

ANS NEWSLETTER

May 1999

Radiation Protection and Shielding Division

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

Officers and Chairs of

Standing Committees

Chair

Bernadette L. Kirk

Phone 423-574-6176

Fax 423-574-6182

blk@ornl.gov

Vice-Chair / Chair-Elect

Robert C. Little

Phone 505-665-3487

Fax 505-665-5553

rc1@lanl.gov

Secretary

Jennifer E. Tanner

Phone 509-375-6626

Fax 509-375-6936

jennifer.tanner@pnl.gov

Treasurer

Jeffrey C. Ryman

Phone 615-576-4423

Fax 615-576-3513

cjr@ornl.gov

Immediate Past President / Nominating

Jess Greenborg

Phone 509-376-3482

Fax 509-376-6282

jess_greenborg@rl.gov

Program

Raymond T. Klann

Phone 630-252-4305

Fax 630-252-1774

klann@anl.gov

R. T. Perry

Phone 505-665-3521

Fax 505-667-7626

rtperry@lanl.gov

Membership

Jennifer E. Tanner

Phone 509-375-6626

Fax 509-375-6936

jennifer.tanner@pnl.gov

Benchmarks

Hamilton T. Hunter

Phone 423-574-6297

Fax 423-574-6182

h3o@ornl.gov

Honors & Awards

Michael Momeni

Phone 217-785-9925

Fax 217-524-0026

mhmomeni@heartland.bradley.edu

Standards Liaison

Bill Hopkins

Phone 301-417-3341

Fax 301-869-7084

whopkins@bechtel.com

Chairman's Message (Bernadette Kirk)

I salute the officers of RPSD and the committee chairs for their work and support of the Chair. I have been Membership Chair, Secretary and Treasurer of RPSD; thus I understand the weight of the work. So far, being RPSD chair has been the easiest role, only because the executive board and committee chairs have done the brunt of the labor - with the chair viewing the happenings from afar. I also salute the members, for without each of you, there would not be a strong division.

There are many changes.

Welcome, Bob Little to the 1999-2000 chairmanship of RPSD. Bob's willingness to be in the support role meant rolling out the newsletter. Collecting items for the issues is not a simple chore.

Ray Klann of Argonne National Laboratory, Chair of the Program Committee, is stepping down. Ray has done a superb job in coordinating all the paper reviews and sessions at the national meetings and in planning of the topicals. Ray served as vice-chair of the committee from 1992-1994. He acquired the chair in 1994.

Mike Momeni of Illinois Department of Nuclear Safety, is the outgoing Honors and Awards Chair. Mike's coordination of the awards has been very efficient and timely. During his tenure, the Rockwell award was given to Wilbur Bunch.

Bob Roussin of Oak Ridge National Laboratory (ORNL), who served as Benchmark Chair until the past year, relinquished his position to Hamilton Hunter also of ORNL. Both individuals are worthy of recognition for their determination to promote benchmark activities. One major product of this effort is the Shielding Integral Benchmark Archival Database (SINBAD), distributed by the Radiation Safety Information Computational Center (RSICC). Hamilton is also the division representative to the Public Policy Committee.

The American Nuclear Society is in the process of transitioning to keep up with the changing times and electronic revolution. There have been three stages so far: Infrastructure I, Infrastructure II and now Infrastructure III. The latter is focused on the divisions. On March 20-21, 1999, the ANS

President, Ted Quinn, invited all division chairs to come and discuss their respective division's view of the current situations. Highlights of discussions included: one or two national meetings per year, reduced governance at national meetings, decreasing number of divisions, delegation of technical aspect of the topicals to the divisions and the business aspect to ANS to ensure success, expansion of electronic communication and electronic paper review, and ability of ANS to host web sites for each division. Most of these topics are still in discussion; electronic transition and web site hosting are happening now. RPSD's position is to preserve the topical commitment every two years and to support one national meeting per year.

