RSIC Newsletter

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It is good to dream, but it is better to dream and work. Faith is mighty, but action with faith is mightier. Desiring is helpful, but work and desire are invincible.)Thomas Robert Gaines

Registration for International Radiation Physics Society Sought

John Hubbell, now serving as a consultant with the National Institute of Standards and Technology, has passed along a two-page registration form for the International Radiation Physics Society, which is appended to the newsletter. Those interested may complete the form and submit it as indicated.

The triennial International Radiation Physics Society General Meeting was held June 13, 1991, during ISRP-5, presided over the M. J. Cooper (UK, Vice President for Western Europe) in the absence of Retiring President P. K. Iyengar (India) and President-Elect D. J. Beninson (Argentina). The results of the mail-ballot triennial election of IRPS Officers, held just prior to ISRP-5, were announced. Based on 102 valid ballots received in time to be counted, the IRPS officers for 1991 ! 1994 will be:

President: **D. J. Beninson (Argentina)**
Secretary: **R. H. Pratt (USA)**
Treasurer: **A. Ljubicic (Yugoslavia)**
Vice Presidents:

North America:	**J. H. Hubbell (USA)**
South America:	**I. C. Nascimento (Brazil)**
Africa and Middle East:	**M. Berrada (Morocco)**
Eastern Europe and USSR:	**D. Berenyi (Hungary)**
Western Europe:	**M. J. Cooper (UK)**
Rest of Asia and Oceana:	**B. Sinha (India)**

Executive Councillors:

D. A. Bradley (Maylasia)
D. C. Creagh (Australia)
A. M. Ghose (India)
D. B. Isabelle (France)

Continuing terms as Councillor:

T. Nakamura (Japan)

F. Rustichelli (Italy)

Prof. S. C. Roy (India), IRPS Membership Coordinator, announced that the IRPS now has 305 members, drawn from 51 countries. ... Special votes of thanks were offered to D. A. Bradley (Malaysia) for his valiant editing of *IRPS-News* despite almost-overwhelming obstacles, and to P. K. Iyengar (India) for his Presidency and support of the IRPS over the past six years. A. M. Ghose (India) will assume major editorial responsibility for *IRPS-News*, starting January 1992, from Calcutta. M. J. Cooper (UK) offered a eulogy, followed by a moment of silence with all standing, for Prof. Daphne Jackson (UK), who died two months prior to ISRP-5.

Also announced at the IRPS General Meeting was the acceptance by the council of the invitation from M. Berrada (Morocco) to organize and hold the Sixth International Symposium on Radiation Physics (ISRP-6) in Rabat, Morocco, in 1994. Prof. Berrada offered some welcoming remarks. Thus the ISRP conference series continues its history of venues in geographically diverse countries, both developing and industrialized, to promote a well-balanced and useful global growth of the IRPS membership and resulting benefits in terms of both scientific/technical and human values.

John Hubbell

DETERMINISTIC METHODS SEMINAR/TORT WORKSHOP PLANNED FOR FEBRUARY 1992

There has been much interest expressed in the subject of deterministic methods, particularly the discrete ordinates approach, by the RSIC user community. We have been urged to conduct a seminar/workshop in this technical area and have tentative plans to host one in Oak Ridge during the week of February 3!7, 1992.

The seminar part will likely include 1½ days of invited and contributed technical presentations on developments and applications of deterministic methods for radiation transport problems. The seminar will be followed by about 1½ days devoted to the CCC-543/TORT three-dimensional discrete ordinates system. Wayne Rhoades of the Advanced Systems Group, Nuclear Analysis and Shielding Section, Engineering Physics and Mathematics Division of Oak Ridge National Laboratory, will lead the workshop.

A survey form intended to gauge interest in participating in the seminar/workshop is again attached as the last page of the newsletter. Further information will be mailed to those who return the form.

