



Message from the Chair

By Jeff Bradfute

The Reactor Physics Division continues to be one of the strongest technical divisions in ANS as determined by various measures, including excellent national meeting participation, well attended and organized topical meetings, a very active standards program, a high profile award program, and a highly-sought-after scholarship. These strengths position RPD well to continue, and possibly increase, its support and contributions to the field as the nuclear renaissance continues.

I would like to recognize the work of our outgoing Technical Program Chair, Dr. Bojan Petrovic. Bojan worked very hard during his two and half year tenure to support standing, as well as special sessions, on topics of current interest to the reactor physics community. I would also like to welcome Dr. Fausto Franceschini as the incoming Technical Program Chair. I'm confident the high quality of our technical sessions will continue under Fausto's leadership. Both Bojan and Fausto provide program committee reports in this newsletter.

Included in this newsletter is a summary by Ivan Maldonado on the very successful Advances in Nuclear Fuel Management (ANFM-IV) conference that took place in April in Hilton Head, SC. Also included is an update on PHYSOR 2010 preparations by Vefa Kucukboyaci.

For those attending the summer ANS meeting coming up June 14 - 18, I invite you to attend the governance meetings on Sunday afternoon to contribute to the discussion of the future of our division. I welcome any comments or suggestions. Please feel free to e-mail or call me to discuss your ideas.

Program Committee News

ANS 2008 Winter Meeting, Reno, NV

By Bojan Petrovic

The 2008 Winter Meeting was held in Reno, NV, November 9-13, 2008. A total of 38 papers were presented in 7 sessions. In addition to our three standing topics (Reactor Physics General – 7 papers, Reactor Analysis Methods – 14 papers in 2 sessions, and Reactor Physics Design, Validation and Operating Experience – 7 papers), two special sessions were organized (Use of Coupled 3D Transport Theory and Depletion Methods in Reactor Physics, organizer Mark DeHart – 4 papers; BWR Stability, organizer Albert Gu – 6 papers), and one panel (International Collaboration in Reactor Physics and Engineering Technology Education, organizers: Pavel Tsvetkov and Ivan Maldonado).

Best Paper Award (ANS 2008 Winter Meeting)

By Bojan Petrovic

Based on the scores provided during the paper review process, selection was narrowed down to three papers to be considered for the RPD Best Paper Award at the ANS 2008 Winter Meeting. A panel of judges attended the presentations, and selected the paper entitled "Thermal Feedback Transient Analysis of a Pebble Fuel Based on the Two-Temperature Homogenized Model," by Nam Zin Cho, Hui Yu, and Jong Woon Kim (KAIST). Congratulations to the authors and appreciation to the judges!

ANS 2009 Annual Meeting, Atlanta, GA

By Fausto Franceschini

Please plan to attend the upcoming ANS 2009 Annual Meeting in Atlanta (June 14-18), and RPD sessions in particular. We have a total of 42 papers in 5 sessions: a favorable response overall and even more so in light of two "competing"

meetings scheduled in April and May (ANFM IV and M&C 2009). In addition to our standing sessions (Reactor Physics General – 6 papers, Reactor Analysis Methods – 9 papers in 2 sessions, and Reactor Physics Design, Validation and Operating Experience – 6 papers), we will have two special sessions, Advances in Small and Medium Sized Reactor Designs (organizers Youssef Shatilla and Pavel Hejzlar – 16 papers in 3 sessions and a great success for a topic of strong interest), and Recent Progress and Applications of Resonance Calculation Methods (organizer: Akio Yamamoto – 5 papers). Thanks and congratulations to the session organizers for their brilliant work.

ANS 2009 Winter Meeting, Washington, DC

By Fausto Franceschini

Get ready! Submission of summaries will be possible starting May 1, with a deadline of June 12. There will be a number of RPD sessions that you may consider submitting to, including our standing sessions (Reactor Physics General, Reactor Analysis Methods, and Reactor Physics Design, Validation and Operating Experience) and special sessions (Fuel Isotopic Benchmarks and Applications to Code Validation, Advanced Burnable Poison Designs and Analysis Methods, Validation of Advanced Depletion Approaches for High-Temperature Gas-Cooled Reactor Fuel Designs, plus the panel Experiences with International Collaborations in Nuclear Engineering Research and Educational Exchanges). Reviewers will be needed as well (and greatly appreciated). If you would like to be added to the RPD list of reviewers please send your request to Fausto Franceschini at: FranceF@westinghouse.com.

