Radiation Safety Information Computational Center

Oak Ridge National Laboratory
POST OFFICE BOX 2008
OAK RIDGE, TENNESSEE 37831-6171

Managed by
UT-Battelle, LLC
for the U.S. Department of Energy
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Phone No. 865-574-6176
FAX 865-241-4046 Internet **PDC@ORNL.GOV**
http://www-rsicc.ornl.gov/rsicc.html

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"If we did but know how little some enjoy of the great things that they possess, there would not be much envy in the world. -- Young

New Pricing Matrix

RSICC is happy to notify all users of the following immediate changes in pricing policy. As of **November 1, 2003**, the handling fee associated with each single user license will be reduced. Since the single user license at RSICC replaced the 'site' license, costs for RSICC software stewardship can be applied at the reduced rates outlined below. As in current practice, each potential RSICC researcher must be registered and must request software through the on-line service at **http://www-rsicc.ornl.gov/order.html**.

Each individual software package user will be charged a handling fee of
$200.00 from US, state, or local federal government agencies, US non-profit organizations, US universities, or
$300.00 from US private industry, or
$400.00 from non-US organizations before each software package can be sent to them.

Each user will be screened using the current export control rules and regulations by trained RSICC staff. Each user will be restricted from sharing the RSICC software with another user who hasn't registered and received the RSICC software. All questions about fees, export control restrictions, single user license rules, etc. can be relayed to **Hatmakerna@ornl.gov** and frequently asked questions portion of the RSICC www site is **http://www-rsicc.ornl.gov/license/faq.html**.

WISE Offers Unique Opportunity

WISE (Washington Internships for Students of Engineering) offers a unique opportunity to 3rd and 4th year engineering students to spend the summer of 2004 in Washington, DC. Recent graduates, beginning study in an engineering policy-related Master's program, will also be considered. During their internship they will learn how government officials make decisions on complex technological issues and how engineers can contribute to legislative and regulatory public policy decisions.

Throughout the 10 weeks, students will interact with leaders in the Congress and the Administration, prominent non-governmental organizations, and industry. Meetings with congressional

committees, executive office departments, and corporate government affairs offices are daily activities. In addition, each student will research and complete a paper on a current and topical engineering related public policy issue that is important to the sponsoring society.

To qualify for consideration, applicants should: be an undergraduate engineering students (juniors or seniors), or recent graduates beginning study in an engineering policy-related Master's program; be a citizen of the United States; and if seeking sponsorship by AIChE, ANS, ASCE, ASME, or IEEE, the student is required to be a member of that society. For more information, please visit the website at: **http://www.wise-intern.org**.

CSEWG's New Web Site

The Cross Section Evaluation Working Group announces their new web site. Please visit at: **http://www.nndc.bnl.gov/csewg_members/**.

In particular, please take a note of the link to the preliminary ENDF/B-VII (**http://www.nndc.bnl.gov/csewg_members/eval/**), which provides access to the submitted evaluations, results of checking codes, and graphical comparison with existing evaluations and experimental data. We hope these will facilitate and speed up the review process.

Chart of the Nuclides Available

The Knolls Atomic Power Laboratory, through Lockheed Martin Distribution Services, is proud to announce the availability of the 16th edition of Nuclides and Isotopes: Chart of the Nuclides. This compilation of important nuclear data is an essential part of undergraduate and graduate course work in the nuclear field. The data presented on the Chart of the Nuclides consists of recent compilations of published peer reviewed data, including new isotopes, increased precision half-life and decay data, neutron cross section data and fission product yield data. The chart is available in two forms: a wall chart with accompanying 48-page information booklet or a comprehensive 88-page book. To order or inquire about the chart: Web **www.ChartOfTheNuclides.com**; email **nuclides.chart@lmco.com**; phone 800-668-7379; fax 513-682-8422.

SCALE KENO V.a Criticality Safety Training Course Reminder

The annual SCALE KENO V.a Criticality Safety Training Course will be conducted at ORNL on **November 3-7, 2003**. This course will feature the new pre-release version of SCALE 5. To get more information and to register go to **http://www.ornl.gov/scale/trcourse.html**. For more information see the announcement under the Conferences section of our newsletter.

Changes to the Computer Code and Data Collection

Two new packages and one update with new software were added to the computer code collection this month.