There was a lot of electronic mail passed to me and then to each of the board members. My wish was to reach out to every RPSD member with an e-mail address. I had the great trepidation, however, of 1300 e-mails returning and shutting down the local service. Even though I believe in the Internet, there is still that part of me that verges on caution.

My gratitude to all of you who have made the year challenging. Bernie

Election Results

Individuals elected to RPSD offices in the 1999-2000 elections are as follows: Vice Chair / Chair Elect - Laurie S. Waters; Secretary - Jennifer E. Tanner; Treasurer - Raymond T. Klann; and Executive Committee - R. T. Perry, Janet G. McFadden, and Rizwan Uddin. The terms for these officers begin after the June Executive Committee meeting in Boston. Congratulations to all!

1. Dose Conversion Factors - Legal or Not (Panel Session), Monday morning, November 16th, Maryland A
2. Radiation Transport Analyses and Shielding Applications, Tuesday morning, November 17th, Maryland C
3. Greatest Hits of the 1998 RPSD Topical Meeting, Tuesday morning, November 17th, Maryland A
4. Free Release Criteria - Regulations and Analysis (Panel Session), Wednesday morning, November 18th, Delaware A
5. General Radiation Protection and Shield Design, Wednesday afternoon, November 18th, Delaware B
6. Characterization of Alpha-N Sources, Wednesday afternoon, November 18th, Delaware B

The next RPSD Topical meeting is currently in the planning stages. It is scheduled for September 17-21, 2000 in Spokane, WA. Keep the topical in mind over the next year and a half and plan on attending. It is a great way to get together with others in the radiation protection and shielding community and to renew relationships with old acquaintances.

