

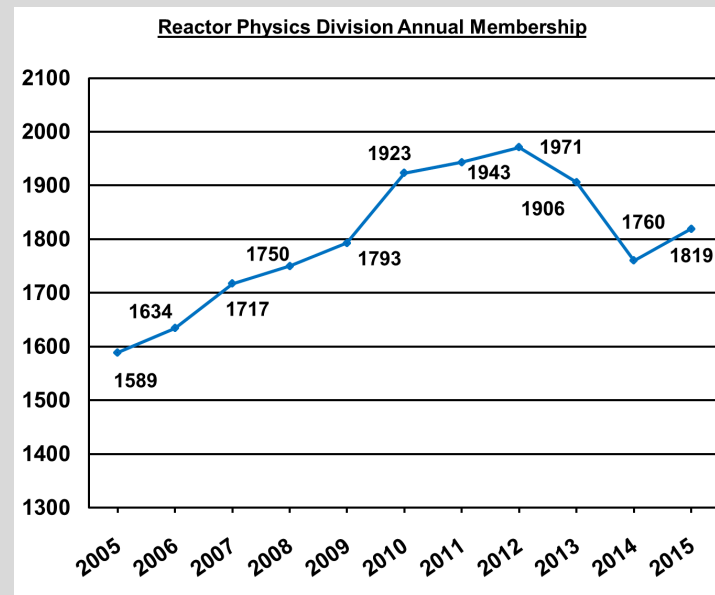
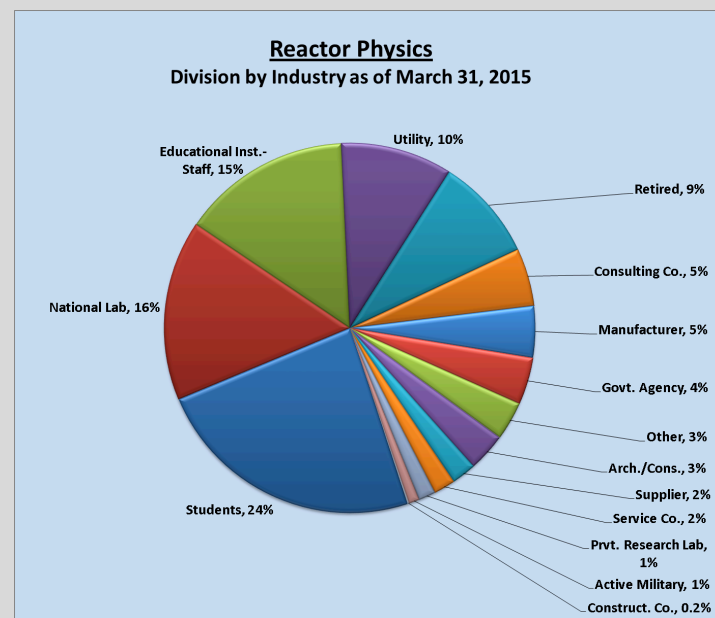


Arzu Alpan
<mailto:alpanfa@westinghouse.com>
Treasurer
2015-2016

Treasurer's Report

The Reactor Physics Division (RPD) budget received revenue from the RPD membership in the amount of \$1,758 as of June 30, 2015. Major expenses in 2015 included student and scholarship support. \$2,500 was provided to the 2015 ANS Student Conference hosted by the Texas A&M University and \$1,000 was provided for student travel aid to the ANS Annual Meeting (June 2015) and ANS Winter Meeting (November 2015). For scholarship support, \$6,000 was disbursed to the Rudi Stamm'ler Reactor Physics Division Scholarship (undergraduate scholarship) and \$5,000 was disbursed to the Michael Lineberry Memorial Scholarship. An additional \$6,500 will be disbursed to the Michael Lineberry Memorial Scholarship in 2016. It is estimated that RPD will have approximately \$30,000 in its budget by the end of 2015.

Please remember to renew your ANS dues by the end of December 2015 in order for your RPD membership to be counted as revenue for the RPD. We look forward to your involvement in the RPD and welcome any suggestions of improvement for the operation of our division.



A Message from the Chair

By Pavel Tsvetkov
<mailto:tsvetkov@tamu.edu>



My dear RPD colleagues, friends, let me begin my message in this newsletter by welcoming everyone to our division.