CCC-650/DOORS3.2a

OP SYS: Unix, Linux, Windows
Language: Fortran 77
Computers: Workstations & PC
Format: tar

Oak Ridge National Laboratory, Oak Ridge, Tennessee, contributed a revised version of this one, two- and three-dimensional neutron/photon discrete ordinates transport code system which was updated to meet increasing requests for support on Linux and Windows systems. The remainder of the package, other than relatively minor modifications to support PC architectures and current compilers, is unchanged. No new modules or features were added to DOORS 3.2a, which includes CCC-543/TORT-DORT, CCC-254/ANISN-ORNL, CCC-628/GBANISN and CCC-351/FALSTF. Also included are the ISOPLOT code from the PSR-155/DOGS package and various utility GIP, ALC, RTFLUM, BNDRYS, GRTUNCL, VISA, TORSED and TORSET.

TORT calculates the flux or fluence of particles due to particles incident upon the system from extraneous sources or generated internally as a result of interaction with the system in two- or three-dimensional geometric systems, and DORT is used in one- or two-dimensional geometric systems. ANISN solves the one-dimensional Boltzmann transport equation for neutrons or gamma rays in slab, spherical, or cylindrical geometry. GBANISN is based on ANISN but was modified to allow randomizing of multibank fluxes within a group at all interfaces between dissimilar materials and a reduction in the number of outer iterations for problems involving neutron upscatter into higher energy groups. The principle application is to the deep-penetration transport of neutrons and photons. Certain reactor eigenvalue problems can also be solved. DOORS reads ANISN-format cross-section libraries which are not included in the package.

DOORS3.2a modules run on IBM RS/6000, Sun, DEC Alpha and personal computers under Unix, Linux or Windows operating systems. Executables created with Portland Group, Inc. compilers are included both for Linux and Windows. All other systems require Fortran and C compilers. The distributed Windows executables can be run in a command prompt window (of WindowsXP or Windows2000) in a manner similar to the Unix executables (uses redirection for input and output). In this release each module is a separate executable file. Several modules can be run in a single job by using "jdos" to call the "drv" module which interprets the sequence specified in the input. The included jdos utililty is a c shell script intended for Unixand Unix-like systems, and it can be used under the Cygwin environment on Windows. Without the Cygwin environment, each of the codes can be run separately, or in a batch file. The package is distributed on CD as a GNU compressed Unix tar file, which contains source files, executables for Windows and Linux, implementation instructions, procedures, description of sample problem cases, test case input and output. WinZIP 8.0 or newer is required to expand the distribution file under Windows. References: ORNL/TM-13221 Draft, ORNL/TM-11778 (March 1992), K-1693 (March 1967), NAA-SR-10951 (March 1966), ORNL/TM-12675 (Jan. 1996), ORNL/TM-8362 (September 1982), ORNL/TM-12246 (January 1993), ORNL/TM-12359 (August 1993), ORNL/TM-4015 (December 1972), SAND85-0825 (April 8, 1991), SAND99-XXXX (October 19, 1991). Fortran 77 and C; IBM RS/6000, Sun, DEC Alpha OSF/1, and Personal Computers under Linux or Windows (C00650MFMWS04).

PSR-524/BOT3P2.0

OP SYS: Unix or Linux
Language: Fortran 77
Computers: Dec, Sun, IBM, PC
Format: tar

ENEA Nuclear Data Center, Bologna, Italy, through the OECD Nuclear Energy Agency Data Bank, Issy-Les Molineaux, France, contributed this code system for 2D and 3D mesh generation and graphical display of geometry and results for deterministic transport codes.

Bologna Transport Analysis Pre-Post-Processors (BOT3P) is a set of standard Fortran 77 language programs developed at the ENEA-Bologna Nuclear Data Center. BOT3P Version 1 was conceived to give the users of the DORT and TORT deterministic transport codes, included in the CCC-650/DOORS-3.2 or DOORS3.2a software package, some useful diagnostic tools to prepare and to check their input data files.

BOT3P Version 2.0 not only contains some important additions in the input geometrical model description, but extends the possibility to produce the geometrical, material distribution and fixed neutron source data for the deterministic transport codes TWODANT and THREEDANT of the CCC-547/DANTSYS system. However the plotting capabilities are limited to the DORT/TORT data files produced by BOT3P.

