



RPSD Newsletter

September 2010

American
Nuclear
Society

Radiation
Protection
and
Shielding
Division

The RPSD web-
site is located at:

<http://rpsd.ans.org>

For any
suggestions on the
RPSD web-site,
please contact Erik
Shores, at:
eshores@lanl.gov

Message from the Chair

Greetings RPSD members!

It is truly a privilege to be the current chair of the Radiation Protection and Shielding Division. Radiation Protection and Shielding is fundamental to nearly all aspects of Nuclear Science and Engineering, and our membership boasts leaders in radiation shielding, modeling, detectors, therapy, homeland security, nuclear safeguards, space exploration, oil exploration, diagnostics, sources, and much more.

RPSD has had an exciting year so far with, among other things, the successful organization and completion of our RPSD 2010 topical meeting in April in Las Vegas. During this meeting, Dr. Nicholas Tsoulfanidis was presented with the Rockwell Lifetime Achievement Award. The topical meeting also produced many quality papers and presentations, some of which will be featured during two "Best of RPSD 2010" sessions at the 2010 ANS Winter Meeting. I also want to mention that our next topical meeting, the 17th *Topical Meeting of the Radiation Protection and Shielding Division* of the American Nuclear Society, is planned for 2012 (September 2nd -7th) in conjunction with the 12th *International Conference on Radiation Shielding* which will be held in Nara, Japan.

Furthermore, we look forward to the 2010 ANS Winter Meeting where RPSD offers a great program. In addition to the "Best of RPSD 2010" sessions, as mentioned before, and our standard general and computational resources sessions, we are organizing two tutorials (Moritz and Geant4) as well as a panel on ethics in Professional Engineering.

I would also like to encourage everyone to become more active in RPSD activities, which includes presentations at our technical meetings, involvement on standards committees or division committees, and participation in governance meetings. Our meetings are open to all members, and we would welcome your ideas and input so that we can better overall serve the division. If you will be at the upcoming 2010 ANS Winter Meeting, you are invited to attend the following meetings on *Sunday, November 7th*, in the Capri 113 room:



| | |
|----------------------------|-----------------------|
| <i>Shielding Standards</i> | 12:00 P.M – 12:30 P.M |
| <i>RPSD Program</i> | 12:30 P.M – 1:30 P.M |
| <i>RPSD Executive</i> | 1:30 P.M – 2:30 P.M |

I look forward to seeing you at our tutorials, roundtables, technical sessions and other programs from RPSD. Thank you for your support and membership of RPSD.

Sincerely,

Charlotta Sanders

REACTOR DOSIMETRY

Fourteenth International Symposium on

May 22-27, 2011

Mt. Washington Resort
Bretton Woods, NH, USA

ISR D 14

May 22-27, 2011, Omni Mount Washington Resort, Bretton Woods, New Hampshire

The Fourteenth International Symposium on Reactor Dosimetry (ISR D) will be held May 22-27, 2011, at the Omni Mount Washington Resort, Bretton Woods, New Hampshire. Papers are solicited for presentation in the following areas.

- Reactor surveillance and plant-life management
- Data evaluation, uncertainty analysis, and adjustment methods
- Retrospective dosimetry and decommissioning
- Dosimetry for assessment of reactor structural materials
- Neutron and gamma-ray transport calculations
- Dosimetry for core characterization and reactor physics
- Characterization of neutron and gamma-ray environments
- Damage correlation and exposure parameters
- Monitoring of irradiation experiments
- Nuclear data for dosimetry
- Benchmarking, calibrations and standards
- Fusion and high-energy neutrons
- Reactor and accelerator neutron sources
- Irradiation processing and testing of electronics
- Experimental techniques, new developments and optical methods
- Dosimetry for space nuclear power

The deadline to submit abstracts to the 14th ISR D has been extended to October 1, 2010. Please visit <http://www.reactordosimetry.com> for further information.



RPSD 2010 Topical Meeting
April 18-23 2010, Palace Station Hotel, Las Vegas, NV
Robert Hayes/Charlotta Sanders

RPSD 2010 had 205 registered attendees but only about 170 attendees were at the meeting mainly due to the eruption of Iceland's volcano. A list of countries from attendees is (in order of first registered) the U.S., Malaysia, Algeria, Bahrain, U.K., Egypt, Germany, France, Japan, South Korea, Belgium, Taiwan, Portugal, Canada, India, Mexico, Switzerland, China, Spain and Mexico. There were 141 attendees from the U.S., so roughly 1/3 of all attendees were international. The conference had 157 presentations and offered 6 tutorials. The technical content was of the highest caliber with shielding experts of all disciplines presenting radiation transport theory and measurement results. The conference also sponsored a trip to the Atomic Testing Museum and to the Nevada Test Site. As part of RPSD 2010, the registered attendees had an opportunity to submit a full paper of their abstracts to be considered for the ANS journal Nuclear Technology. The publications are in progress.