Oak Ridge National Laboratory under Defense Nuclear Agency sponsorship released a newly frozen version of this discrete ordinates transport code system, which includes the three-dimensional TORT code based on the earlier DOT codes. TORT calculates the flux or fluence of particles throughout two- or three-dimensional geometric systems due to particles incident upon the system from extraneous sources or generated internally. Several related programs are included in the package: the DOS driver, the DORT two-dimensional discrete ordinates code, GIP (prepares problem-dependent cross section files), ALC (prepares cross section library files), RTFLUM (reformats flux files), BNDRYS (reformats boundary source files), and GRTUNCL (produces uncollided flux file). Currently, Cray and IBM RS/6000 versions of the TORT and DORT are available.

We look forward to a strong participation in this seminar/workshop. Please return the form as soon as possible if you are interested in participating in the seminar/workshop. A registration fee will be required from attendees to cover expenses.

CHANGES TO THE COMPUTER CODE COLLECTION

Three changes were made to the computer code collection during the month. An existing code package was replaced with a newly frozen version, a code package was made available on another media, and a code package was enhanced with updated documentation.

CCC-548/KENO5A-PC

Battelle Memorial Institute, Columbus, Ohio, contributed a newly frozen version of the PC 386 and PC 486 version of KENO5A, designated CCC-548B. The major change updated the working library distributed in the package. In October 1990, some mixtures in the library were updated. RSIC distributed this library on a separate diskette which caused some confusion among users. The purpose of this update was to delete the erroneous library and include the corrected one in the compressed file. Version A, contributed by Idaho National Engineering Laboratory, was also corrected. KENO5A-PC solves the three-dimensional Boltzmann transport equation for neutron multiplying systems. The primary purpose of KENO5A-PC is to determine k-effective. Other calculated quantities include lifetime and generation time, energy-dependent leakages, energy- and region-dependent absorptions, fissions, fluxes, and fission densities. A 20-megabyte hard disk is necessary. For Version B the compiler used is Lahey F77-EM/32 version 3.01 with Lahey/Ergo OS/386 extended memory operating system version 2.1.04 under the DOS 3.3 operating system. Version B runs on a PC 386 (with a 387 co-processor) or PC 486 with at least 4 MB of extended memory. Version A uses the Lahey F77 compiler and PLINK 86 plus overlay linker and requires 1 MB RAM. Each package is distributed on two DS/HD 5.25-inch diskettes (1.2 MB). Reference: ORNL/NUREG/CSD-2/R2 and Informal Notes (Dec. 1989 and May 1991). FORTRAN 77; IBM PC (A); PC 386 and PC 486 (B).

PSR-171/NJOY91.13

This code system for producing pointwise and multigroup cross sections from ENDF/B evaluated nuclear data, developed at Los Alamos National Laboratory, New Mexico, is now available on a DC 6150 tape cartridge (150 MB) to enhance installation on workstations. NJOY91 works with neutrons, photons, and charged particles and produces libraries for a wide variety of particle transport and reactor analysis codes. UPD, a portable version-control program, is included in the package to implement and maintain NJOY91. The code was tested on a Cray X-MP running UNICOS. Specialized updates are included for Cray/CTSS, IBM, VAX/VMS, CDC, and Sun workstations. The package is also available on 9-track magnetic tape. References: Informal document (February 1991), LA-12057-MS (March 1991), LANL Memo T-2-L-10991 (June 1987), LA-9303-M (ENDF-324), Vol. I (May 1982), Vol. II (May 1982), Vol. III (October 1987), Vol. IV (December 1985), and Informal Notes (July 1989). FORTRAN 77; Cray (CTSS & UNICOS), VAX/VMS, SUN/UNIX.

PSR-286/COMBINE-PC

The documentation for this package was updated with notification from the developers of a discrepancy between a limit in the version distributed and the limit given in the user manual. The number of coalesced (broad) groups output to the cross section interface file is limited to 99 or fewer, not 118 as indicated in the manual. Idaho National Engineering Laboratory contributed this code system which computes the neutron spectra and ENDF/B Version-5 based neutron multigroup constants suitable for use in diffusion and neutronics calculations. The program executes on IBM PC and compatible computers with or without a math co-processor. It will also run on most mainframes. The package is distributed on 7 DS/HD (1.2 MB) 5.25-in. diskettes. References: EGG-2589 (April 1990). FORTRAN 77; IBM PC and most mainframes.