<p>Executive Committee</p> <p>W. Mark Blumberg Phone 301-415-1083 wmb1@nrc.gov</p> <p>Joseph C. Braun (Ex-Officio) Phone 630-252-5574 Fax 630-252-4500 joebraun@anl.gov</p> <p>Donald J. Dudziak Phone 919-515-2301 Fax 919-515-5115 dudziak@ncsu.edu</p> <p>Cris S. Eberle Phone 208-533-7371 Fax 208-533-7471 cris@anl.gov</p> <p>Jess Greenberg (Ex-Officio) Phone 509-376-3482 Fax 509-376-6282 jess_greenberg@rl.gov</p> <p>Dan T. Ingersoll Phone 423-574-6102 Fax 423-574-9619 dti@ornl.gov</p> <p>Jeffrey O. Johnson Phone 423-574-5262 Fax 423-574-9619 joj@ornl.gov</p> <p>Bernadette L. Kirk Phone 423-574-6176 Fax 423-574-6182 blk@ornl.gov</p> <p>Robert C. Little Phone 505-665-3487 Fax 505-665-5553 rc1@lanl.gov</p> <p>R. T. Perry Phone 505-665-3521 Fax 505-667-7626 rtperry@lanl.gov</p> <p>Jeffrey C. Ryman Phone 423-576-4423 Fax 423-576-3513 cjr@ornl.gov</p> <p>Jennifer E. Tanner Phone 509-375-6626 Fax 509-375-6936 jennifer.tanner@pnl.gov</p> <p>John D. Valentine Phone 513-556-2482 Fax 513-556-3390 john.valentine@uc.edu</p> <p>James K. Warkentin Phone 254-897-8642 Fax 254-897-0545 kwarkentin@tuelectric.com</p> <p>ANS Staff Liaison Sharon Kerriek Phone 708-579-8230 Fax 708-352-0499</p>	<p style="text-align: center;">Program Committee News (Ray Klann)</p> <p>There are a few items of note since the last ANS Meeting in D.C.</p> <p>2000 RPSD Topical Meeting</p> <p>The Topical Meeting is scheduled for September 17-21, 2000 in Spokane, Washington. Jennifer Tanner is the Technical Program Chair with Jess Greenberg as the General Chair. Now is the time to start contemplating paper topics for the meeting. It is being organized in conjunction with the Health Physics Society and should be a very large and successful meeting. Plan on attending.</p> <p>2002 RPSD Topical Meeting</p> <p>Believe it or not, it is time to start planning for the 2002 Topical Meeting. I will work to get solicitation letters out to the local sections so that proposals can be presented at the 1999 ANS Winter Meeting. Please e-mail me if you think your local section would be interested in hosting the 2002 RPSD Topical Meeting.</p> <p>1999 Summer Meeting</p> <p>The Technical Program Chair (TPC) for the meeting is Dick Caccipouti. I am serving as the assistant TPC for this meeting. RPSD does not have any sessions in the program. Well, actually there is a combined session that includes two papers from RPSD and 3 from the Mathematics and Computation Division (MCD). This session is listed as Math and Computation - General and is on Tuesday afternoon.</p> <p>1999 Winter Meeting</p> <p>The 1999 ANS Winter Meeting will be held from November 14-18, 1999 at the Long Beach Convention Center in Long Beach, CA. The theme of the meeting is the "International Atomic and Nuclear Science Congress 2000: Preparing for Our New Millennium." We are actively pursuing special sessions for this meeting (there are 8 sessions listed in the call for papers). The deadline for submittals is late June - so you still have plenty of time to submit a summary.</p> <p>I am also looking for volunteers who are willing to participate as paper reviewers. The review will be conducted electronically so there should be no reason why anyone can not participate. Please e-mail me (klann@anl.gov) if you are willing to help.</p> <p>Future ANS Meetings</p> <p>2000 ANS Annual Meeting - June 4-8, 2000, San Diego, CA</p> <p>2000 RPSD Topical Meeting - September 17-21, 2000, Spokane, WA</p> <p>2000 ANS Winter Meeting - November 12-17, 2000, Washington, D.C.</p> <p>2001 ANS Annual Meeting - June 17-21, 2001, Milwaukee, WI</p> <p>2001 ANS Winter Meeting - November 11-15, 2001, Reno, NV</p> <p>I will be stepping down as the Chair of the Program Committee shortly. Yes it is for real this time. My successor will be named during the Boston meeting and will be in charge by the 1999 ANS Winter Meeting. It has been fun and I have enjoyed working for the division in this capacity. I plan on staying actively involved in the division and National Program so you haven't seen the last of me yet.</p> <p>Later, Ray</p> <p style="text-align: center;">Outstanding Papers from Washington D.C. Meeting (Michael Momeni)</p> <p>Two papers were selected as most outstanding for RPSD at the November 1998 Washington D.C. meeting. The papers were "Neutron Measurements in the Vicinity of a Self-Shielded PET Cyclotron," by Michael P. Valenzano, Kenneth G. Veinot, and Nolan E. Hertel of Georgia Tech and "Annual Doses to Interplanetary Astronauts from Large Solar Particle Events: 1987-1993," by K. M. Richardson, L. W. Townsend, and E. N. Zapp of the University of Tennessee. Congratulations to all of the authors!</p> <p style="text-align: center;">Pending Public Policy Statement (Hamilton Hunter)</p> <p>A position paper has been submitted to the ANS Public Policy Committee entitled "Preserving Experimental Benchmark Work." The paper has been developed in collaboration with other Divisions of the ANS and stresses the importance of capturing and preserving documents and other information relating to benchmark experiments that have been performed in the past. For more information, contact me at h3o@ornl.gov.</p>
---	--

Blizard Scholarship (Dan Ingersoll)

At the 1998 ANS Winter Meeting, the RPSD Executive Committee voted to increase the stipend of the E. P. Blizard Scholarship from the initial level of \$1000 to \$2000 based on the continued growth of the endowment fund. Coincidentally at the same meeting, the ANS Scholarships Committee voted to increase the stipend of all ANS scholarships to a minimum level of \$3000 based on the favorable earnings of the general scholarship fund. Hence, the general fund will be used to augment the RPSD fund to raise the Blizard Scholarship stipend to \$3000 beginning for the 1999-2000 school year. This will help to make the Blizard Scholarship more competitive with other ANS scholarships, many of which were already at or above this level.