BOT3P was developed on a Digital Unix Alpha 500/333 Workstation and successfully used in some complex neutron shielding benchmarks. The author also ran BOT3P on Red Hat Linux 7.1 (compiler g77). The code is designed to run on most UNIX platforms. RSICC tested BOT3P under the following systems:

AMD Athlon running RedHat Linux 7.3 with Portland Group, Inc. 4.0-2 compiler
DEC alpha - Digital Unix V40.D (Rev. 878) - Compaq Fortran Compiler V5.5
IBM RS/6000 - AIX 4.3.3 system - IBM XL Fortran for AIX Version 7.1
Sun Sparc - Sun OS 5.6 - Sun WorkShop Compilers 5.0 98/12/15 Fortran 77 5.0

The package is transmitted on a CD as a GNU compressed Unix tar file. The tar file contains the source files for all programs in the auxiliary codes list, Linux executables, test cases, implementation instructions, procedures, description of sample problem cases, and documentation. Reference: FIS-P127-001 (June 2002). IBM RS/6000, Sun, DEC Alpha, and Linux PC (P00524MNYCP00).

PSR-525/BOT3P3.0

OP SYS: Unix or Linux
Language: Fortran 77
Computers: Dec, Sun, IBM, PC
Format: tar

ENEA Nuclear Data Center, Bologna, Italy, through the OECD Nuclear Energy Agency Data Bank, Issy-Les-Molineaux, France, contributed this code system for 2D and 3D mesh generation and graphical display of geometry and results for deterministic transport codes.

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BOT3P3.0 can be a useful analysis tool both for reactor and medical applications. BOT3P Version 3 can generate geometrical input for the Los Alamos National Laboratory MCNP4C

Monte Carlo transport code when users require X-Y-Z TORT/THREEDANT mesh grids to be generated. Moreover, it lets users specify areas/volumes of the model where the zone/material distribution may be defined not only by a combinatorial geometry but also by an external source, such as one or more external DORT/TORT input files or files derived from computerized tomography (C.T.) Scans (for three dimensions (3D) applications only). The plotting capabilities are limited to the DORT/TORT data files produced by BOT3P.
BOT3P was developed on a Digital Unix Alpha 500/333 Workstation and successfully used in some complex neutron shielding benchmarks. The author also ran BOT3P on Red Hat Linux 7.1 (compiler g77) and is designed to run on most UNIX platforms. RSICC tested BOT3P3 under the following systems:

AMD Athlon running RedHat Linux 7.3 with Portland Group, Inc. 4.0-2 compiler
DEC alpha - Digital Unix V40.D (Rev. 878) - Compaq Fortran Compiler V5.5
IBM RS/6000 - AIX 4.3.3 system - IBM XL Fortran for AIX Version 7.1
Sun Sparc - Sun OS 5.6 - Sun WorkShop Compilers 5.0 98/12/15 Fortran 77 5.0

The package is transmitted as a GNU compressed Unix tar file on a CD. The tar file contains the source files, Linux executables, test cases, implementation instructions, procedures, description of sample problem cases, and documentation. Reference: FIS-P129-001 (2002). IBM RS/6000, Sun, DEC Alpha, and Linux PC (P00525MNYCP00).

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. **November's code focus is Earth and Atmospheric Nuclear Physics.**

CCC-074/CAPS-2
CCC-329/MODEL
CCC-385/LPGS

CONFERENCES, COURSES, SYMPOSIA

RSICC attempts to keep its users/contributors advised of conferences, courses, and symposia in the field of radiation protection, transport, and shielding through this section of the newsletter. Should you be involved in the planning/organization of such events, feel free to send your announcements and calls for papers via email to **FINCHSY@ornl.gov** with "conferences" in the subject line by the **20th of each month**. Please include the announcement in its native format as an attachment to the message. If the meeting is on a website, please include the url.

Every attempt is made to ensure that the links provided in the Conference and Calendar sections of this newsletter are correct and live. However, the very nature of the web creates the possibility that the links may become unavailable. In that case, please call or mail the contact provided. Below is a condensed list of the **conferences** only listed chronologically. More details are listed alphabetically following the table.

