



AMERICAN NUCLEAR SOCIETY REACTOR PHYSICS DIVISION



Message from the Chair

By Jess Gehin

Over the past year the momentum in nuclear energy has continued to increase in areas directly involving our Division's membership. On the commercial power side, plants are continuing to apply for power uprates and lifetime extensions and announcements regarding progress towards new plants now appear regularly. The NEI reports 15 companies or consortia that have proposed new plants of the AP1000, ESBWR, and EPR designs, with anticipated dates for licensing applications in 2007 and 2008. This level of activity bodes well for the future of nuclear power in the United States. With this level of activity by utilities and reactor vendors, the Nuclear Regulatory Commission is also working to meet the demand of this drive for uprates and plant life extensions, as well as the increased regulatory activity related to the new Construction/Operating License approach. In addition, the Energy Policy Act of 2005 has provisions to support future nuclear power development to help meet our growing energy needs and desire to be more energy self-sufficient.

Earlier this year, the Department of Energy announced a significant new program called the Global Nuclear Energy Partnership (GNEP). The purpose of this program is to lead technology development for the expansion of nuclear energy while addressing issues related to proliferation risk and waste. The key elements of the program are the development of advanced burner reactors and the development of proliferation-resistant recycling processes. More information is available at <http://www.gnep.energy.gov/> and I encourage you to visit this website to learn more about the program as it may represent a major change in the direction of technology development in the United States. This program will provide opportunities for industry, national laboratories, and universities.

Of course, both commercial power and technology development involve a coordination of activities on an international scale. We are

participation in our division activities and we need to continue to foster strong relationships. One such opportunity is the upcoming PHYSOR 2006 Reactor Physics Topical Meeting in Vancouver, Canada, in September and I strongly encourage you all to make plans to attend this important meeting.

Winter Meeting 2005

By G. Ivan Maldonado/Scott Thomas

The Winter Meeting of 2005 in Washington, DC, was yet again another successful endeavor for our division. The total count of papers in the RPD sessions was 45 after 2 rejections and 1 withdrawal. The papers were spread out over 7 sessions, including an extremely successful special session organized by T.K. Kim of Argonne National Laboratory on "Advances in Reactor Physics Analysis and Design for High Temperature Reactors," which populated 3 sessions.

Also, we successfully carried out our second "Wigner Lecture Series" session, whereby during the Winter Meeting, we recognize that year's winner of the Eugene P. Wigner award in Reactor Physics. This year we had the honor to recognize Dr. Max Salvatores (ANL and CEA-Cadarache) with this award, and so he led our lecture series with his paper titled: "The Interplay of Theory and Experiments in Reactor Physics."

During the RPD technical program committee meeting in Washington, our program and executive committees participated in a very exciting and lively activity. We faced the task of selecting between two excellent bids to host the PHYSOR 2008 meeting, due to be an international meeting that year. The "face-off" was between Spain and Switzerland, whereby the Spanish bid was led by Prof. José Aragonés and Prof. Carolina Ahnert from the Department of Nuclear Engineering of the Polytechnic University of Madrid, and the Swiss bid was led by Kostantin Foskolos (Paul Scherrer Institute) and Prof. Rakesh Chawla (Ecole Polytechnique

Fédérale de Lausanne & PSI). Following the committees' discussion and deliberations a split vote awarded the bid to Switzerland. Therefore, PHYSOR 2008 will be held at Interlaken, Switzerland. Since then, official ANS Calendar Placement has been secured for September 14-19, 2008 (mark your calendars!).

Coincidentally, various representatives of PSI and EPFL were awarded the "Best Paper" by the ANS Reactor Physics Division at the Winter Meeting for their contribution titled: "Within-Pin ^{238}U -Capture Distributions: CASMO-4 and MCNP vs. Activation Foil Measurements," by K. Macku, F. Jatuff, M. Murphy, P. Grimm, O.P. Joneja and R. Chawla. The selection of the best RPD paper is the result of a three-stage scoring and judging approach, in which the scores provided during the paper review (5 months prior to the meeting) are used to select a handful of papers for an intermediate review. Subsequently, the top selections are evaluated by judges who attend the presentations. This meeting's best paper process was led by Scott Thomas of Duke Power, and the runner-up paper was "Investigation of Increased HEU Loading on the Fuel Cycle of the High Flux Isotope Reactor," by N. Xoubi, R.T. Primm, and G. I. Maldonado (ORNL and University of Cincinnati).

June 2006 Annual Meeting

By G. Ivan Maldonado/Scott Thomas

The Annual Meeting in Reno, NV, will be held in June 4-8, 2006. The abstract contributions to RPD included 32 papers, which is actually very good in light of the fact that PHYSOR 2006 (Vancouver) attracted roughly 430 reduced-length papers within an overlapping submission time window. This shows that the RPD members have shown global support of both meetings.