The newest winner of the Everitt P. Blizard Scholarship is Roland R. Benke from the University of Michigan. The selection committee, consisting of Dan Ingersoll, Nolan Hertel, and John Poston, reviewed ten applications and selected Benke based on several criteria, including academic accomplishments, personal statement, references, and relevance to RPSD. Benke received his BSE in Nuclear Engineering in 1994 and an ME degree in Radiological Health Engineering in 1996, both from Michigan. His doctoral research is focused on developing new methods for *in situ* determination of radionuclide depth distributions in concrete and soil. Congratulations, Roland.

SINBAD Project Update (Hamilton Hunter)

SINBAD 98, a shielding benchmark and archive generated from experiments worldwide and input from OECD-NEA in conjunction with RSICC was released in December 1998. It includes 33 benchmarks from Fission, Fusion, and Accelerators. A push this summer will add approximately 10-15 more benchmarks; hopefully LLNL Pulsed Spheres will be ready by then. A summer student for RSICC is dedicated to this work. A new BTI Hydride Russian Benchmark from IPPE has been analyzed by RSICC staff using MCNP4B2 and looks promising.

An abstract and oral presentation will be made at the ICRS-9 in Japan, October 1999 on benchmarks and their electronic storage used by SINBAD.

A new use for shielding benchmarks may materialize by application to Criticality Safety Alarm work proposed by B. Briggs (INEEL). It will be a follow-on to work with the International Criticality Safety Benchmark Experiments Handbook through the NEA, INEEL, ORNL, and LANL. ORNL experiments and logbooks are being studied for possible applications in this area.

Shielding experimental logbooks from two ORNL facilities, Tower Shielding Reactor and Health Physics Research Reactor, are in the process of being permanently archived at the 4500N building at ORNL. Indexes and keywords for the logbooks will be added to a database to do search and retrieval. Future plans to scan them electronically will promote long-term storage and readability. Approximately 150 individual experiments were logged from these facilities from the 1950's through their closure in the 1990's.

Visit the SINBAD web site at
<http://www-rsicc.ornl.gov/BENCHMARKS.html>.

The 2000 Radiation Protection & Shielding Topical (Jennifer Tanner)

The Radiation Protection and Shielding Division of the American Nuclear Society, in conjunction with the Columbia Chapter of the Health Physics Society, is sponsoring a topical conference entitled "Radiation Protection for Our National Priorities: Medicine, the Environment, and the Legacy" in Spokane, Washington, September 17-21, 2000.

In preparation for an entrance to the twenty-first century, this conference will examine the state of radiation protection of individuals and their environment as well as the beneficial uses of radioactive isotopes. Tentative session topics include radiation transport and shielding, medical irradiation and isotopes, decommissioning of facilities, radiation exposure and detection, and radioactive waste immobilization and storage.

In addition to the presentations, educational courses will be offered which are expected to be approved for credits that can be used for general professional enrichment. Tentative titles include shielding methodology, MCNP, (a,n) reactions, NDA (non-destructive assay) techniques, RESRAD/COMPLY usage, and skyshine calculations. Division members who wish to volunteer to help at the meeting should contact the conference organizers.

The Call for Papers will be ready in June and will be available at the annual ANS meeting in Boston and from the conference web site (see below). More information concerning this conference can be obtained from Harvey Goldberg, ANS-EWS, P.O. Box 941, Richland, Washington, 99352, or electronically at finfrock@ambinet.com. Information can also be obtained from the conference web page at <http://www.ambinet.com/ans/rps2000.html>.