Condensed Table of Conferences

Name of Conference	Date and Location	Web Site	Abstract/Paper Submission Date
11th International Conference on Fusion Reactor Materials (ICFRM-11)	Dec. 7-12, 2003 Kyoto, Japan	**icfrm.iae.kyoto-u.ac.jp**	passed
7th International Conference on Facility Operations - Safeguards Interface	Feb. 29-Mar. 4, 2004 Charleston, South Carolina	**http://ntr.ornl.gov/ANS2004**	passed
PHYSOR 2004	Apr. 25-29, 2004 Chicago, Illinois	**www.physor2004.anl.gov**	passed
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/**	
5th International Conference on Nuclear Option in Countries with Small and Medium Electricity Grids	May 16-20, 2004 Dubrovnik, Croatia	**http://hnd.zvne.fer.hr/Dubrovnik2004**	
1st International Symposium on Radionuclide Therapy and Radiopharmeceutical Dosimetry	Sept. 4-8, 2004 Helsinki, Finland	**http://www.eanm.org/eanm.php?kopf=head/hd_calendar.html&worte=calendar/calendar.php**	future
12th International Conference on the Physics of Highly Charged Ions	Sept. 6-10, 2004 Vilnius, Lithuania	**http://www.itpa.lt/hci2004/**	April 15, 2004

Name of Conference	Date and Location	Web Site	Abstract/Paper Submission Date
International Conference on Nuclear Data for Science and Technology "ND2004"	Sept. 26-Oct. 1, 2004 Santa Fe, New Mexico	**http://t16web.lanl.gov/nd2004/**	abst: 12/15/03 paper: 9/26/04

Cross Section Evaluation Working Group (CSEWG)

The Cross Section Evaluation Working Group (CSEWG) meeting will be held at Brookhaven National Laboratory, **November 4-6, 2003.** Members of the CSEWG meet annually to talk about new nuclear data evaluations and benchmark tests and make recommendations for new nuclear data evaluations to be included in the US ENDF, Evaluated Nuclear Data File.

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.

1st International Symposium on Radionuclide Therapy and Radiopharmaceutical Dosimetry

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

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

As a separate track within the EANM congress this symposium will aim to bring together all disciplines concerned with Radiopharmaceutical Dosimetry and Radionuclide Therapy stimulating interdisciplinary scientific discussion.

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

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

Michael Lassmann
Chair T/G Dosimetry EANM
Lassmann@nuklearmedizin.uni-wuerzburg.de

Val Lewington
Chair Therapy Committee EANM
vjlewington@hotmail.com

http://www.eanm.org/eanm.php?kopf=head/hd_calendar.html&worte=calendar/calendar.php

5th International Conference on Nuclear Option in Countries with Small and Medium Electricity Grids

The 5th International Conference on Nuclear Option in Countries with Small and Medium Electricity Grids will be held in Dubrovnik, Croatia, **May 16-20, 2004.**

In view of the good response and success of the previous Dubrovnik conferences devoted to the needs and interests of countries with small or medium nuclear systems and electricity grids, the Dubrovnik 2004 conference will serve the same general purpose, with concentration on the topics which invited most interest in the previous conference. The Conference will consider the nuclear option from the point of view of resources, costs, technological, organisational and educational requirements, and environmental advantages. It will also focus on matters related to operational safety, fuel cycle, waste management and decommissioning.

The important goal of the Dubrovnik 2004 conference is to serve as a forum to promote regional co-operation and exchange of experience in the use of nuclear power and fuel cycle facilities among the small or medium European countries interested in the nuclear option.

For updated information please visit the Conference website **http://hnd.zvne.fer.hr/ Dubrovnik2004**, or contact the Conference secretariat at **hnd2004@fer.hr**.

7th International Conference on Facility Operations - Safeguards Interface

This conference will be held **February 29-March 4, 2004**, in Charleston, South Carolina, at the historic Francis Marion hotel. This conference is sponsored by the American Nuclear Society and cosponsored by the Institute of Nuclear Materials Management, and is being held to foster a better understanding of the relationships of operations in nuclear facilities and the application of safeguards under national and international regimes. Papers are solicited and will be accepted based on a review of submitted abstracts by the Technical Program Committee. Draft full papers for the proceedings are due at the beginning of the conference. If you have questions regarding the abstracts, please contact Linda Rose at **roselj@ornl.gov**. For information regarding pre-registration, lodging, or abstracts, visit our web site at **http://ntr.ornl.gov/ANS2004**. Individuals with a professional interest in safeguards technology and nuclear material facility operations are invited to participate.