The RPSD 2010 Topical Meeting made a small profit on the order of \$8,000. RPSD was pleased with the outcome of the conference and would like to thank the participants and organizers for their support and efforts.

RPSD Continues to Champion Ethics in Engineering

Robert Hayes

In the upcoming 2010 ANS Winter Meeting, RPSD will again be sponsoring the "Ethics in Engineering" panel session. We continually assign topics that are informative, difficult and thought provoking. Just check out the following topics by confirmed panelists for the upcoming winter meeting in Vegas.

- **Ethics Made Simple for the Practicing Engineer**, Paul G. Edelman (LANL)
- **Ethics in Licensing**, Harold E. Williamson (GTE)
- **Disciplinary Actions Against Nuclear PEs**, Jay Z. James (Consultant)
- **How to Avoid Feeling Trapped into Doing Something you Feel is Questionable**, Dr. Raymond Klann (ANL)
- **How to Improve Your Ethical Behavior**, Dr. Nolan Hertel (Georgia Tech)
- **Applications of and Approaches to Ethics in All Aspects of Life**, Vic Uotinen (Past Chair of ANS Ethics Committee)

We have an excellent selection of panelists with very important subjects insuring a riveting and intellectually challenging session. Please come and join us Monday afternoon right after the RPSD roundtable session following the Monday lunch break. Attendance sheets will be provided to give those who need evidence of attendance to be distributed after the meeting for continuing education credits or professional development hours for those who need them.

RPSD Sponsored Tutorials at the ANS 2010 Winter Meeting

MORITZ: An Interactive Geometry Editor/Viewer for MCNP & MCNPX

Thursday, November 11, 2010, 8:30am-11:30am

Geant4: A Toolkit for the Simulation of the Passage of Particles through Matter

Thursday, November 11, 2010, 1:00pm-4:00pm

Honors and Awards

Arzu Alpan/David Court

The Rockwell Lifetime Achievement Award

The Rockwell Lifetime Achievement Award was presented to Dr. Nicholas Tsoulfanidis at the RPSD 2010 Topical Meeting at Las Vegas, NV, in April 2010. The award consisted of a plaque and a \$500 monetary award. The Rockwell Lifetime Achievement Award is based on long-term or lifetime achievement in research, technology development, or education in the fields of radiation protection, shielding or dosimetry. Dr. Tsoulfanidis has written a standard textbook used in nuclear engineering courses on radiation measurement entitled "Measurement and Detection of Radiation," has served as a former chair of the RPSD, is a fellow of the ANS, has published numerous peer reviewed journal articles, and is editor in chief of the ANS journal Nuclear Technology. **Congratulations, Dr. Tsoulfanidis!**



Award recipient Dr. Nicholas Tsoulfanidis (right), with Robert Hayes (left)

National Meeting Awards

RPSD selected the following presentations at the 2010 ANS Annual Meeting in San Diego, CA for the RPSD ANS National Meeting Awards. Congratulations to the winners!

Student Award: **J. G. Richard (*Univ. of Florida*)** for the presentation titled “Burnup-Dependent Neutron Source Term for Gross Neutron Detection Techniques,” authored by J. G. Richard (Univ. of Florida), M. L. Fensin, S. J. Tobin, M. T. Swinhoe, H. O. Menlove (LANL)

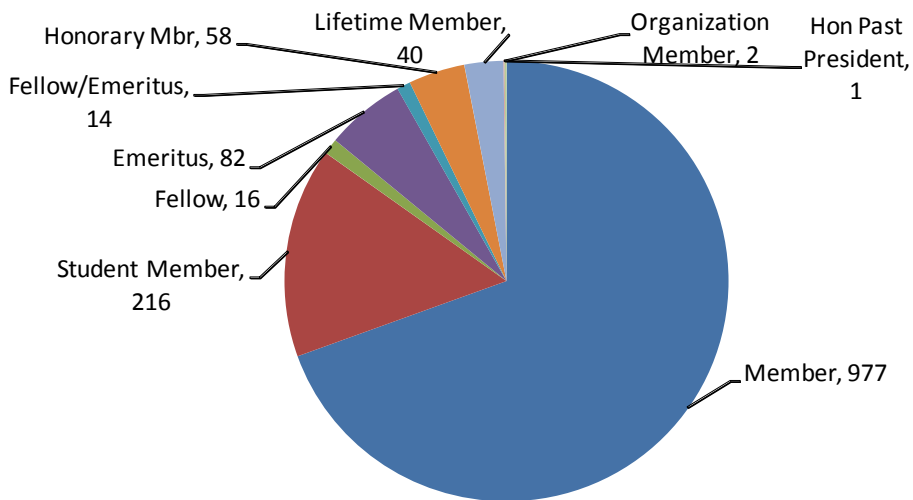
Professional Award: **Paul Guss (*Remote Sensing Lab*)**, for the presentation titled “Modeling Higher Resolution Scintillators for Nonproliferation,” authored by Paul Guss, Alexis Reed, Michael Reed, Sanjoy Mukhopadhyay, Ding Yuan (Remote Sensing Lab), Matthew Cutler, Chris Contreras, Denis Beller (UNLV)

