Radiation Safety Information Computational Center

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"Always remember that you are absolutely unique. Just like everyone else." –Margaret Mead

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CHANGES TO THE RSICC CODE AND DATA COLLECTION

There are two updates to the RSICC catalog for those individuals that may be interested.

CCC-744/Easy-QAD, Version 2.01

Innovative Technology Center for Radiation Safety (iTRS) and Nuclear Reactor Analysis Laboratory at Hanyang University, Seoul, Korea, contributed EASY-QAD, Version 2.01, which is a standalone Windows code system that facilitates gamma and neutron shielding calculations with user friendly graphical interfaces. It is used to analyze radiation shielding problems and includes:

- 8 different geometry types,
- Various flexible source options,
- Common material library, and
- Various detector types.

The updated contents of EASY-QAD Version 2.01 are:

- Addition of starting option with 'P-code' files
- Addition of multi-source calculation function
- Expansion of source geometries
- Addition of warning message
- Modifications of EASY-QAD program errors
  a. Coordination application problem in source division
  b. Source position error
  c. Rotation problem of source geometry
  d. Program running error in using more than six gamma energy distribution
  e. EASY-QAD display problem of the right elliptic cylinder, ellipsoid and truncated right cone geometries

Through intuitive windows and their interactions inside EASYQAD, the user can specify the dimensions of 3D-shapes, their material compositions, their densities, the type of radioactive sources, the locations of the sources, and the type and positions of detectors. With the ease of using these sequences, shielding problems should become simpler and more clearly understandable to the analyzer. Furthermore, the error checking system can prevent users from making mistakes by automatically debugging the user inputs and giving modal dialog windows. The included AECL implementation of QAD-CGGP-A, Version 95.2 (C645MNYCP00), is run from the user interface.

The package is transmitted on one CD which contains referenced documents, executables for EASY-QAD, MATLAB Component Runtime, P-code files and QAD- CGGP-A (Version 95.2), input and output files. MATLAB; PC (C00744PC58602).

CCC-834/SCALE 6.2.1

Oak Ridge National Laboratory, Oak Ridge, Tennessee, contributed an updated version of the SCALE code system, which is a widely used modeling and simulation suite for nuclear safety analysis and design that is developed, maintained, tested, and managed within the Reactor and Nuclear Systems Division (RNSD) of the Oak Ridge National Laboratory (ORNL). SCALE provides a comprehensive, verified and validated, user-friendly tool set for criticality safety, reactor physics, radiation shielding, radioactive source term characterization, and sensitivity and uncertainty analysis. Since 1980, regulators, licensees, and research institutions around the world have used SCALE for safety analysis and design. SCALE provides an integrated framework with dozens of computational modules, including three deterministic and three Monte Carlo radiation transport solvers selected based on the user's desired solution strategy. SCALE includes current nuclear data libraries and problem-dependent processing tools for continuous energy and multigroup neutronics and coupled neutron-gamma calculations, as well as activation, depletion, and decay calculations. SCALE includes unique capabilities for automated variance reduction for shielding calculations, as well as sensitivity and uncertainty analysis. SCALE's graphical user interfaces assist with accurate system modeling and convenient access to desired results. SCALE is bundled with AMPX to generate cross section data libraries from ENDF formatted nuclear data evaluations.

SCALE 6.2.1 provides numerous minor enhancements and increased stability relative to SCALE 6.2. All previous users of SCALE 6.2 are encouraged to update to SCALE 6.2.1.

Please visit the SCALE website for more information at http://scale.ornl.gov.

This package is distributed on 9 DVDs for Windows, Linux and MacOS systems. Package C00834MNYCP02 includes executables for Linux, MacOS and Windows 7+systems; documentation and sample problems for verification. (see abstract for details). Package C00834MNYCP03 includes the items listed above plus source files and CMake build configuration scripts. Export control regulations restrict the distribution of source code. If restrictions apply, RSICC will send the executable-only version. Please order the package you prefer, and we will honor your preference if possible. Executables require the Java runtime environment for installation. For compilation Intel ifort, icc and icpc 15, GNU/GCC 4.8.3, CMAKE 2.8.12. Reference: Fortran 90 and C/C++; Windows PCs, Linux, and MacOS X [Package ID: C00834MNYCP02 (source package) and C00834MNYCP03 (executable-only package)].

REGISTRATION REQUIREMENTS

RSICC does not permit individuals to "pre-register" or "pre-order" software for use at a temporary or alternate location. The single user license and export control agreements are specific to the individual's end use and the location at which the software will be used. During the registration process, individuals are required to provide the name of the institution at which they will use the software, an institutional mailing address and an institutional e-mail address. As an example, students that work at a location other than their university are required to update their registration with RSICC and submit a new request for any software that they intend to use after they have begun work at the new location.