Special Sessions at Upcoming ANS Meetings

By Fausto Franceschini

Please consider organizing a special session or panel at one of the upcoming ANS meetings, such as the 2010 ANS Annual Meeting in San Diego. Timely special sessions and panels on topics of interest to academia and industry, with good quality contributions, have kept RPD one of the most active and relevant divisions.

Participation in Program Committee Activities

By Fausto Franceschini

The success of our division is due to active involvement of its members. We would like to encourage you to continue to contribute by submitting technical papers, organizing special sessions, reviewing papers, chairing sessions, and as members of the Program Committee and RPD governance in general.

Advances in Nuclear Fuel Management (ANFM-IV) Conference – Hilton Head Island, SC, April 12 – 15, 2009

By Ivan Maldonado, ANFM-IV TPC Co-Chair



The ANFM-IV conference was once again a resounding success in large part to the strong support from within the RPD leadership provided to the organization and technical committee. The photo included shows the “relieved” TPC Co-Chairs; Ivan Maldonado and Atul Karve alongside Dave Kropaczek (Past ANFM-IV Chair and Advisor, and former RPD Chair). In particular, we highlight and recognize the monumental support provided by our current RPD Chair, Jeff Bradfute, who served as the Arrangements Chair, but in practice helped this meeting be successful on many fronts. Thank you, Jeff!

The meeting led off with enlightening and entertaining plenary sessions provided by Kurt Edsinger (EPRI), Paul Turinsky (NC State), Kord Smith (Studsvik), and Jim Malone (Exelon). The included “program-at-a-glance” helps us recognize the many session organizers and chairs who supported this conference, while it also provides an excellent overview of the 28 technical sessions covered in 4 parallel tracks over 3 days, which included; 112 papers, 3 technical panels (“World Perspective on Nuclear Fuel Management Needs,” “Adequacy of Methods for Nuclear Fuel Management,” “Zero by Ten – Zero Fuel Leakers by 2010”), and a workshop on the SCALE Lattice

Physics organized and provided by Mark DeHart and Steve Bowman from ORNL.

All in all, the meeting attracted more than 200 registered participants and their guests and the most common congratulatory remark was: “why

do you folks not have this meeting more often?!” The finances of this meeting were equally successful with solid profits expected to go toward the local and national ANS sponsoring sections and divisions, including RPD.