Note: Winners are selected among RPSD members who present in RPSD sessions. The RPSD student member will receive a \$100 monetary gift. The RPSD professional member will receive a plaque.

Membership

Arzu Alpan

Based on the June 2010 data, RPSD has 1406 members. The pie chart below shows the different membership classifications, with the number of RPSD members in that classification. Student membership is about 15%.



In the beginning of each year, RPSD receives financial credit based on the number of their members who have renewed their memberships, or who have signed up to become new members, by the end of December of the previous year. For 2010, RPSD had 1317 members who renewed their memberships or became new members, by the end of December 2009. **We would like to thank our members who contribute to our budget by sending their membership dues to ANS by the end of December!**

ANS 6 Standards

Bill Hopkins

1. John Wagner has stepped down as chair of **ANS 6.6.1** after successfully getting the reaffirmation of ANSI/ANS-6.6.1-1998, "**Calculation and Measurement of Direct and Scattered Gamma Radiation from LWR Nuclear Power Plants.**" Dick Amato has volunteered to be the chair of this standard.
2. **ANS-6.4.3, "Gamma-Ray Attenuation Coefficients & Buildup Factors for Engineering"** is being resurrected as an official ANSI standard. Jeff Ryman is chair of the working group for this. A new Project Initiation Notification System (PINS) form is needed ASAP to start the new resurrection process.
3. F. Arzu Alpan's working group for **ANS-6.1.2, "Neutron and Gamma-Ray Cross Sections for Nuclear Radiation Protection Calculations for Nuclear Power Plants"** (revision of ANSI/ANS-6.1.2-1999) has been re-reaffirmed by ANSI. This reaffirmation was so that they may have more time to update the standard.
4. Nolan Hertel is still reviewing the logistics of a new revision and/or a temporary reinstatement of **ANS-6.1.1-1991, "Dose Conversion Coefficients"** and the possible separation of the standard into two separate standards. One is on operational quantities - ambient dose equivalent, personal dose equivalent, and directional dose equivalent. The good news is he is now chairing the International Commission on Radiation Units & Measurements (ICRU) committee that will review these operational quantities (1st meeting in November) to see if there is a need to change these dose conversion factors or retain them at all. The second one would be for effective dose whose definition and radiation weighting factors which were just changed in ICRP Publication 103. He plans to draft the PINS for a vote at ANS 6 shortly after October since the ICRP revision to publication 74 (effective dose conversion coefficient) should be in completed draft form by then.
5. Jennifer Tanner's working group's standard received ANSI final approval on the reaffirmation of ANSI/ANS-6.3.1-1987 (R2007), "**Program for Testing Radiation Shields in Light Water Reactors (LWR).**" A revision is anticipated and the standard needs a new PINS form.
6. Dick Faw has asked to step down as chair of the **ANS-6.4** and **ANS-6.4.2** standards. ANS-6.4 is on "**Nuclear Analysis and Design of Concrete Radiation Shielding in Nuclear Power Plants**" and 6.4.2 is on "**Specification of Radiation Shielding Materials.**" Both standards were updated in 2006 and will be needing review for change or reaffirmation in 2011. Dick did yeoman duty in bringing these important standards into the 21st century. **Bill Hopkins is seeking a chair for these standards.** Contact him at wchopkins@insightbb.com.

Radiation Protection and Shielding Division Student Executive Update

Shaheen Azim Dewji

In Retrospect: 2010 ANS Student Conference - University of Michigan

The involvement of the Radiation Protection and Shielding Division in student activities has been stirring this past year, heralded by the success of the 2010 ANS Student Conference at the University of Michigan. The conference was a record success with 665 attendees! Papers were submitted to 22 tracks, with various professional divisions involved. Papers were presented and awarded in 16 tracks. RPSD dedicated \$2000 towards supporting the student conference, contributing to awards for best papers, in addition to 100% travel reimbursement for student participants. The best paper in the Radiation Protection and Shielding track was awarded to Kellen Thuo of Oregon State University, for the paper entitled, "Evaluation of Skin Dose using Gafchromic EBT Film".