SINGLE-USER LICENSE AGREEMENT REVISED

The single-user license agreement has been revised to address concerns regarding changes in end-use and employment changes of individuals that have received packages from RSICC. In some instances individuals obtain approvals from our Federal regulators for use of software packages for very specific purposes or while employed or associated with specific organizations. To address this concern, the single-user license agreement has been modified to indicate that the license is only valid for the end-use as stated in the Licensee's request and only while associated with the organization under which the request is being made. After February 1, 2015, the individual's single-user license would no longer be valid if they change their end-use or are no longer associated with the organization for which they obtained the original license. In these cases, the individual would need to submit a new request to RSICC for the package for the new end-use or the new affiliation.

SCIENCE EDUCATION PROGRAMS AT OAK RIDGE NATIONAL LABORATORY

Looking for an internship or post-graduate opportunity at Oak Ridge National Laboratory? The Science Education Programs at Oak Ridge National Laboratory provide paid opportunities for undergraduates, grad students, recent graduates, and faculty to participate in high-quality research alongside world-class scientists to solve real-world problems. Opportunities are available for internships and co-ops, research appointments, and sabbaticals.

You can access all available opportunities through the website at http://www.orau.org/ornl. The Talent and Opportunity System allows you to create a profile, and then answer only 5 or 6 questions for each program or job posting for which you apply.

All levels of participants from undergraduates to faculty are encouraged to publish research papers with their mentors. Please browse through the Research Profiles on the different participants and their research experiences at the right hand side of the bottom of the web site listed above. Also, there is a video of research participants at ORNL sharing their thoughts on how access to world-class research facilities and staff has catapulted their careers in science and technology. You can find it on YouTube at http://ow.ly/2EQLz.

CONFERENCES, TRAINING COURSES, SYMPOSIA

RSICC attempts to keep its customers and 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 walkersy@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. Please provide a website address for the event if one is available.

Every attempt is made to ensure that the links provided in the Conference and Calendar sections of this newsletter are correct; however, if the links become unavailable, please call the point of contact for the event.

CONFERENCES

ICRS 13 RPSD 2016

Paris is honored to host the joint conference 13th International Conference on Radiation Shielding (ICRS-13) & 19th Topical Meeting of the Radiation Protection & Shielding Division of the American Nuclear Society -2016 (RPSD-2016), from **October 3-6, 2016.** This conference explores the scientific, technological and engineering issues associated with particle and ionizing radiation shielding in its broadest context, including nuclear energy systems, accelerator facilities, lasers, space, medical area and other radiation environments. It is one of the premier international events dedicated to this multidisciplinary radiation shielding field, regularly attracting hundreds of the world's top scientists and engineers. For more information, please visit their website: https://fr.amiando.com/icrs13-rpsd2016.html.

SATIF-13

13th Meeting of the task-force on Shielding Aspects of Accelerators, Targets, and Irradiation Facilities

The 13th meeting of the task force on Shielding Aspects of Accelerators, Targets and Irradiation Facilities (SATIF-13) will take place at the Helmholtz-Zentrum Dresden-Rossendorf (HZDR) in Dresden, Germany, **October 10-12, 2016**.

Keeping the original spirit of the SATIF Meetings, which have as main objectives the promotion of the information exchange and the international co-operation among experts in the field of accelerator, target and irradiation facilities shielding, we look forward to work with you to make this event an opportunity to progress in our common research field. The web site of SATIF-13 is https://www.hzdr.de/SATIF13.

Nuclear Knowledge Management

The Third International Conference on Nuclear Knowledge Management, Challenges and Approaches will be held **November 7-11, 2016** in Vienna, Austria. Detailed information can be found on their website http://www-pub.iaea.org/iaeameetings/50805/Third-International-Conference-on-Nuclear-Knowledge-Management-Challenges-and-Approaches. Please include reference number IAEA-CN-241 in all communications.

IEEE Computing Conference

The Computing Conference (formerly called Science and Information (SAI) Conference) is a research conference that will be **July 18-20, 2017**, London, U.K. The goal of the conference is to be a premier venue for researchers and industry practitioners to share new ideas, research results and development experiences in the areas of Computer Science, Electronics and Communication. Accepted papers will be published in IEEE Xplore and indexed in various databases. Please see their website for more information at http://www.saiconference.com/Computing2017.