12th International Conference on the Physics of Highly Charged Ions

HCI-2004 will be the 12th conference in an international series taking place every two years around the world. This years will be in Vilnius, Lithuania, **September 6-10, 2004.** Born in Stockholm in 1982, HCI became a major forum for the presentation and discussion of important new research results in the physics of the Highly Charged Ions. The conference will continue to emphasize basic, fundamental science at the atomic and molecular level, and its applications to important technology challenges. The opportunity will be given to provide insights in other disciplines where HCI-physics have strong impact like Nuclear Physics, Material Science, Radiation Chemistry, Radiobiology, etc.

Some important dates are: Second Announcement and call for papers January 2004; deadline for abstracts April 15, 2004; deadline for grant applications April 15, 2004; student housing reservation May 15, 2004; early registration deadline May 15, 2004. For more information, please email **hci2004@itpa.lt** or see the website: **http://www.itpa.lt/hci2004/**.

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

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

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** in Funchal, Madeira Island (Portugal).

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 Conference website 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.

MCNP Courses

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**

2004

Feb. TBA	Introductory	Los Alamos, NM
Apr. 19-23	Intermediate/Advanced	Tokyo, Japan
June TBA	Introductory	Los Alamos, NM

Introductory classes are for people who have little or no experience with MCNP. This class surveys the features of MCNP so the beginning user will be introduced to the capabilities of the program, and will have hands-on experience at running the code to solve simple problems. Course topics include Basic Geometry, Source Definitions, Output (Tallies) Specification and Interpretation, Advanced Geometry (repeated structures specification), Variance Reduction Techniques, Statistical Analysis, Criticality, Plotting of Geometry, Tallies, and Particle Tracks, and Neutron/Photon/Electron Physics.

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

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

MCNP Visual Editor Classes

The Visual Editor is a powerful visualization tool that can be used to rapidly create complex Monte Carlo N Particle (MCNP5) geometry models, including lattices, universes, fills, and other geometrical transformations. The Visual Editor can:

Display MCNP5 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.

Training class is scheduled **March 15-19, 2004,** 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.

The class combines teaching on MCNP physics, along with instructions on how to use the Visual Editor. Computer demonstrations and exercises will focus on creating and interrogating input files with the Visual Editor. Demonstrations of advanced visualization work using MCNP will also be made. The class will be taught on Pentium computers running Windows 2000. Attendees are encouraged to bring their own input files for viewing and modifying in the visual editor. For a more detailed description of this course, **click here**. 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

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

November 17-21	Intermediate	Tokyo, Japan

2004

January 12-16	Introductory	Las Vegas, NV
March 8-12	Intermediate	Santa Fe, NM
May 3-7	Intermediate	Lisbon, Portugal
June 14-18	Intermediate	Houston, TX
July 12-16	Introductory	Santa Fe, NM

MCNPX is the LANL all-particle, all-energy (eV-TeV) Monte Carlo transport code based on MCNP4C, LAHET, CEM, etc. MCNPX has been in active development since 1995, sponsored by the particle accelerator community. It has now become an accepted tool for a broad range of applications by nuclear engineers, physicists, and scientists. The MCNPX development effort has expanded the use of the Los Alamos tools to applications such as APT, waste transmutation, accelerator shielding and health physics, particle beam cancer therapy, space shielding and cosmic ray analysis, single event effects in semiconductors, radiography, and more detailed analysis of the effects of light and heavy ions in matter. In addition, the entire functionality of MCNP4C is retained. New variance reduction and data analysis techniques, many adapted from high energy accelerator methodologies, have also been added, such as the extensive 'mesh tally' capability which allows up to 3-d plotting of particle tracks, fluence and fluence-derived quantities, energy deposition, next event estimator generation contributions and particle sources.