(ICRS-9) 9th International Conference on Radiation Shielding (Yujiro Ikeda)

The Ninth International Conference on Radiation Shielding will be held in Tsukuba, Ibaraki, Japan on October 17-22, 1999. The conference is being organized and sponsored by JAERI, with co-sponsorship by the OECD/NEA/NSC, the Atomic Energy Society of Japan, and ORNL/RSICC. The theme of ICRS-9 is "Half a Century of Radiation Shielding Research and its Evolution into the Next Era." This conference follows previous ones at Arlington, Texas USA (1994), at Bournemouth, UK (1988), and at Tokyo, Japan (1984). The series has explored the scientific, technological, and engineering issues associated with radiation shielding in broad nuclear energy systems, accelerator facility, space, and general environments. **The deadline for early registration is July 31, 1999.**

250 papers have been accepted for presentation at the Conference, either in oral or poster sessions. On the first day of the conference, a keynote session will be held, where overviews will be presented for the fields of fission reactors, fusion reactors and accelerators. The program chairman of the conference will give a general review for the radiation shielding study in the same session. On the same day we will also have special sessions for the international collaboration activities and the large projects for intense neutron source facilities. The papers presented will be published as a special issue of the Journal of Nuclear Science and Technology.

Technical tours have been arranged to High Energy Accelerator Research Organization (KEK) in Tsukuba on October 20 and to Japan Atomic Energy Research Institute (JAERI) in Tokai and Japan Nuclear Cycle Development Institute (JNC) in Oarai on October 22. Many optional tours are available as a guest program for accompanying persons, for example, a one-day tour to Nikko.

Complete information for registration, hotel accommodations and the Tsukuba area is available at the Web site for the conference:

<http://icrs9.tokai.jaeri.go.jp>. The preliminary agenda will be posted to this site soon.

Second Report on National Needs in Ionizing Radiation Measurements (Joe McDonald)

The Science and Technology Committee of the Council on Ionizing Radiation Measurements and Standards (CIRMS) has issued its second report on national needs for ionizing radiation measurements. There is a steady growth in the need for ionizing radiation measurements and physical standards due to the continued increase in the applications of radionuclides and ionizing radiation. The effort to meet the needs of the user communities for new measurements and standards requires strong collaborative efforts on the part of medical, industrial, academic and government researchers. The present study identified 25 measurement and standards needs in four general areas, which correspond to the four subcommittees of the Science and Technology Committee: Medical Applications, Public and Environmental Radiation Protection, Occupational Radiation Protection, and Industrial Applications and Materials Effects.

The 25 needs are characterized by formal Measurement Program Descriptions (MPDs). In general these are programs that require concerted and coordinated efforts between industry, government and the academic community. Each MPD describes a measurement-related need, a possible solution, and the impact of that solution. Details are provided regarding the technical nature of the solution, relationship to existing programs, technical opportunities, challenges and goals. Resources available and those needed to accomplish these programs are also indicated. A progress report is given for those programs that were identified in the first CIRMS Report on National Needs in Ionizing Radiation and Standards, published in 1995.

Each subcommittee has identified one MPD for which a roadmap is considered essential to meet a national goal. In the medical area, one of the most pressing needs is for national standards for air kerma strength for radioactive seeds used in prostate therapy. The environmental scientists see a need for reference methods development for characterizing chemical speciation of radionuclides in soils. The industrial and materials effects group spells out a need for dosimetry standards for medical device sterilization. And the occupational and radiation protection community requires new standards and methods for electronic personnel dosimetry.

The Health Physics Society has had a role in the activities of CIRMS through the Laboratory Accreditation Committees since CIRMS inception in 1993. The MPDs not only identify needs, but help to focus limited resources and to act as a measure for progress. Substantial progress was made on several of the MPDs listed in the original Needs Report and CIRMS is always looking for new radiation measurement or standardization needs. In addition to the MPD on implementation of electronic dosimeters, some of the other MPDs of interest to the health physics community include: neutron personnel monitor improvements, extremity monitoring, transfer standards for neutron sources, in-vivo radionuclide metrology, type testing of instruments, measurement infrastructure improvements, calibration standards for field survey instruments and environmental dosimeters, standards for waste management and site remediation, etc.

This 106 page report is available from CIRMS P.O. Box 1238, Duluth, GA 30136; phone/fax: (770) 622-0026; e-mail: cirms@aol.com. For additional information on the Council on Ionizing Radiation Measurements and Standards see www.cirms.org.