SUNDAY					
10:00 - 3:30 PM	Golf Outing (Sponsored by South Carolina Electric & Gas)				
3:00 - 6:30 PM	Registration				
6:00 - 8:00 PM	Welcome Reception - Courtyard (Sponsored by AREVA)				
MONDAY		Promenade 2	Promenade 3	Promenade 4	Promenade 6
6:30 AM - 4:00 PM	Registration - Admiral's Landing				
7:00 - 8:00 AM	Speaker's Breakfast (Continental) - Promenade 5 Porch				
8:00 - 09:40 AM	Guest Tour of Historic Beaufort, SC				
9:40 - 10:30 AM	Opening Session - Commodore Hall				
10:00 - 12:05 PM	Innovative Core Loading Strategies and Methods Chair: Juan-Luis François	High Enrichment >5wt% UO ₂ Studies Chairs: Masatoshi Yamasaki, Dale Lancaster	Validation of Core Analysis Tools for Fuel Management I Chair: Scott Palmitag	Management, Design, and Operation Issues of Advanced Reactor Fuels Chair: Ed Pilat	
12:05 - 04:00 PM	Break				
4:00 - 06:55 PM	PANEL Discussion - "World Perspective On Nuclear Fuel Management Needs" Chair: John Sifers	Automated and Interactive Fuel Management Design and Optimization Tools I Chair: Robb Borland	Fuel Cycle Core Design for Advanced Reactor Concepts Chair: Brian Moore	Simulation and Study of Advanced Nuclear Fuel Cycles. Chair: Mehdi Asgari	
7:30 - 19:00 PM	Theme Dinner - The Shorehouse (Sponsored by Studsvik)				
TUESDAY		Promenade 2	Promenade 3	Promenade 4	Promenade 6
7:00 AM - 4:00 PM	Registration - Admiral's Landing				
7:00 - 8:00 AM	Speaker's Breakfast (Continental) - Promenade 5 Porch				
8:00 - 09:40 AM	PANEL Discussion - "Adequacy of Methods for Nuclear Fuel Management" Chair: Dmitry Paramonov	Addressing Practical Design Constraints On Fuel Management Chair: Art Digiovine		Generation-IV Design Concepts Chair: Michael Todosev	Advanced Fuel Assembly and Burnable Absorber Designs Chair: Mark DeHart
9:40 - 10:30 AM	Coffee Break (Sponsored by Nuclear Safety Associates)				
10:00 - 12:05 PM	Generation of Cross Section Libraries and Whole Core Transport Calculations Chair: Joel Rhodes	Model Comparisons Against Measured Reactor Power Data Chair: Steve Bowman		Validation of Core Analysis Tools for Fuel Management II Chair: Bob St.Clair	Experiences and Advances In On-Line Core Monitoring Chair: Geoffrey G Pihl
12:05 - 04:00 PM	Break				
4:00 - 06:55 PM	PANEL Discussion - "Zero By Ten - Zero fuel leakers by 2010" Chair: John Schardt	Automated and Interactive Fuel Management Design and Optimization Tools II Chair: Robb Borland	Fuel and Core Design Based On Thorium Cycles Chairs: Peter Boczar, Juan-Luis François	Nodal and Lattice Physics Methods Chairs: Akio Yamamoto, Brian Moore	
7:00 - 07:30 PM	Cocktails - Admiral's Landing				
7:30 - 19:00 PM	Banquet - Commodore Hall (Sponsored by Westinghouse)				
WEDNESDAY		Promenade 2	Promenade 3	Promenade 4	Promenade 6
7:00 - 8:00 AM	Registration- Admiral's Landing				
7:00 - 8:00 AM	Speaker's Breakfast (Continental) - Promenade 5 Porch				
8:00 - 09:40 AM	MOX Utilization in Reactors Chairs: Andrew Worrall, Ron Ellis	Research Reactor Topics -- Fuel Management Practices Chair: Trent Primm		Extended Fuel Cycles and Economic Analysis Chair: Ed Pulver	Utilization of Zero Power Physics Tests and Core Follow Data to Enhance Core Simulation Fidelity Chair: Alain Santamarina
9:40 - 10:30 AM	Coffee Break (Sponsored by NETZSCH Instruments)				
10:00 - 12:05 PM	Advances in Reactor Stability Chair: Jeff Borkowski	Monte Carlo based Depletion and Full Core Analysis: New Developments and Issues Chair: Bojan Petrovic		Nuclear Data Needs to Enhance Core Simulation Fidelity Chair: Russ Mosteller	
12:05 - 1:00 PM	Break				
1:00 - 2:40 PM				Scale Lattice Physics Workshop Chair: Mark DeHart	
2:40 - 3:00 PM	Coffee Break (Sponsored by EPRI)				
3:00 - 5:00 PM				Scale Lattice Physics Workshop Continued	
5:00 PM	Meeting Adjourned				

ANFM-IV Program At-A-Glance

PHYSOR 2010 “Advances in Reactor Physics to Power the Nuclear Renaissance” – Pittsburgh, PA May 9 – 14, 2010

By Vefa N. Kucukboyaci, Organizing Committee

The next PHYSOR Topical Meeting will be held in Pittsburgh the week of May 9-14, 2010. In light of the nuclear renaissance, PHYSOR 2010 aims to provide a platform for international experts to exchange ideas and latest developments in reactor physics and related nuclear technologies. This conference is sponsored by the American Nuclear Society (ANS) Reactor Physics Division and co-sponsored by the ANS Mathematics and

Computation Division and the American Society of Mechanical Engineers (ASME).