Scott Thomas and Ivan Maldonado both attended the semiannual paper auction at ANS Headquarters in Chicago (Feb. 6-7, 2006) during which the paper review is finalized, sessions/Chairs established, rooms auctioned and the NPC meets. With regard to the Reno paper review, out of the 32 papers submitted 7 were accepted (22%), 17 were accepted with revision

(47%), 9 were rejected unless revised (28%), and 1 paper was withdrawn (3%). In order to utilize the available meeting space more optimally, we consolidated the papers into 4 paper sessions and 1 panel discussion for this meeting. We will have one special session organized by Mark DeHart (ORNL) on "Student/Professional Collaborations in Reactor Physics" and an organized panel session being assembled by Bob St. Clair (Duke Power) which will focus on current issues and problems in reactor physics associated with reactor engineering and core designs; including such issues as planning power maneuvers, precluding fuel clad failures, and power suppression strategies.

PHYSOR-2006 Update

By Ben Rouben, RPD Vice-Chair

PHYSOR-2006 will be held September 10-14 in Vancouver, British Columbia, Canada. The theme is "Advances in Nuclear Analysis and Simulation". At the time of this writing, the Conference is less than 5 months away, and the organization is advancing well.

You will love Vancouver, a spectacular, cosmopolitan city, multi-cultural crossroads midway between Western Europe and Asia, with world-famous natural attributes and scenic beauty.

The PHYSOR-2006 website is at <http://www.cns-snc.ca/physor2006>. There is a link to it on the RPD website, which has:

- The Call for Papers
- A link to the Hyatt Regency Vancouver, the Conference hotel, with info on the hotel and a special site for booking your room
- A Link to Tourism Vancouver
- A map of the route from Vancouver Airport to the Hotel, with directions
- Links to other Vancouver hotels
- Link to Conference Travel Agency (Uniglobe Advance Travel)
- Lists of Co-Sponsoring Societies and Financial Co-Sponsors
- Instructions and template for drafting your paper
- Link for paper submittal
- Link to on-line registration.

RPD Honors and Awards

By Dimitri Cokinos

The RPD Honors and Awards Committee has selected Massimo Salvatores, Commissariat à l'Énergie Atomique (CEA, France), as the 2005 winner of the prestigious Eugene P. Wigner Reactor Physicist Award. Dr. Salvatores has distinguished himself over a period of more than forty years for his sustained technical excellence in reactor physics and inspired leadership in the advancement of the state of the art in fast reactors and for leadership in the advancement of source driven fast neutron spectrum concepts for sustainable, ecologically-sound energy supply. Dr. Salvatores was presented the Wigner plaque at the ANS Honors and Awards luncheon on November 15, 2005 in Washington, following which he delivered the newly established Wigner Lecture before a large audience.

The Wigner award was established in 1990 by the Reactor Physics Division to honor reactor physicists who have made outstanding contributions to the advancement of the field of reactor physics. The first Wigner award was presented to Dr. Wigner. Past winners have included, A.M. Weinberg, J. Horowitz, R.L. Murray, A.F. Henry and E. Gelbard. The award is open to highly qualified individuals from any nation. Nominees need not be ANS members. Deadline for nominations is April 1. Nomination forms and related information may be obtained from the ANS Headquarters.

Reactor Physics Standards News

By Dimitri Cokinos

Newly revised standards have been completed and it is expected that by the time this newsletter goes into circulation, they will already be published as ANSI/ANS American National standards and will be available for purchase from the ANS Headquarters. They are, ANS-19.3, "Determination of Neutron Reaction Rate Distributions and Reactivity of Nuclear Reactors", ANS-19.6.1, "Reload Startup Physics Tests for Pressurized Water Reactors" and ANS-5.1, "Decay Heat Power in Light Water Reactors". The latter has already been in the market for the past several months. These

standards have been enjoying widespread use both in the U.S and abroad.

Following final revision, proposed standard ANS-19.10, "Fast Neutron Fluence in Pressure Vessels", will be submitted as a draft to ANS-19 for review and balloting.

A newly reconstituted Working Group on proposed standard, ANS-19.9, "Delayed Neutrons", has been formed and work on a draft has begun.

Several papers on reactor physics standards are being submitted for presentation at the PHYSOR 2006 International Reactor Physics Conference to be held in Vancouver, Canada in October 2006.

RPD Financial Report

By Farzad Rahnema, RPD Treasurer

The Reactor Physics Division is in excellent financial health. As of the September of 2005, we had a balance of \$10,401 "in the bank." Our membership allocation from ANS Headquarters for 2005 was \$1,492. We receive \$1 for every ANS member who joins the Division and saw an increase of 35 members from 2004. This was 2.5% more than 2004, 11% more than in 2003, and 22% more than in 2002, so RPD is continuing to experience growth in our membership!

The RPD also continues to make generous contributions to support student activities: \$32,500 has been directed towards the Henry/Greebler Scholarship endowment in just the last five years and \$4,000 is being contributed in 2006 to support students activities (\$1,500 to the Student Conference at RPI, \$500 for student support at the June 2006 Summer meeting in Reno, and \$2000 for student support for PHYSOR 2006). It remains clear that the RPD is meeting its objectives relative to student support. Everyone should be especially proud of our accomplishments in this area.

Reactor Physics Division Website

<http://rpd.ans.org>

Announcements, Bylaws, Charter, Goals, Meeting Minutes, Newsletters

Note from the Editor: This newsletter will be issued twice a year and can be accessed electronically at <http://rpd.ans.org>. Please feel free to send your newsletter items and comments to me, Jeff Bradfute at bradfujl@westinghouse.com

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