

RSIC Newsletter



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*The sweetest path of life leads through the avenues of learning, and
whoever can open up the way for another, ought, so far, to be es-
teemed a benefactor to mankind.—David Hume*

ANS Meeting Preview

The American Nuclear Society (ANS) Winter Meeting, November 15–19, in Los Angeles, California, will feature several sessions of interest to the radiation shielding, protection, transport, and waste management community. An abbreviated list of division sessions which may interest the RSIC user community follows.

Fuel Cycle and Waste Management

Fuel Cycle Management and Economics
Spent-Fuel Management (ROD)
Nuclear Fuel Design and Analysis
Fuel Reprocessing (IRD)
Mixed Radioactive and Hazardous Wastes (ESD) (IRD) (ROD)
Low-Level Waste Management (ESD)
High-Level and Transuranic Waste Management (ESD)
Status of Radioactive Disposal Sites (ESD)
Roundtable on Utility Waste Problems
West Valley Demonstration Project: Operational Update
System Analysis of Waste Storage, Transportation, and Disposal
Utility Issues in Evaluation of New/Improved Fuel Design (RPD)
Technical and Licensing Issues: Privatization of the Portsmouth Gaseous Centrifuge Plant

Status of High-Level-Waste Repositories
Oceanic Disposal of Waste: A Status Report
LLW Institutional Disposal Problems in Developing Countries: A Roundtable Discussion

Isotopes and Radiation

Atomic and Radiation Data and Applications—I: Data
Atomic and Radiation Data and Applications—II: Applications
Radioactive Mixed Waste Stabilization—I (ESD) (FCWMD)
Radioactive Mixed Waste Stabilization—II (ESD) (FCWMD)

Mathematics and Computation

Mathematical Modeling: General
Reactor Physics Methods (RPD)
Methods in Heat Transfer and Fluid Flow (THD)
Computational Methods in Reactor Safety (NRSD)
Methods in Neutral- and Charged-Particle Transport
Vector and Parallel Computational Methods in Nuclear Science and Engineering
Benchmarks as Measures of Performance
Use of Innovative Tools and Computational Algorithms for the Support of Design, Licensing, and Operation

Sensitivity and Uncertainty Analysis Methods for Nuclear Waste Disposal Applications

Nuclear Criticality Safety

Data Analysis for Nuclear Criticality Safety

Input Geometry for Computer Codes—Panel Discussion

Accident Modeling and Simulation (MCD)

Burnup Credit for Storage and Transportation of LWR Fuel (FCWMD)

RP&S Division Paper Review

The review of invited and contributed papers for the Radiation Protection and Shielding Division resulted in the following distribution of 22 papers.

Calculation and Measurement of Radiation Skyshine, chaired by Jess Greenberg—7 papers

Radiation Protection in Defense Application, chaired by Gene Normand—8 papers

Radiation Methods and Measurements, chaired by Don McClure—7 papers.

The nominees for best papers, based on a review of the submitted summaries for technical content, conclusions and results, originality, significance and clarity, are:

"Skyshine II, Update to Computer Code for Predicting Farfield Neutron and Gamma Doses," M. C. Andrews and N. M. Schaeffer,

"LEPRICON Analysis of the ASPIS-PCA Slab Geometry Benchmarks," R. E. Maerker, and

"Use of Skyshine Response Function for Collimated and Shielded Gamma-Ray Sources," J. K. Shultis and R. E. Faw.

CHANGE TO THE COMPUTER CODE COLLECTION

A new version of a computer code system was added to the collection during the month, and an existing code package was updated to improve performance.

CCC-467/ITS

Version 2.0 of the integrated TIGER series of coupled electron/photon Monte Carlo transport code systems was provided by Sandia National Laboratories, Albuquerque, New Mexico. In addition to relatively minor corrections incorporated through feedback in the use of Version 1.0, this version has improved efficiency in radiation effects calculations, expanded energy range for electron cross sections, and automatic subzoning in the ACCEPT codes. The system is designed to use UPEML, a machine-independent emulator of the CDC UPDATE code, which is to be packaged as PSR-245/UPEML. References: Sandia National

Laboratories Memo (April 29, 1987), SAND 84-0573 (November 1984), SAND 84-1896 (December 1984) and Informal Notes (1987). FORTRAN-77; CRAY, CYBER-76, IBM 3081, CRAY-1, VAX.