PERSONAL ITEMS

In serving a specialized area of scientific endeavor, it seems important that we note significant changes in the activities of people concerned with radiation protection, transport, and shielding in the nuclear industry. We, therefore, continue to carry personal items as they are brought to our attention.

John Scoles, Manager of the Shielding Group at Knolls Atomic Power Laboratory (KAPL), has recently retired. He had been at KAPL for 25 years, and manager of the shielding group for 15.

CONFERENCES, COURSES, SYMPOSIA

RSIC 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 to RSIC.

NSRE Features Radiation Effects Workshop

The *1992 Nuclear and Space Radiation Effects Conference* has announced a workshop entitled *Radiation Effects Data on Electronic Devices and Systems*. Both the conference and the workshop will be held July 13!17, 1992, in New Orleans, Louisiana. Papers submitted to the workshop should provide radiation response data to scientists and engineers who use electronic devices in a radiation environment, and for designers of radiation-hardened systems. Papers which describe new simulation or radiation facilities are also welcome.

To be considered for acceptance at the workshop, 10 copies of a 2!4-page summary must be received by the technical chairman by **February 3, 1992**. Include a cover letter with your address, and FAX number, and state whether the summary is to be considered for the workshop or for the NSREC sessions. You may send your paper to and obtain further information from Nelson S. Saks, NSREC Technical Program Chairman, Naval Research Laboratory, Code 6813, 4555 Overlook Ave., Washington, DC 20375-5000.

Calendar

Your attention is directed to the following events of interest.

October 1991

ANS Executive Conference on Radiation Protection in Nuclear Power Plants)Lessons for the Present and a Bridge to the Future, Oct. 6!9, 1991, Las Vegas, Nevada. Contact: B. Withers, Wolf Creek Nuclear Operations, P.O. Box 411, Burlington, KS 66839.

19th Water Reactor Safety Information Meeting, Oct. 14!16, 1991, Rockville, Maryland, sponsored by Brookhaven National Laboratory. Contact: Brookhaven National Laboratory, Dept. of Nuclear Energy, Bldg. 197C, Upton, NY 11973.

7th Symposium on Neutron Dosimetry, Oct. 14!18, 1991, Berlin, Fed. Rep. of Germany, sponsored by the Commission of the European Communities. Contact: Dr. R. Jarh, Physikalisch-Technische Bundesanstalt, Abt. 7, Bundesallee 100, 3300 Braunschweig, FRG.

Radiation Physics Meeting, Oct. 14!18, 1991, Budapest, Hungary, sponsored by the European Society for Therapeutic Radiology and Oncology. Contact: University Hospital Street Rafael, Dept. of Radiotherapy, ESTRO Secretariat, B-3000 Louvain, Belgium.

First Regional Congress on Radiological and Nuclear Safety, Oct. 21!25, 1991, Buenos Aires, Argentina, sponsored by the National Commission on Atomic Energy. Contact: Comision Nacional de Energia Atomica, Castilla de Correo No. 40, Aeropuerto Internacional de Ezeiza, Codigo Postal No 1802, Argentina.

1991 Joint International Waste Management Conference, Oct. 21!26, 1991, Seoul, Korea. Contact: Mr. Larry C. Oyen, Sargent & Lundy, 55 East Monroe St., Chicago, IL 60603 (phone 312-269-6750, Fax 312-269-3475, Telex 280603).

November 1991

14th International Meeting on Reduced Enrichment for Research and Test Reactors will be held in Jakarta, Indonesia, Nov. 4!7, 1991. Contact: Dr. Widjang H. Sisworo, Batan, Biro Bina Program, P.O. Box 85 Kby, Jakarta 12001, Indonesia (Telex 62354, fax 021 511-110).

Nuclear Energy Forum, Nov. 10!13, 1991, San Francisco, California. Contact: Conference Office, U.S. Council for Energy Awareness, 1776 I Street, N. W., Suite 400, Washington, DC 20006-2495 USA.

1991 ANS Winter Meeting, Nov. 10!14, 1991, San Francisco. Contact: General Chair James D. Shiffer, Pacific Gas & Electric Co., 77 Beale St., San Francisco, CA 94106 (phone 415-973-4684).