Looking Ahead: 2011 ANS Student Conference – Georgia Institute of Technology

The upcoming 2011 ANS Student Conference will be hosted by the Georgia Institute of Technology Student Section of the American Nuclear Society during April 14-17, 2011 at Hyatt Regency Atlanta. The conference is an ideal occasion for students to interact with professionals, hear world-class speakers, network with recruiters, and gain real-world perspectives. Student and professional participation in the conferences has surged in recent years as the nuclear industry continues to experience its renaissance.

RPSD has supported the 2011 ANS Student Conference with an amount of \$2,500, placing us in the "Meitnerium" sponsorship level. Be sure to look for our booth at the student conference! For more information, please visit the student conference website at <http://gtans.org> or contact ans2011@gtans.org.

RPSD Student Participation at the ANS National Level

The Radiation Protection and Shielding Division continues to foster student development at the National ANS Meeting level by awarding their student members who contribute to RPSD sessions.

Students will be eligible for the award if they meet all conditions listed below:

- ✓ The student is an RPSD student member (this can be done when you apply/renew National ANS Membership).
- ✓ The student submits his/her summary to an RPSD session for an ANS National Meeting and the summary is accepted.
- ✓ The student is the primary author of the summary.
- ✓ The student presents the summary at the ANS National Meeting.

The award is up to \$100 per qualifying student, and will be awarded to multiple students if there is more than one student that meets the conditions listed above.

Watch for paper submission deadlines and encourage students to contribute to RPSD sessions!

2010 RPSD Election Results

Chair: Charlotta E. Sanders
Vice-Chair/Chair Elect: F. Arzu Alpan
Secretary: Erik F. Shores
Treasurer: Scott W. Mosher
Executive Committee:
Glenn E. Sjoden
Martin R. Williamson
Pedro Vaz (International member)
Shaheen A. Dewji (Student member)

Congratulations, and thank you for serving on RPSD!

Attention RPSD members!

The nominating committee is looking for RPSD members to serve on the executive committee. If you are an eager beaver or know someone who would like to get further involved in our exciting division, please contact Robert Hayes at robert.hayes@wipp.ws.

2010-2011 RPSD Officers and Committees

Officers:

Chair: Charlotta E. Sanders, Westinghouse Electric Company/UNLV, sander59@unlv.nevada.edu
Vice Chair: F. Arzu Alpan, Westinghouse Electric Company, alpanfa@westinghouse.com
Secretary: Erik F. Shores, LANL, eshores@lanl.gov
Treasurer: Scott W. Mosher, ORNL, moshersw@ornl.gov

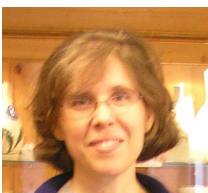
Executive Committee: (year term expires)

Richard S. Amato (2011), padamato@comcast.net
John D. Court (2011), OSD, David.Court@osd.mil
Shaheen Dewji (2011), Georgia Tech, shaheen.dewji@gatech.edu
Wayne Newhauser (2012), Univ. of Texas M.D. Anderson Cancer Center, wnewhauser@mdanderson.org
Robert Singleterry (2012), NASA, robert.c.singleterry@nasa.gov
Glenn E. Sjoden (2013), UF, sjoden@ufl.edu
Michelle Sutton Ferenci (2011), Penn State, michelle.sutton@mindspring.com
Pedro Vaz (2011), ITN, pedrovaz@itn.pt
Martin R. Williamson (2013), Y-12, mwillia3@utk.edu

Standing and Special Committee Chairs:

Program: Eric Burgett, ISU, burgeric@isu.edu
Membership: Arzu Alpan, Westinghouse Electric Company, alpanfa@westinghouse.com
WWW Site & Bylaws: Erik F. Shores, LANL, eshores@lanl.gov
Honors and Awards: John D. Court, OSD, David.Court@osd.mil
Scholarship: John Poston, TAMU, j-poston@tamu.edu
Benchmarks: Richard S. Amato, BAPL, retired, padamato@comcast.net
Standards: Bill Hopkins, Bechtel, retired, wchopkins@insightbb.com
ANS Board Liaison: Joe F. Colvin
Staff Liaison: Sharon S. Kerrick
Ex-Officio: Robert Hayes

Message from the Editor



The RPSD newsletter is issued twice a year, in spring and fall, by the RPSD Vice-Chair/Chair Elect. RPSD newsletters are available at: <http://rpsd.ans.org/news/news.html>.

If you have any comments on the RPSD newsletter, or would like to contribute articles for the upcoming newsletter in spring 2011, please e-mail the current editor, Arzu Alpan at alpanfa@westinghouse.com.