PSR-243/CGS

A change is required in the PXXLIB.FOR routine of this general purpose graphics system. The variable IOCSIZE in this routine must be set to 58 (instead of the value 55) and the replacement must be done three times. We are grateful to Atomic Energy of Canada, Whiteshell, for calling this to our attention. The change was confirmed by the contributors at Los Alamos National Laboratory, Los Alamos, New Mexico. References: (Los Alamos Reports) LA-5525-M (May 1982), GR801 (December 1985), GR800 (December 1985), GR864 (November 1985), GR806 (February 1986), GR805 (October 1985), GR803 (August 1984), and RSIC Informal Notes (April 1987). FORTRAN 77; VAX 8600 under VAX/VMS.

New NCRP Publications

The National Council on Radiation Protection and Measurements (NCRP) has announced the publication of three new documents:

NCRP Report No. 87, *Use of Bioassay Procedures for Assessment of Internal Radionuclide Deposition*, (\$14.00),

NCRP Report No. 88, *Radiation Alarms and Access Control Systems*, (\$14.00), and

NCRP Commentary No. 4, *Guidelines for the Release of Waste Water from Nuclear Facilities with Special Reference to the Public Health Significance of the Proposed Release of Treated Waste Waters at Three Mile Island*, (\$12.00).

Individuals and organizations on the NCRP standing order list will receive copies of Reports 87 and 88 automatically. The commentary and reports may be purchased at the price indicated by directing an order to NCRP Publications, 7910 Woodmont Ave., Suite 1016, Bethesda, MD 20814 (phone 301-657-2652).

Standards

ANSI/ANS-10.4-1987, *Guidelines for the Verification and Validation of Scientific and Engineering Computer Programs for the Nuclear Industry* (new standard) \$50 from ANS. The objective of this standard is to identify activities that will improve the reliability of scientific and engineering computer programs and reduce the risk of incorrect application.

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.

Keran O'Brien, long-time RSIC participant, has retired from the DOE Environmental Measurements Laboratory, New York, and is now making his home in Arizona.

Keran's contributions to the shielding literature began in the middle 1950s. His work includes both analytical and experimental investigations of gamma-ray, neutron, and charged-particle transport and spectrometry. Keran has been active in many radiation protection areas, such as, environmental dose, high-energy physics, cosmic rays, spectra unfolding, and dosimetric quantities.

Visitors to RSIC

During the month the following persons came for an

orientation visit and/or to use RSIC facilities: *Rik P. Droke* and *Harry W. Webb*, Nuclear Fuel Services, Inc., Erwin, Tennessee; *Henry Morton*, Morton and Potter, Potomac, Maryland; *Daniel S. Williams*, Bechtel Eastern Power Corp., Gaithersburg, Maryland; *William Joyce*, NUS Corp., Gaithersburg, Maryland; and *W. S. Kirby*, Calspan Corp., Arnold AFB, Tennessee.

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.

SPECTRUM '88 Call for Papers

The theme for SPECTRUM '88, "Tomorrow's Solutions Today," will provide an international forum for the discussion of experiences and plans for high- and low-level radiation waste, and hazardous waste management. The meeting will be held September 11-15, 1988, in Pasco, Washington. Sponsorship is provided by the ANS Fuel Cycle and Waste Management Division with cosponsorship provided by the U.S. Department of Energy (DOE), Nuclear Society of France, Atomic Energy of Japan, Canadian Nuclear Society, American Society of Mechanical Engineers, the ANS Environmental Sciences, Remote Systems Technology, Reactor Operations, and Isotopes & Radiation Divisions, and the European Nuclear Society. The major topics are: International Overviews, High-Level Waste Management, Low-Level Waste Management, Environmental Issues, Hazardous Waste Management, Decontamination and Decommissioning, Media Relations, Construction and Maintenance, Federal/State Agency Interaction, Regulatory Training Seminar, and Cement-Based Form Technology.

Contributors are invited to submit the original and three copies of a 500-word abstract to: D. D. Wodrich, Technical Program Chairman, SPECTRUM '88 Technical Program, P.O. Box 159, Richland, WA 99352-0159 USA. **February 1, 1988**, is the deadline for abstracts. Notification of acceptance will be made March 31, 1988. Camera-ready mats are due June 1, 1988.

General information may be obtained from Joan M. Tenorio, Assistant General Chairman, at the same address.

ISRP-4 Call for Papers

The Fourth International Symposium on Radiation

Physics (ISRP-4) will be held October 3-7, 1988, in São Paulo, Brazil, hosted by the University of São Paulo. The chairman of the Local Organizing Committee is Prof. Ivan C. Nascimento, Director of the Institute of Physics of the University. The International Program Committee chairman is D. B. Isabelle, CERI-CNRS, 3A rue de la Ferrollerie, 45071 Orleans, CEDEX, France.

