be dedicated to a closed HINDAS meeting. On Tuesday, the open sessions will start and last till the end of the workshop on Friday.

Those who are interested in participating in the workshop are invited to register (no fee) before August 1, 2003, using the workshop website <http://www-wnt.gsi.de/tramu>. There is also information on workshop topics, accommodations, transportation, and key dates. Please contact Aleksandra Kelic, A.Kelic@gsi.de if you have questions.

PHYSOR 2004

The Chicago Section of the American Nuclear Society is pleased to announce that it will host the PHYSOR-2004 Topical Meeting, **April 25-29, 2004**, in Chicago, IL. The meeting is co-sponsored by the Reactor Physics Division of the ANS and the OECD Nuclear Energy Agency. The conference will be held at the Hyatt Regency in downtown Chicago.

The title for the meeting is "The Physics of Fuel Cycles and Advanced Nuclear Systems: Global Developments." The technical program will cover more than 15 topical focus areas; the deadline for submission of 1000-word summaries is September 5, 2003. You are invited to visit the meeting website at www.td.anl.gov/PHYSOR2004 to obtain updated information and to download a copy of the meeting announcement. Contact: Ray Klann, Technical Program Co-Chair, at 630-252-4305 or klann@anl.gov.

SCALE KENO V.a Criticality Safety Course

The SCALE KENO V.a Criticality Course, **Nov. 3-7, 2003**, will focus on KENO V.a and the associated criticality analysis sequences in CSAS. KENO V.a is a widely used 3-D multigroup Monte Carlo criticality safety code that has been in use for more than 15 years. KENO V.a is a fast, easy-to-use code that allows users to build complex geometry models using basic geometrical bodies of cuboids, spheres, cylinders, hemispheres, and hemicylinders. Two-dimensional color plots of the geometry model can be generated in KENO V.a or the model may be viewed using the KENO3D 3D visualization tool. For further information, visit <http://www.ornl.gov/scale/trcourse.html#href1> or contact Kay Lichtenwalter, scalecoding@ornl.gov, 865-574-9213.

SCALE Source Terms & Shielding Course

The SCALE Shielding and Source Terms Course covers SAS2 and ORIGEN-ARP (depletion/source-term generation), SAS1/XSDRNPM (1-D neutron/gamma shielding), SAS4/MORSE-SGC (3-D Monte Carlo neutron/gamma shielding), and QADS/QAD-CGGP (3-D point kernel gamma shielding). The course will be **Nov. 10-14, 2003**, and will feature the use of the SCALE Windows GUIs: OrigenArp for Windows, ORIGEN-S plotting utility PlotOPUS, and the ESPN shielding input processor for SAS4. For further information, visit <http://www.ornl.gov/scale/trcourse.html#href1> or contact Kay Lichtenwalter, scalecoding@ornl.gov, 865-574-9213.

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-38), **August 11-15, 2003**. One course is on the Monte Carlo method and the other course is on Nuclear Criticality Safety.

Monte Carlo is often the method of choice to solve complex problems in nuclear criticality safety and radiation shielding. To use Monte Carlo effectively, the analyst must understand the theoretical and computational fundamentals of the method, as well as the computational options available in particular computer tools. Also, it is sometimes advantageous to create new special-purpose Monte Carlo programs to solve particular problems rather than use an existing program. The Monte Carlo course runs for 5 days.

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

For additional information on these two and other courses offered during TIW-38, contact Kristin England at the University of Tennessee, phone (865) 974-5048, email kengland@utk.edu, url www.engr.utk.edu/nuclear/TIW.html.

Supercomputing in Nuclear Applications

The conference on "Supercomputing in Nuclear Applications" SNA-2003, will be held in Paris, **September 22-24, 2003**. The web pages (<http://sna-2003.cea.fr/>) were expanded to include information on tours, sightseeing and events scheduled at the time of the conference.

One of the events at SNA-2003 is linked to the museum of "arts et metier", literally of arts & crafts; art is here used in its primary meaning: skills acquired through studies and by practice, technical knowledge. In this museum are displayed among many other items the "supercomputer" of 1642: arithmetical machine by Blaise Pascal, the original pendulum of Foucault (1851) or the instrument he developed to measure the speed of light (1852), or a decimal clock with a day of 10 hours each of 100 minutes and a minute of 100 seconds etc.

CALENDAR

July 2003

PENELOPE Training Course, July 7-10, 2003, OECD/NEA Headquarters, France. Please see <http://www.nea.fr/lists/penelope.html> for official announcement.

Intercomparison on the Usage of Computational Codes in Radiation Dosimetry, July 14-16, 2003, Bologna, Italy. Contact: Gianfranco Gualdrini (tel 39-051-6098350, fax 39-051-6098003, email guald@bologna.enea.it, url <http://www.nea.fr/>

[download/quados/quados.html](#)).

MCNPX Intermediate Workshop, July 14-18, 2003, Los Alamos/Santa Fe, NM. Contact: Bill Hamilton (tel 505-455-0312, email registrar@mcnpxworkshops.com, url <http://mcnpxworkshops.com> for details).