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

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

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, Illinois. The meeting is co-sponsored by the Reactor Physics Division of the ANS, OECD Nuclear Energy Agency, European Nuclear Society, Canadian Nuclear Society, and the Brazilian National Atomic Energy Commission. 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. You are invited to visit the meeting website at **www.physor2004.anl.gov** 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, **November 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 that 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 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 **November 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 Course on "Introduction to Monte Carlo Treatment Planning"

Course Director: Charlie Ma, Ph.D. ; Course Coordinator: Jinsheng Li, Ph.D.
Contact information: Tel 215-728-5665, Fax: 215-728-4789; Email: **js_li@fccc.edu**
Webpage: **http://www.fccc.edu/clinical/radiation_oncology/monte_carlo_course.html**
Venue: Radiation Oncology, FCCC, Philadelphia, PA
Time: **April 8-10, 2004**

The course registration fee is $1600, which covers the course materials, two lunches, two dinners and refreshments. A set of software is free for the attendee. Discounts for students are available. Hotel information is available upon request.

The short course is designed to train future Monte Carlo RTP users and researchers in the use of Monte Carlo treatment planning software. The course will include didactic instruction and hands-on workshops. The course is specially suited for previous EGS4 and OMEGA/BEAM course participants, who want to expand their research into clinical RTP. A working knowledge of a Unix-based system is expected to run the Monte Carlo RTP software.

To facilitate instruction at the hands-on labs enrollment will be limited to 20 people. So please register early. Registration will be strictly on a first-come basis. Please contact with Dr. Jinsheng Li, at **js_li@fccc.edu** or see the website: **http://www.fccc.edu/clinical/radiation_oncology/monte_carlo_course.html**.

CALENDAR

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/**).

Radiation Transport Calculations Using the EGS Monte Carlo System, Nov. 17-20, 2003,Ottawa, Canada. Contact: Blake Walters (tel 613-993-2715, fax 613-952-9865, email **bwalters@irs.phy. nrc.ca**, url **www.irs.inms.nrc.ca/inms /irs/papers/egsnrc/brochure.html**).

MCNPX Intermediate Workshop, Nov. 17-21, 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 **icfrm@iae.kyoto-u.ac.jp**, url **http://icfrm.iae.kyoto-u.ac.jp**).

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).

March 2004

MCNPX Intermediate Workshop, Mar. 8-12, 2004, Santa Fe, NM. Contact: Bill Hamilton (tel 505-455-0312, email **registrar@mcnpxworkshops. com,** url **http://mcnpxworkshops.com**).

Visual Editor for MCNP, Mar.15-19, 2004, Richland, Washington. Contact: Randy Schwarz (email **randyschwarz@ mcnpvised.com**, url **http://www.mcnpvised.com/train.html**).

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 and others. **Contact:** Ray Klann (tel 630-252-4305, email **klann@anl.gov,** url **http://www.physor2004.anl.gov/**).

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**).

MCNPX Intermediate Workshop, May 3-7, 2004, Lisbon, Portugal Contact: Bill Hamilton (tel 505-455-0312, Email **registrar@mcnpxworkshops.com**, url **http://mcnpxworkshops.com** for details).

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**).

5th Intl. Conference on Nuclear Option in Countries with Small and Medium Electricity Grids, May 16-20, 2004., Dubrovnik, Croatia, Contact Prof. Nenad Debrecin (tel +385-1-6312-399, email **hnd2004@fer.hr**, url **http://hnd.zvne.fer.hr/Dubrovnik2004**).

June 2004

MCNPX Intermediate Workshop, June 14-18, 2004, Houston, TX. Contact: Bill Hamilton (tel 505-455-0312, Email **registrar@mcnpxworkshops.com**, url **http://mcnpxworkshops.com** for details).

July 2004

MCNPX Introductory Workshop, July 12-16, 2004, Santa Fe, NM. Contact: Bill Hamilton (tel 505-455-0312, Email **registrar@mcnpxworkshops.com**, url **http://mcnpxworkshops.com** for details).

September 2004

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

International Conference on Nuclear Data for Science and Technology "ND2004", Sept. 26-Oct. 1, 2004, Santa Fe, New Mexico. (Contact: **http://t16web.lanl.gov/nd2004/**).

ACCESSION OF NUCLEAR SYSTEMS LITERATURE

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

documentation center such as the National Technical Information Service (NTIS), Department of Commerce, Springfield, Virginia 22161.