Potential participants are invited to submit papers on the following topics: Fundamental Processes in Radiation Physics; Radiation Sources, Detectors, and Dosimetry; Uses of Radiation in Fundamental Research; Radiation in Biomedicine and Environmental Science; Radiation in Technology; and Radiation in Energy Research. Contributions may be submitted to Prof. Ivan C. Nascimento, University of São Paulo, Caixa Postal 20516, São Paulo, Brazil, by **June 15, 1988**. The U.S. contact for the conference is Richard Pratt, Dept. of Physics, University of Pittsburgh, Pittsburgh, PA 15260 (phone 412-624-9052).

Calendar

Your attention is directed to the following additional events of interest.

October 1987

Annual Congress of the Association for Radiation Protection, Oct. 6-9, 1987, Basel, Switzerland. Contact: Fachverband f. Strahlenschutz e.V., c/o H. Brunner, Abt. SU/81, Eidg. Institut f. Reaktorforschung (EIR), CH-5303 Würenlingen, Switzerland (phone 0041 56-99 2350).

2nd Minicourse on Fusion Plasma Engineering, in conjunction with the 12th Symposium on Fusion Engineering, Oct. 12, 1987, in Monterey, California. Contact: Chris Stalker, Fusion Studies Laboratory, Univ. of Illinois, 103 South Goodwin Ave., Urbana, IL 61801 (phone 217-333-3772).

12th Symposium on Fusion Engineering, Oct. 12-16, 1987, Monterey, California, sponsored by Inst. of Electrical and Electronics Engineers (IEEE), American Inst. of Aeronautics & Astronautics, U.S. Dept. of Energy, Lawrence Livermore National Laboratory, TRW, Inc., and Grumman Aerospace Corp. Contact: Donna Schreiber, L-644, Lawrence Livermore National Laboratory, P.O. Box 5511, Livermore, CA 94556.

6th Symposium on Neutron Dosimetry, Oct. 12-16, 1987, Neuherberg, F. R. Germany, sponsored by the Commission of the European Communities, Society for Radiation and Environmental Research, and the U.S. Department of Energy. Contact: Gesellschaft f. Strahlen- und Umweltforschung mbH, München, Dr. H. Schraube, Ingolstädter Landstr. 1, D-8042 Neuherberg, F. R. Germany.

3rd Oak Ridge Model Conference on Waste Problems, Oct. 13-16, 1987, Oak Ridge, Tennessee, sponsored by the U.S. Department of Energy. Contact: E. Aebischer, Public Relations, Martin Marietta Energy Systems, Inc., P.O. Box Y, Oak Ridge, TN 37831 (phone 615-574-4166).

12th Symposium on Fusion Engineering, Oct. 27-30, 1987, Princeton, New Jersey. Contact: IEEE, Technical Activities Dept., 345 E. 47th Street, New York, NY 10017 (phone 212-705-7895).

November 1987

November 1987

Radionuclides in the Food Chain, Nov. 2-5, 1987, Laxenburg, Austria, sponsored by the American Academy of Arts and Sciences, the International Radiation Protection Association, Presidium of the Academy of Sciences of the USSR, and the Commission of the European Communities. Contact: Lili C. Merritt, International Life Sciences Institute, 1126 Sixteenth Street NW, Washington, DC 20036 (phone 202-659-0074).

Joint Meeting of the ANS and the Atomic Industrial Forum, Nov. 15-19, 1987, Los Angeles, California. Contact: Meetings Dept., ANS, 555 N. Kensington Ave., La Grange Park, IL 60525 (phone 312-352-6611).

International Waste Management Conference, Nov. 30-Dec. 5, 1987, Kowloon, China, sponsored by the U.S. Department of Energy and the Commission of the European Communities. Contact: J. Sinnaeve, DG XII-D-4, SDM 2/64, Rue de la Loi, 200 B-1049, Brussels, Belgium (phone 02-235.52.11).

January 1988

X-Ray and VUV Interaction Data Bases, Calculations, and Measurements, January 10-15, 1988, Los Angeles, California, sponsored by the International Society for Optical Engineering. Contact: SPIE Technical Program Committee/O-E/LASE'88, P.O. Box 10, Bellingham, WA 98227-0010 USA (206-676-3290).

February 1988

Waste Management '88: Symposium on Radioactive Waste Management, Feb. 26-Mar. 3, 1988, Tucson, Arizona, sponsored by the University of Arizona. Contact: M. Wacks, Dept. of Nuclear and Energy Engineering, University of Arizona, Tucson, AZ 85721 (phone 602-621-2475).

March 1988

24th Annual Meeting of the National Council on Radiation Protection and Measurements, Mar. 30-31, 1988, Washington, D.C. The principal session is "Radon." Contact: NCRP, 7910 Woodmont Ave., Suite 1016, Bethesda, MD 20814.