2003 IEEE Nuclear and Space Radiation Effects Conference (NSREC), July 21-25, 2003, Monterey, CA. Contact: Paul Dodd (tel 505-844-1447, url <http://www.nsrec.com>).

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/>).

Short Courses on Monte Carlo Analysis and Nuclear Criticality Safety, Aug. 11-15, 2003, Knoxville, TN. Contact: Kristin England (phone 865-974-5048, email: kengland@utk.edu, url www.engr.utk.edu/nuclear/TIW.html).

MCNPX Advanced Workshop, Aug. 25-29, 2003, Los Alamos /Sante Fe. Contact: Bill Hamilton (tel 505-455-0312, email registrar@mcnpxworkshops.com, url <http://mcnpxworkshops.com> for details).

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

Workshop on Nuclear Data for the Transmutation of Nuclear Waste, Sept. 1-5, 2003, GSI-Darmstadt, Germany, Contact: Aleksandra Kelic (tel 49-0-6159-71-2727, fax 49-0-6159-71-2785, email A.Kelic@gsi.de, url <http://www-wnt.gsi.de/tramu>).

Nuclear Energy for New Europe 2003, Sept. 8-11, 2003, Portorož, Slovenia, Contact: Tomaz Zagar (phone +386-1-588-5450, fax +386-1-561-2335, email PORT2003@ijs.si, url

<http://www.drustvo-jis.si/port2003/>).

Visual Editor for MCNP, Sept. 8-12, 2003, Richland, Washington. Contact: Randy Schwarz (email randyschwarz@mcnpvised.com, url <http://www.mcnpvised.com/train.html>).

MCNP5 Introductory Training Course, Sept. 15-19, 2003, Issy-les-Moulineaux, France. Organized by OECD/NEA and RSICC. Contact: Enrico Sartori (fax 33-1-45241110, email sartori@nea.fr, url <http://www.nea.fr/html/dbprog/mcnpcourses2003-2.html>).

9th International Conference on Environmental Remediation and Radioactive Waste Management, Sept. 21-25, 2003, Oxford, England. Contact: (url www.icemconf.com).

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>).

MCNPX Introductory Workshop, Oct. 6-10, 2003, Stuttgart, Germany. Contact: Bill Hamilton (tel 505-455-0312, email registrar@mcnpxworkshops.com, url <http://mcnpxworkshops.com> for details).

7th International Conference on Nuclear Criticality Safety (ICNC2003), Oct. 20-24, 2003, Contact: Dr. Yoshinori Miyoshi (tel +81-29-282-6671; fax +81-29-282-6798, email icnc03miyoshi@nucef.tokai.jaeri.go.jp, url <http://www.icnc.jp/>).

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.

icfrm@iae.kyoto-u.ac.jp, url
<http://icfrm.iae.kyoto-u.ac.jp>).

November 2003

SCALE KENO V.a Criticality Safety Course, Nov. 3-7, 2003, Oak Ridge National Laboratory. Contact: Kay Lichtenwalter (tel 865-574-9213, email scalecoding@ornl.gov, url <http://www.ornl.gov/scale/trcourse.html#href1>).

SCALE Source Terms & Shielding Course, Nov. 10-14, 2003, Oak Ridge National Laboratory. Contact: Kay Lichtenwalter (tel 865-574-9213, email scalecoding@ornl.gov, url <http://www.ornl.gov/scale/trcourse.html#href1>).

ANS/ENS International Winter Meeting and Nuclear Technology Expo, Nov. 16-20, 2003, New Orleans, LA. Contact: (url <http://www.ans.org/meetings/>).

MCNPX Advanced Workshop, Nov. (tbd), 2003, Japan. Contact: Bill Hamilton (tel 505-455-0312, email registrar@mcnpxworkshops.com, url <http://mcnpxworkshops.com>).

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

January 2004

MCNPX Introductory Workshop, Jan.12-16, 2004, Las Vegas, NV. Contact: Bill Hamilton (tel 505-455-0312, Email registrar@mcnpxworkshops.com, url <http://mcnpxworkshops.com> for details).

April 2004

PHYSOR 2004 Reactor Physics Topical Meeting, Apr. 25-29, 2004, Chicago, IL. Jointly sponsored by the Reactor Physics Division of the ANS and the Nuclear Energy Agency of the OECD. **Contact:** Ray Klann (tel 630-252-4305, email klann@anl.gov, url www.td.anl.gov/PHYSOR2004).

May 2004

Current Topics in Monte Carlo Treatment Planning, May 3-5, 2004, McGill University, Montreal, Canada. Contacts: Jan Seutjens and Frank Verhaegen (tel 514-934-8052, url <http://mctp.medphys.mcgill.ca>).

International Conference on Radiation Shielding (ICRS-10) and Topical Mtg. on Radiation Protection & Shielding (RPS 2004), May 9-14, 2004, Funchal, Madeira Island (Portugal). Contact: Conference Secretariat (email icrs-rps@itn.mces.pt, url <http://www.itn.mces.pt/ICRS-RPS>).

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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.

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