I view our Division as the one providing a vital nexus between science, mathematics and engineering. Our efforts equally contribute to theory, methods and analysis advancing our understanding of reactors as well as facilitating their further development towards novel designs, both evolutionary and, sometimes, revolutionary. Our reactor physics craft is both experimental and computational trades fused together.

It is an exciting time to be a reactor physicist. We witness and participate in many new developments. Novel ideas emerge calling for further reactor physics exploration in our quest for an ultimate nuclear reactor. Whether you are an experimentalist or simulations expert, you have a role as reactor physicist. Everything today is coupled and integrated. We hope to strive for excellence in our area, recognize accomplishments and support the new forces through our Division awards and scholarships.

We would like to make our efforts noticeable and of value and relevance to every member of our Division and to all ANS divisions. Let's discuss and collaborate! Let's work together! Through our Division meetings, interactions with members, our topical and national meetings organization and participation efforts we strive towards this objective.

Our division leadership team is focusing this year on our strategic and near term goals and plans, upgrading our website and social media presence, and engagement with the Division members. It is of paramount importance for us to make sure

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Your RPD Leadership Team

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- Arzu Alpan – Treasurer
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American Nuclear Society Reactor Physics Division

November 2015
Reactor Physics Division Newsletter

Todd Palmer, Editor

RPD website: <http://rpd.ans.org/>

our seasoned division veterans, senior and mid-career professionals and our new talents feel welcomed and at home here engage and maintain a continuous dialog facilitating the exchange of ideas, honest discussion of contemporary opportunities, collaborations and developments. It is vital to our professional success and the success of ANS.

Details of our efforts are in this newsletter.

Welcome and let's work together,
Pavel Tsvetkov, RPD Chair, 2015/2016

2015 ANS Summer Meeting – Executive Committee Meeting



Program Committee News

By Cristian Rabiti
cristian.rabiti@inl.gov



Outgoing and New Members

We would like to thank the following outgoing members of Technical Program Committee: Robert Petroski (TerraPower), Justin Pounders (Bettis Laboratory), and Baocheng Zang (Westinghouse Electric Co.), Javier Ortensi (Idaho National Laboratory), Tomasz Kozlowski (University of Illinois at Urbana-Champaign), and Imre Pázsit (Chalmers University of Technology). Thanks again for your contribution and we are sure that there will be opportunity of future cooperation with the RPD.

The following members renewed their commitment as part of the Technical Program Committee: Tatjana Jevremovic (University of Utah), Alexander Stanculescu (Idaho National Laboratory) and Germina Ilas (Oak Ridge National Laboratory).

We would like also to welcome the following new members: Andrea Alfonsi (Idaho National Laboratory), Mohamed Abdelhalim ElSawi (Khalifa University of Science), Benjamin S Collins (Oak Ridge National Laboratory), Nicholas R. Brown (Brookhaven National Laboratory), Stephanie Kempf (Bechtel Marine Propulsion Corporation).

The roster of the current membership is included at the end of this newsletter. Finally, my renewed gratitude and appreciation go to the RPD reviewers, session chairs, special session organizers and panel organizers for their enthusiasm, reliability and unwavering effort. They are the foundation of the many accomplishments achieved by our Division.

ANS 2015 Annual Meeting, San Antonio, Texas

The 2015 Annual Meeting was held in San Antonio, Texas (June 7-11, 2015). Fifty-four RPD papers were submitted to the ANS 2015 Annual Meeting, of which 53 were accepted. The accepted submissions were assigned to the three standing RPD sessions "Reactor Physics General I, II, and III" (15 papers), "Reactor Physics Design, Validation, and Operating Experience I and II" (9 papers), and "Reactor Analysis Methods I and II" (12 papers), as well as to three Special Sessions, viz. "Advanced Monte Carlo Methods for Reactor Physics Analysis I, and II", co-sponsored with MCD (9 papers), "Progress in Students Research and Design Projects", co-sponsored with AAD, ANSTD, ETWDD and FED1 (2 papers),

"Small Modular Reactors (SMRs): Reactor Physics and Fuel Cycle", co-sponsored with FCWMD (5 papers), and to one special panel "LWR Fuel Reliability" (1 paper).