Nucl. Technol., 144, 1-15. . . *Reaction Kinetics of a Fission-Product Mixture in a Steam-Hydrogen Carrier Gas in the Phebus Primary Circuit*. . . .Cantrel, L. et al. . . . October 2003. . . Institut de Radioprotection et de Surete Nucleaire, Fontenay-aux-Roses, France; Joint Research Center Institute for Energy, Petten, The Netherlands.

Nucl. Technol., 144, 16-33. . . *Transient Analysis and Dosimetry of the Tokaimura Criticality Incident*. . . .Pain, C.C. et al. . . . October 2003. . . Imperial College of Science, Technology and Medicine, London, United Kingdom.

Nucl. Technol., 144, 34-48. . . *A MELCOR Application to Two Light Water Reactor Nuclear Power Plant Core Melt Scenarios With Assumed Cavity Flooding Action*. . . .Martin-Fuertes, F. et al. . . . October 2003. . . Universidad Politecnica de Madrid, Spain.

Nucl. Technol., 144, 49-62. . . *A Methodology for Probabilistic Accident Management*. . . .Munteanu, I. et al. . . . October 2003. . . Ohio State University, Columbus, Ohio.

Nucl. Technol., 144, 63-75. . . *Application of Neutral Network for Loading Pattern Screening of In-Core Optimization Calculations*. . . .Yamamoto, A. . . . October 2003. . . Nuclear Fuel Industries, Ltd., Osaka, Japan.

Nucl. Technol., 144, 76-83. . . *Dry Flowing Abrasive Decontamination Technique for Pipe Systems with Swirling Air Flow*. . . .Kameo, Y. et al. . . . October 2003. . . JAERI, Ibaraki-Ken, Japan.

Nucl. Technol., 144, 83-106. . . *Comparative Fuel Cycle Analysis of Critical and Subcritical Fast Reactor Transmutation Systems*. . . .Hoffman, E.A. et al. . . . October 2003. . . Georgia Institute of Technology, Atlanta, Georgia.

Nucl. Technol., 144, 107-129. . . *Uncertainty Analysis on Fission Molybdenum Production with a Nuclear Fuel Target in a Research Reactor*. . . .Cho, D-K. et al. . . . October 2003. . . Kyung Hee University, Gyeonggi-do, Korea.

Nucl. Technol., 144, 130-140. . . *Segmented Gamma Scanning of Conditioned Radioactive Wastes: Development, Experimental Validation, and Application of an Angular Scanning Procedure for Hot-Spot Characterization*. . . .Dodaro, A. et al. . . . October 2003. . . ENEA Casaccia Research Center, Rome, Italy; University of Rome, Italy.

Nucl. Technol., 144, 141-143. . . *Method for Removing Gadolinium from Used Heavy Water Reactor Moderator*. . . .Wilde, E.W. et al. . . . October 2003. . . Westinghouse Savannah River Co., Aiken, South Carolina; Mississippi Valley State University, Itta Bena, Mississippi.

JINR 1-116-2003. . . *Proceedings of the International Workshop "Quantum Physics and Communication."* . . .Ivanov, V.V. ed. . . . 2003. . . JINR - Russia.

NEA/NSC/DOC(2003)7. . . *Progress Report on Nuclear Data Research in the Federal Republic of Germany*. . . .Qaim, S.M., ed. . . . July 2003. . .

Forschungszentrum Julich, Federal Republic of Germany.

KEK Proceedings 2002-30. . . *Proceedings of RPIA2002, The International Workshop on Recent Progress in Induction Accelerators - for Future Beam Inertial Fusion and Hadron Collider*. . . .Takayama, K., ed. . . . March 2003. . . High Energy Accelerator Research Organization, Ibaraki-ken, Japan.

KEK-MSL Report 2001. . . *KEK-MSL Report 2001* . . .Higemoto, W., ed. . . . 2001. . . High Energy Accelerator Research Organization, Ibaraki-Ken, Japan.

KEK Report 2002-16. . . *Development of a Multi-Pixel Photon Sensor with Single-Photon Sensitivity*. . . .Suyama, M. . . . April 2003. . . High Energy Accelerator Research Organization, Ibaraki-ken, Japan.