International Conference on Fusion Reactor Materials, Nov. 17!22, 1991, Clearwater, Florida. Contact: P. J. Maziasz, Metals and Ceramics Division, Oak Ridge National Laboratory, P.O. Box 2008, Oak Ridge, TN 37831-6376.

Symposium on Fusion Energy, Nov. 18!22, 1991, San Diego, California. Contact: Richard W. Callis, General Atomics, Fusion Division, P.O. Box 85608, San Diego, CA 92138-5608.

February 1992

1992 HEART Conference, Feb. 24!28, 1992, Albuquerque, New Mexico. Contact: DASIAC, Attention: 1992 HEART Conference, 2560 Huntington Ave., Suite 500, Alexandria, VA 22303.

March 1992

1992 Topical Meeting on Advances in Reactor Physics, March 8!11, 1992, Charleston, South Carolina, sponsored by the ANS Reactor Physics and Mathematics and Computations Divisions. Contact: Russ Ferrara, Westinghouse Savannah River Co., Savannah River Laboratory, Bldg. 786-1A, Room 5, Aiken, South Carolina 29808 (phone 803-725-8233).

Radiation Transport Calculations Using EGS4, Mar. 9!12, 1992, a four-day, 80386 microcomputer-based course to be held in Seattle, Washington, sponsored by Inst. of Applied Physics and Medicine. Contact: Susan Walker, IAPM, 701 16th Ave., Seattle, WA 98122 (phone 206-553-7330).

Occupational and Environmental Radiation Protection, Mar. 23!27, 1992, Boston, Massachusetts, a short course offered by Harvard School of Public Health. Contact: Mary F. McPeak, Assoc. Dean for Continuing Education, 677 Huntington Ave., Boston, MA 02115 (phone 617-432-3515; Fax 617-432-1969).

April 1992

New Horizons in Radiation Protection and

Shielding, Apr. 26!May 1, 1992, Pasco, Washington, a topical meeting of the ANS Radiation Protection and Shielding Division. Contact: Wilbur Bunch, HO-36, Westinghouse Hanford Co., P.O. Box 1970, Richland, WA 99352 (phone 509-376-6313).

May 1992

Radiation Protection Instrumentation, May 11!15, 1992, Boston, Massachusetts, a short course offered by Harvard School of Public Health. Contact: Mary F. McPeak, Assoc. Dean for Continuing Education, 677 Huntington Ave., Boston, MA 02115 (phone 617-432-3515; Fax 617-432-1969).

8th International Radiation Protection Association Conference, May 17!22, 1992, Montreal, Canada. Contact: G. Webb, NRPB, IRPA 8 Secretariat, Chilton, Didcot, Oxon OX11 ORQ, United Kingdom.

International Symposium on Numerical Transport Theory, May 26!28, 1992, in Moscow. Contact: Prof. T. A. Germogenova, The Keldysh Institute of Applied Mathematics, USSR Ac. of Sci., Miusskaya Sq. 4, Moscow A-47, 125047, USSR (fax 095-972-0737). Participants from the U.S. may contact Prof. Paul Nelson, Dept. of Nuclear Engg., Texas A&M University, College Station, TX 77843-3133 (fax 409-845-6443).

June 1992

American Nuclear Society Annual Meeting, June 7!12, 1991, Boston, Massachusetts. Contact: Mary Keenan, ANS, 555 N. Kensington Ave., La Grange Park, IL 60525 (phone 708-352-6611).

10th Topical Meeting on Technology of Fusion Energy, June 7!12, 1992, Boston, Massachusetts, sponsored by the American Nuclear Society and the U.S. Department of Energy. Contact: Stephen O. Dean, Fusion Power Associates, 2 Professional Drive, Suite 248, Gaithersburg, MD 20879 (phone 301-258-0545).

Environmental Radiation Surveillance, June 8!12, 1992, Boston, Massachusetts, a short course offered by Harvard School of Public Health. Contact: Mary F. McPeak, Assoc. Dean for Continuing Education, 677 Huntington Ave., Boston, MA 02115 (phone 617-432-3515; Fax 617-432-1969).