April 1988

Workshop on Non-ionising Radiation Biological Effects, Protection and Standards, Apr. 5-8, 1988, Mel-

bourne, Australia. Contact: J. C. Button, Scientific Secretary, IRPA 7, Health and Safety Div., Australian Atomic Energy Commission, Private Mail Bag, Sutherland, NSW 2232 Australia.

Seventh International Congress of the International Radiation Protection Association (IRPA 7), Apr. 10–17, 1988, Sydney, Australia. Contact: J.C.E. Button, Scientific Secretary, IRPA 7, Health & Safety Div., Australian Atomic Energy Commission, Private Mail Bag, Sutherland, N.S.W. 2232, Australia (phone 61-2-543-3295) (Telex: AA.24562).

International Symposium on Fusion Nuclear Technology, Apr. 10–19, 1988, Tokyo. Contact: Kenzo Miya, Nuclear Engineering Research Lab., University of Tokyo, Tokai-mura, Ibaraki Prefecture, 319-1 Japan (phone 011-813-812-211 ext 7421) or Mohamed Abdou, University of California-Los Angeles (phone 213-206-1228).

International Conference on Radiation Protection Principles in Nuclear Energy, Apr. 18–22, 1988, Sydney, Australia, sponsored by the IAEA. Contact: W. Porter, IE-13, U.S. Dept. of Energy, Forrestal, Washington, DC 20585 (phone 202-252-4573).

May 1988

Safety of Next Generation Power Reactors, May 1–6, 1988, Seattle, Washington, sponsored by the ANS Reactor Physics, Reactor Operations, Human Factors, and Fuel Cycle and Waste Management Divisions, and the U.S. DOE. Contact: Robert Ferguson, Ferguson & Assoc., 7601 W. Clearwater, Suite 450, Kennewick, WA 99336 (phone 509-783-1446).

3rd Topical Meeting on Tritium Technology in Fission, Fusion, and Isotopic Applications, May 1–6, 1988, Toronto, Canada, sponsored by the Canadian Nuclear Society and the American Nuclear Society. Contact: C. D. Burnham, CFFTP, 2700 Lakeshore Road, West, Mississauga, Ontario, Canada, L5J 1X3 (phone 416-823-6364) or Harold Anderson, Monsanto Research Corp., P.O. Box 32, Miamisburg, OH 45342 (phone 513-865-3062).

International Symposium on the Management of Low and Intermediate Level Radioactive Wastes, May

16–20, 1988, Stockholm, Sweden, sponsored by the International Atomic Energy Agency. Contact: Conference Service Section, IAEA, P.O. Box 100, A-1400 Vienna, Austria.

International Conference on Nuclear Data for Science and Technology, May 30–June 3, 1988, Mito, Japan, sponsored by the Japan Atomic Energy Research Institute. Contact: Shin-iti Igarasi, Conference Secretariat, Nuclear Data Center, JAERI, Tokai-mura, Nakagun, Ibaraki-ken 319-11 Japan (phone 0292-82-5480). See the July issue of the *RSIC Newsletter* for additional information.

June 1988

International Conference on Computational Physics (ICCP), June 1–5, 1988, Beijing, sponsored by the Institute of Applied Physics and Mathematics, Beijing, and Drexel University, Pennsylvania. Contact: Zhang Tianyuan, IAPCM, P.O. Box 8009, Beijing, China (PRC) or D. H. Feng, Department of Physics and Atmospheric Science, Drexel University, Philadelphia, PA 19104 USA.

American Nuclear Society Annual Meeting, June 12–17, 1988, San Diego, California. Contact: ANS, Meetings Dept., 555 North Kensington Ave., La Grange Park, IL 60525 (phone 312-352-6611).

September 1988

Industrial Radiation and Radioisotope Measurement Applications, Sept. 6–8, 1988, Pinehurst, North Carolina, a topical meeting sponsored by the Isotopes and Radiation Division of the ANS. Contact: Robin P. Gardner, General Chairman, or Kuruvilla Verghese, Tech. Program Chairman, North Carolina State Univ., School of Engineering, Box 7909, Raleigh, NC 27695-7909.

7th International Conference on Radiation Shielding (ICRS), Sept. 12–16, 1988, Bournemouth, United Kingdom, sponsored by the OECD Nuclear Energy Agency and the UK Atomic Energy Agency.

October 1988

5th National Conference on Biomedical Physics and Engineering, Oct. 15–17, 1988, Sofia, Bulgaria. Contact: M. Markov, Department of Biophysics, Biological Faculty, Sofia University, 8, Dragan Tzankov Blvd., Sofia 1000, Bulgaria.

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 liter-

ature 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.

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