TRAINING COURSES

LANL MCNP6 Class Schedule for 2016

Website: https://laws.lanl.gov/vhosts/mcnp.lanl.gov/classes/classinformation.shtml

Oct 25-26, 2016 Los Alamos, NM	Using NJOY to Create MCNP ACE Files & Visualize Nuclear Data Non-US citizens must register by 2016-08-01 | Thursday 10:00 - Fri 5:00	$800 or $600*
Oct 31 - Nov 4, 2016 Los Alamos, NM	Introduction to MCNP6 Non-US citizens must register by 2016-08-08 | Mon 10:30 - Fri 12:00	$1800 or $1500*

MCNP6 Training

For more information, see the website: http://mcnpvised.com/train_mcnp.html

Current Classes (tuition for all US classes is $2300 with an early payment discount of $300)			
Date (Click Date for Info)	**Class**	**Course Content**	**Location**
October 10-14, 2016	**MCNP6® Intermediate Workshop**	**To see an outline for the course, Click Here.**	**Paris, France**
January 9-13, 2017	**MCNP6® Intermediate Workshop**	**To see an outline for the course, Click Here.**	**Las Vegas, NV**
March 27-31, 2017	**MCNP6® Intermediate Workshop**	**To see an outline for the course, Click Here.**	**Paris, France**
October 9-13, 2017	**MCNP6® Intermediate Workshop**	**To see an outline for the course, Click Here.**	**Paris, France**

MCNP6 Visual Editor Training

For more information, see the website: http://mcnpvised.com/train.html

October 17-21, 2016	**Beginning Visual MCNP6®. The NEA handles registration for this course. Click here to register.**		**Detailed Description**	**Paris, France**
January 2-6, 2017	**Beginning Visual MCNP6®**		**Detailed Description**	**Las Vegas, NV**
January 30-February 3, 2017	**Intermediate Visual MCNP6® for Shielding Calculations**		**Detailed Description**	**Richland, WA**

February 6-10, 2017	**Intermediate Visual MCNP6® for Criticality Calculations**		**Detailed Description**	**Richland, WA**
February 13-17, 2017	**Intermediate Visual MCNP6® for Medical Physics Calculations**		**Detailed Description**	**Richland, WA**
April 3-7, 2017	**Beginning Visual MCNP6®. The NEA handles registration for this course.**		**Detailed Description**	**Paris, France**
May 15-19, 2017	**Beginning Visual MCNP6®**		**Detailed Description**	**Las Vegas, NV**
May 22-26, 2017	**Advanced Visual MCNP6® with Applications in Mesh Tallies and Variance Reduction.**		**Detailed Description**	**Las Vegas, NV**
September 11-15, 2017	**Beginning Visual MCNP6®**		**Detailed Description**	**Las Vegas, NV**
September 18-22, 2017	**Advanced Visual MCNP6® with Applications in Mesh Tallies and Variance Reduction.**		**Detailed Description**	**Las Vegas, NV**
October 2-6, 2017	**Beginning Visual MCNP6®. The NEA handles registration for this course.**		**Detailed Description**	**Paris, France**

NEA Nuclear Energy Agency

This workshop combines teaching by the authors on program physics, along with instructions on how to use the software. The course includes a large number of practical exercises.

Should you be interested in attending, information is available at:

http://www.oecd-nea.org/dbprog/trainingcourses.htm or contact: programs@oecd-nea.org.

Courses scheduled for 2016 will take place at the new address (provided in registration forms). Please note that all attendees must be registered users.

Date	Class	Course Content	Price	Location
10-14 October 2016	MCNP6 intermediate	Course description To register, click here	2200 EUR	Paris, France
17-21 October 2016	Beginning Visual MCNP6	Course description To register, click here	2200 EUR	Paris, France

* The fee includes the training course, luncheons and coffee breaks.

Contact: programs@oecd-nea.org

SYMPOSIA

2016 CALENDAR

September

IAEA General Conference, September 26-30, 2016, Vienna, Austria. See website for more information.

October

26th IAEA Fusion Energy Conference, October 17-22, 2016, Kyoto, Japan. See website for more information.

November

Nuclear Science and Technology Symposium (NST2016), November 2-3, 2016, Helsinki, Finland. See website for more information.

2016 American Nuclear Society (ANS) Winter Meeting and Nuclear Technology Expo. November 6-10, 2016, Las Vegas, NV.

International Conference on the Safety of Radioactive Waste Management, November 21-25, 2016, Vienna, Austria.. See website for more information.

2017 CALENDAR

May

2017 International Symposium on Reactor Dosimetry, ISRD-16. May 7-12, 2017, Santa Fe, New Mexico. See website for more information http://reactordosimetry.org.

June

2017 American Nuclear Society (ANS) Annual Meeting. June 11-15, 2017, San Francisco, CA.

July

62nd Annual Health Physics Society (HPS) Meeting. July 9-13, 2017, Raleigh, NC.

October

2017 American Nuclear Society (ANS) Winter Meeting and Nuclear Technology Expo. October 29-November 2, 2017, Washington, DC.

2018 CALENDAR

June

2018 American Nuclear Society (ANS) Annual Meeting, June 17-21, 2018, Philadelphia PA.

November

2018 American Nuclear Society (ANS) Winter Meeting, November 11-15, 2018, Orlando, FL.