July 1992

15th International Conference on High Energy Accelerators, July 20!24, 1992, Hamburg, Fed. Rep. of Germany. Contact: F. Willeke, Deutsches Elektronen-Synchrotron, Notkestrasse 85, 2000 Hamburg 52, FRG.

August 1992

Nuclear Technologies for Space Exploration, Aug. 14!17, 1992, Jackson Hole, Wyoming. Contact: Dr. David Woodall, INEL EG&G Idaho, P.O. Box 1625, Idaho Falls, ID 83415-2516.

September 1992

Hazardous and Radioactive Waste Management (Spectrum 92), Sept. 13!17, 1992, sponsored by the ANS and the U.S. Dept. of Energy. Contact: Dr. Clyde W. Frank, EM-50/6B-158, U.S. Dept. of Energy, 1000 Independence Ave., SW., Washington, DC 20585 (phone 202-586-6382)

8th International Meeting on Radiation Processing, Sept. 14!19, 1992, Beijing, China, sponsored by the International Atomic Energy Agency. Contact: International Meeting on Radiation Processing, P.O. Box 1012 (30), Beijing 100 822, China.

International Symposium on Nuclear Data Evaluation Methodology, Sept. 28!Oct. 2, 1992, Upton, New York, sponsored by Brookhaven National Laboratory. Contact: C. L. Dunford, Brookhaven National Laboratory, NNDC/197D, Upton, New York.

14th International Conference on Plasma Physics and Controlled Nuclear Fusion Research, Sept. 30 ! Oct. 7, 1992, Wuerzburg, Germany, sponsored by the International Atomic Energy Agency. Contact: IAEA, Conference Service Section, P.O. Box 100, A-1400 Vienna, Austria.

April 1993

Joint International Conference on mathematical Methods and Supercomputing in Nuclear Applications, Apr. 19 ! 23, 1993, Karlsruhe, Germany. Contact: H. Kuesters, KFK/INR, Postfach 3640 D-W-7500 Karlsruhe 1, Germany, or W. Werner, GRS, D-W-8046 Garching, Germany.

AUGUST ACCESSION OF LITERATURE

The following literature cited has been ordered for review, and that selected as suitable will be placed in the RSIC Information Storage and Retrieval Information System (SARIS). This early announcement is made as a service to the shielding community. Copies of the literature are not distributed by RSIC. 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.

RSIC maintains a microfiche file of the literature entered into SARIS, and duplicate copies of out-of-print reports may be available on request. Naturally, we cannot fill requests for literature which is copyrighted (such as books or journal articles) or whose distribution is restricted.

This literature is on order. It is not in our system. Please order from NTIS or other available source as indicated.

RADIATION SHIELDING LITERATURE

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Basic Life Sci., 54, 169-183. . *Progress Towards Boron Neutron Capture Therapy at the High Flux Reactor Petten*. . Moss, R.L. . 1990

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Basic Life Sci., 54, 51-69. . *Monte Carlo Methods of Neutron Beam Design for Neutron Capture Therapy at the MIT Research Reactor (MITR-II)*. . Clement, S.D.; Choi, J.R.; Zamenhof, R.G.; Yanch, J.C.; Harling, O.K. . 1990

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J. Nucl. Sci. Technol., 27, 912-921. . *Forward-Adjoint Monte Carlo Coupling Technique Applicability to Neutron Streaming Analysis*. . Hayashida, Y.; Kawai, M.; Nakai, M. . Oct. 1990

Kerntechnik 56, 7-12. . *Radionuclide Dispersion After Core-Concrete Melt Leaching by Groundwater*. . Tromm, W.; Al-Omari, I.; Bayer, A. . 1991

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IAEA-SM-310/63P . . . . . HIGH FLUX
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KAPL-4728 . . . . . PORTABLE PARALLEL
Portable Parallel Programming. Fiedler, S.L. Knolls Atomic Power Laboratory; Schenectady, NY . April 1991

ZJE-286 . . . . . WIMS
Experience with the WIMS Computer Code at Skoda Plzen. . . Vacek, J.; Mikolas, P. . Skoda Works; Plzen, Czechoslovakia . . 1991.