'Call for Papers' for PHYSOR 2010 will be distributed via e-mail in April and advertised in an upcoming Issue of Nuclear News. Opening for paper submissions is planned for September 1, 2009. Note that authors will be required to submit Full Papers; abstracts and summaries will not be accepted for submission.

Important deadlines for the conference are:
September 2009, full papers submission opens;
 December 2009, notification of acceptance;
 February 2010, final paper deadline;
 March 2010, early registration deadline.

If you would like to be part of the reviewer committee, or would like to contribute to the technical program, please contact us at info@physor2010.org or visit the conference web site (<http://physor2010.org>) where updated information on the conference and the technical program is posted.

RPD Financial Report

By Ivan Maldonado, RPD Treasurer

The Reactor Physics Division continues to enjoy a healthy balance sheet this year, with an obvious focus upon primarily supporting students. As the enclosed table shows, our end of year balance sheet in 2008 was \$28,493. As in the past, this is the result of continued low operating expenses for RPD, excellent participation in ANS national meetings by RPD members and the associated support provided from ANS Headquarters, a self-sustaining scholarship fund and, a growing membership and associated allocation.

Reactor Physics Division Budget (2008)	TWELVE MONTHS ACTUAL 2008
CURRENT YEAR MEMBER ALLOCATION	3434
CARRY FORWARD, PRIOR YEAR	29059
DIVISION INCOME /OTHER	0
TOTAL BUDGET FUNDS	32493
BUDGET EXPENSES	
NEWSLETTERS	0
AWARDS, PLAQUES	0
NATIONAL MEETING COSTS	0
DIVISION OFFICER EXPENSE	0
STUDENT SUPPORT	4000
SCHOLARSHIP/NEED FUNDING	0
OTHER EXPENSES	0
TOTAL EXPENSES	4000
EXCESS (DEFICIENCY) OF BUDGET FUNDS OVER EXPENSE	28493