RPD Best Paper Award (ANS 2015 Annual Meeting)

As usual many excellent papers were submitted, and many excellent presentations were given at the ANS 2015 Annual Meeting. A team of peers reviewed both the papers and the presentations and determined that the paper/presentation: "Physics-guided Covered Mapping: A New Approach for Quantifying Experimental Coverage and Bias Scaling", by Hany S. Abdel-Khalik (Purdue University), Ayman I. Hawari (NCSU), Congjian Wang (INL), (Transactions of the American Nuclear Society, Vol. 112, San Antonio, Texas, June 7–11, 2015, Pages 704-707) was particularly good and deserving of this Reactor Physics Division award of distinction. Congratulations to the recipients!

ANS 2015 Winter Meeting, Washington, DC

The venue of the next ANS Winter Meeting will be as tradition (every other winter meeting) in Washington DC. The following session have been sponsored by the RPD:

- Reactor Physics Design, Validation, and Operating Experience (two session, 11 papers, organizer Alexander Stanculescu),
- Advances in Fast Reactor Designs and Concepts (one session, 7 papers, organizer Florent Heidet, special session),
- Reactor Analysis Methods (three sessions, cosponsored by MCD, 18 papers, organizer Alexander Stanculescu),
- Reactor Physics: General (four sessions, 22 papers, organizer Alexander Stanculescu),
- Nuclear Data Experiments, Evaluations, and Benchmarks (one sessions, cosponsored by AAD, NNPD, 4 papers, organizer Rian Bahrán, special session),
- Physics in Fusion and Sub-Critical Systems (one sessions, cosponsored by FED, AAD, 6 papers, organizer Alexander Stanculescu, special session).

Overall of the 68 papers submitted, two have been rejected.

Special Sessions at 2016 ANS Annual Meeting

The venue of the 2016 ANS Annual Meeting "Nuclear Power: Leading the Supply of Clean, Carbon Free Energy," will be New Orleans, LA. So far only one proposal for special session has been submitted on Prototype Gen-IV Sodium-cooled Fast Reactor (PGSFR) by Florent Heidet. Should you wish to propose an RPD special session for this (or one of the future ANS Annual or Winter Meetings) please submit your request (using the appropriate ANS form Attachment V Request for Approval of Division-sponsored Special Sessions) to the incoming RPD Program Committee Chairman (cristian.rabiti@inl.gov).

Participation in RPD Program Committee Activities

Would you like to be added to the RPD reviewer roster, please send your request to the RPD Program Committee Chairman (alexander.stanculescu@inl.gov).

Our Division can only be successful thanks to the active involvement of its members. I would like to encourage you to continue contributing to the Division's success by submitting technical papers, organizing special sessions, reviewing papers, chairing sessions, and by becoming actively engaged with both Program Committee and general RPD governance activities.

ANS Reactor Physics Division Program Committee

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Reactor Physics Standards

By **Dimitros Cokinos**
cokinos@bnl.gov

Work has continued on the revision/development of various standards and proposed standards. A major revision of ANSI/ANS-19.1, "Nuclear Data Sets for Reactor Design Calculations" nears completion. This standard now includes recent developments in the nuclear data field. Certain chapters have been rewritten to incorporate the latest advances. This standard will be the basis for the development of a new international standard under the aegis of the International Standards Organization (ISO).

ANSI/ANS-19.3, "Steady State Neutronics for the Analysis of Power Reactors" and ANSI/ANS-19.6.1, "Reload Startup Physics Tests for PWRs", are on their way to becoming international standards. Joint meetings between ANS and ISO were held during the annual ISO meeting in San Antonio last June to coordinate the transition from ANSI/ANS to the ISO and to meet ISO formatting and other requirements.

ANSI/ANS-19.4, "A Guide for Acquisition and Documentation of Reference Power Reactor Physics Measurements for Nuclear Analysis Verification" is being revised. As its title implies, this standard provides guidance and criteria for identifying and selecting quality measured data to be used in the validation and verification of computer codes. A recently completed draft is being reviewed.

Revision of ANSI/ANS-19.11, "Calculation and Measurement of the Moderator Temperature Coefficient for Pressurized Water Reactors", is underway, with comments incorporated in the latest draft.

An important milestone has been achieved with the completion and publication of the latest version of ANSI/ANS-5.1, "Decay Heat Power in Light Water Reactors". This standard enjoys widespread popularity both in the U.S. and abroad.