2008 - 2009 REACTOR PHYSICS DIVISION OFFICERS		
INCOMING CHAIR	VICE CHAIR/CHAIR ELECT	
Mr. Jeffrey L. Bradfute, P.E. Westinghouse Electric Company Nuclear Fuel Business Unit 5801 Bluff Road Columbia, SC 29250 Telephone: 803-647-2080 Fax: 803-695-3971 E-Mail: bradfujl@westinghouse.com	Mr. Robert R. St. Clair Duke Energy PO Box 1006 Mail Code EC08G Charlotte, NC 28201-1006 Telephone: 704-382-6820 Fax: 704-382-7852 E-Mail: brstclair@duke-energy.com	
TREASURER	SECRETARY	
Dr. G. Ivan Maldonado University of Tennessee 311 Pasqua Engineering Knoxville, TN 37996-2300 Telephone: 865-974-7562 Fax: 865-974-0668 E-Mail: ivan.maldonado@utk.edu	Dr. Benoit Forget Massachusetts Institute of Technology 77 Massachusetts Ave, Room 24-214 Cambridge, MA 02139 Telephone: 617-253-1655 E-Mail: bforget@mit.edu	
EXECUTIVE COMMITTEE		
2009	2010	2011
Dr. Kenneth S. Kozier Atomic Energy of Canada Ltd Chalk River Laboratories Stn. E3 Chalk River Ontario K0J 1J0, CANADA Telephone: 613-584-881x5059 E-Mail: kozierk@aecl.ca	Mr. Paul G. Edelmann, P. E. 545 Navajo Road Los Alamos, NM 87544-2625 Telephone: 505-667-2938 Fax: 505-665-2897 E-Mail: edelmann@lanl.gov	Dr. Germina Ilias Oak Ridge National Laboratory PO Box 2008 MS 6172 Oak Ridge, TN 37831-6172 Telephone: 865-241-4672 E-Mail: iliasg@ornl.gov
Dr. Michael Todosow Brookhaven National Lab. Bldg. 475B 12 S. Upton Road PO Box 5000 Upton, NY 11973-5000 Telephone: 631-344-2445 Fax: 631-344-7650 E-Mail: todosowm@bnl.gov	Mr. Simone Santandrea 143 Avenue du General Leclerc 78220 Viroflay, FRANCE Telephone: 003301308178 Fax: 003301163089630 E-Mail: simone.santandrea@cea.fr	Dr. Eleodor M. Nichita University of Ontario Inst. of Tech Schl of Energy Systems and Nucl. Sci. 2000 Simcoe Street North Oshawa, Ontario L1H 7K4, CANADA Telephone: 905-721-8668x2968 Fax: 905-721-3046 E-Mail: eleodor.nichita@uoit.ca
Dr. Pavel Hejzlar Massachusetts Inst. of Tech. 77 Massachusetts Ave Bldg. 24 Rm. 215 Cambridge, MA 02139 Telephone: 481-777-1732 Fax: 617-258-8863	Mr. Keith J. Drudy Westinghouse Electric Company Nuclear Fuel Business Unit P.O Box 355 Pittsburgh, PA 15230-0355 Telephone: 412-374-5841 Fax: 412-374-2284 E-Mail: drudyk@westinghouse.com	Dr. Ronald J. Ellis 1153 Oak Haven Rd. Knoxville, TN 37932 Telephone: 865-574-6107 Fax: 865-574-9619 E-Mail: ellisrj@ornl.gov
	Dr. Kostadin N. Ivanov Penn State University 206 Reber Building State College, PA 16803-3453 Telephone: 814-865-0040 Fax: 814-865-8499 E-Mail: Kni1@psu.edu	
PROGRAM	STANDARDS/HONORS&AWARDS	SCHOLARSHIP/GOALS&MEMBERSHIP
Dr. Bojan Petrovic Georgia Institute of Technology G.W. Woodruff School Nuclear & Radiological Engineering Atlanta, GA 30332-0405 Telephone: 404-894-8173 Fax: 404-894-8496 E-Mail: bojan.petrovic@gatech.edu	Dr. Dimitrios Cokinos Brookhaven National Laboratory Building 130 Upton, NY 11973-5000 Telephone: 516-344-2146 Fax: 516-344-3957 E-Mail: cokinos@bnl.gov	Dr. Jess Gehin Oak Ridge National Laboratory 2218 Brighton Farms Blvd. Knoxville, TN 37932-1400 Telephone: 865-576-5093 Fax: 865-574-9619 E-Mail: gehinj@ornl.gov
IMMEDIATE PAST CHAIR	PAST-PAST CHAIR	
Dr. Farzad Rahnama Naz Consulting LLC 8640 Sentinae Chase Dr Roswell, GA 30076-4468 Telephone: 404-451-4686 Fax: 770-557-5211 E-Mail: farzad@nazconsulting.com	Dr. Benjamin Rouben Atomic Energy of Canada, Limited Sheridan Science and Technology Park Mississauga, Ontario CANADA Telephone: 905-823-9060 Fax: 905-822-0567 E-Mail: roubenb@aecl.ca	

**ANS Reactor Physics Division Program Committee
(Updated for Annual Meeting 2009, Atlanta, GA)**

Chair

Dr. Fausto Franceschini,
Westinghouse Electric Co.
Science and Technology Dept.
Pittsburgh PA 15235-5083
Phone: +1-412-374-4461
Fax: +1-412-256-2444
Email: FranceF@westinghouse.com

Alternate

TBD

2006/2009	2007/2010	2008/2011
<p>Mark D. DeHart, Ph.D. Reactor Analysis Group, Nuclear Science and Technology Division Oak Ridge National Laboratory Phone: (865) 576-3468 Fax: (865) E-mail : dehartmd@ornl.gov</p>	<p>Dr. Fausto Franceschini, Senior Engineer Westinghouse Electric Company, LLC Science and Technology Department 1344 Beulah Road Pittsburgh, PA 15235-5083 Phone: (412) 374-4461, (412) 256-1250 Fax: (412) 256-2444 Email: FranceF@westinghouse.com</p>	<p>Dr. Benoit Forget, Assistant Professor Massachusetts Institute of Technology 77 Massachusetts Ave. Room 24-214 Cambridge, MA 02139 Phone: (617) 253-1655 Email: bforget@mit.edu</p>
<p>Dr. Young S. Ham Lawrence Livermore National Lab Chemical Biology & Nuclear Science P.O. Box 808, L-235 Livermore, CA 94551 Phone: (925) 423-2474 Fax: (925) 422-3570 Email: ham4@LLNL.GOV</p>	<p>Ugur Mertuyrek Global Nuclear Fuel P.O. Box 780, M/C F12 Wilmington, NC 28402 Phone: Fax: Email: ugur.mertuyrek@gnf.com</p>	<p>Dr. Hansem Joo, Fellow Engineer Bettis Atomic Power Laboratory Reactor Technology PO Box 79 West Mifflin, PA 15122-0079 Phone: (412) 476-5242 Fax: (412)476-6305 Email: joch@bettis.gov</p>
<p>Dr. Albert G. Gu AREVA NP Inc 2101 Horn Rapids Rd. Richland, WA 99352 Phone: (509) 375-8509 Fax: (509) 375-8402 Email: Albert.Gu@areva.com</p>	<p>Andrew H. Nicholson Lead Nuclear Core Designer Nuclear Analysis and Fuel Department Dominion 5000 Dominion Blvd Glen Allen, VA 23060 Phone: (804) 273-2261 Fax: Email: Andrew.Nicholson@dom.com</p>	<p>Dr. Deokjung Lee Studs vik Scandpower, Inc. 504 Shoup Avenue, Suite 201 Idaho Falls, ID 83402 Phone: (208) 522 9854 Email: Deokjung.Lee@studsvikscandpower.com</p>
<p>Szelim Kong Bechtel Bettis, Inc. Bettis Atomic Power Laboratory PO Box 79 West Mifflin, PA 15122-0079 Phone: (412) 476-5945 Fax: Email: szelim@comcast.net</p>	<p>David W. Nigg, D.Eng. PE Manager, Reactor and Nuclear Physics Idaho National Laboratory P.O. Box 1626, MS 3860 Idaho Falls, Idaho, 83415-3860 Phone: (208) 526-7627 Fax: (208) 526-2930 Email: David.Nigg@inl.gov</p>	<p>Dr. Mohamed Ouissloumen Westinghouse Electric Company Nuclear Fuel Business Unit P.O. Box 355 Pittsburgh, PA 15230-0355 Phone: (412) 374-5841 Fax: (412) 374-2284 Email: ouisslom@westinghouse.com</p>
<p>Dr. Ronald J. Ellis Nuclear Science and Technology Div Oak Ridge National Laboratory P.O. Box 2008, 1 Bethel Valley Road Oak Ridge, TN 37831-6172 Phone: (865)574-6107 Fax: (865)574-9619 Email: ellisrj@ornl.gov</p>	<p>Dr. Pavel V. Tsvetkov, Assistant Professor Texas A&M University Department of Nuclear Engineering 129 Zachry Engineering Center 3133 TAMU College Station, TX, 77843-3133 Phone: (979) 845-7078 Fax: (979) 845-6443 Email: tsvetkov@tamu.edu</p>	<p>Prof. Dubravko Pevec University of Zagreb Department of Applied Physics Unska 3 10000 Zagreb, Croatia Phone : +385-1-6129-667 Fax : +385-1-6129-605 Email: Dubravko.Pevec@fer.hr</p>
<p>Dr. Michael Scott McKinley Defense and Nuclear Technologies Lawrence Livermore National Lab L-95 LLNL, 7000 East Ave. Livermore, CA 94551 Phone: (925) 424-2738 Fax: (925) 424-6163 Email: mckinley9@llnl.gov</p>	<p>Dr. Akio Yamamoto, Associate Professor Department of Material, Physics and Energy Engineering Graduate School of Engineering, Nagoya University Furo-cho, Chikusa-ku, Nagoya-shi, 464-8603, Japan Phone: +81-52-789-5121 Fax: +81-52-789-3608 Email: a-yamamoto@nucl.nagoya-u.ac.jp</p>	<p>Dr. Zhaopeng Zhong Argonne National Laboratory 9700 South Cass Ave. Argonne, IL 60439-4814 Email: zzhong@anl.gov</p>