ANSI/ANS-5.1, "Decay Heat Power in Light Water Reactors" is a standard enjoying widespread popularity both here and abroad. Under its current Working Group chair, Ian Gauld, the revision of the standard has just been completed and is now being routed through the appropriate ANS standards committees. It is expected to be released in the near future. This standard has an expanded Foreword and provides useful information on the historical/technical aspects from its inception in the mid-1970s to the present. Helpful information is also provided in the appendices.

The next ANS-19 Reactor Physics Standards meeting will be held in Anaheim on Monday morning from 8:30 a.m. to 10:30 a.m. Please check the back of the Final Program for the meeting room.

Honors and Awards

By Dimitros Cokinos

Chair, RPD Honors and Awards Committee

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In addition to the "Eugene P. Wigner Reactor Physicist Award" established in 1990, the Reactor Physics Division has recently created the "Early Career Reactor Physicist Award". This new award recognizes major technical accomplishments in the field of Reactor Physics by a person who, at the time of the nomination, is 39 years old or younger. Eligibility requirements and details on submitting a nomination package can be found at the ANS website under the heading of "Honors & Awards".

Members of the Reactor Physics Division may be eligible for a number of other ANS awards. A short list of such ANS awards is given below

- Landis Public Communications and Education Award
- Landis Young Member Engineering Achievement Award (age <40)
- Mishima Award for Scientific/Engineering achievement in Nuclear Fuels
- Arthur Holly Compton Award in Education
- Reactor Technology Award: Recognition for advances in design and safety in reactor technology. This award is sponsored by the AESJ from funds derived from the 1992 topical in Japan.

A more complete list of ANS awards and past winners can be found on the ANS website.

Website

By Pavel Tsvetkov

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The Reactor Physics Division Website is being updated to bring up to date all the areas and to reflect the current division status. The website is accessible at <http://rpd.ans.org>.

The Division is maintaining its Facebook presence as "Reactor Physics Division of the American Nuclear Society". The Reactor Physics Division members are encouraged to join and participate in the group, with postings and discussion. The group is accessible at <https://www.facebook.com/groups/ReactorPhysics/>



International Conference on Nuclear Data for Science and Technology (ND2016)

<http://www.nd2016.eu/>

ND2016 is the primary conference for the advancement of nuclear data in the interest of both science and technology. It addresses all important active fields of investigation: fundamental nuclear physics, astrophysics, nuclear energy, nuclear medicine, nuclear non-proliferation, safeguards and arms control. ND2016 will be held in Bruges, Belgium, September 11 -16, 2016.

IMPORTANT DATES & DEADLINES

- ▶ Abstract submission deadline: January 17, 2016
- ▶ Registration open: November 17, 2015
- ▶ Early registration deadline: July 11, 2016

For up-to-date information about this conference, please visit <http://www.nd2016.eu/>.

PHYSOR 2016 Announcement

PHYSOR 2016, the International Reactor Physics Division Topical Meeting on the Physics of Reactors, will take place Sunday May 1 through Thursday, May 5, 2016, at the Sun Valley Resort in Sun Valley, Idaho. It is time to start making plans for this widely attended event.

The meeting's opening reception will be held at the River Run Ski Lodge with the Roundhouse Gondola tram ride operating to the Mt. Baldy Roundhouse for a spectacular view of the valley. The technical content of the meeting will begin Monday, May 2, with speakers Finis Southworth, Chief Technology Officer, AREVA, and PHYSOR 2016 General Chair, William



Magwood IV, Director-General of the Nuclear Energy Agency of the OECD; John Kotek, Acting Assistant Secretary for the Office of Nuclear Energy of the DOE (tentative); Chris Levesque, President of TerraPower, LLC; and Michael (Mike) K. Simpson, member of the US House of Representatives for Idaho's Second Congressional District (tentative). Technical sessions will be held Monday afternoon through Thursday morning in seven parallel sessions, with a Poster Session Monday evening with hors d'oeuvres and drinks provided. A student assistant program has been established to provide free registration for volunteer assistants. Six pre-meeting workshops are planned for Sunday, May 1. Special events during the week include an optional dinner at Train Creek Cabin (wagon ride to and from the dinner), a "Booze Clues" Pub Crawl in Ketchum, sport shooting at the Sun Valley Gun Club, and a western themed meeting banquet with live music on the evening of Wednesday, May 4. Pre-meeting golf and mountain biking events are still being considered. An exciting series of spouse activities is also planned. Finally, a tour of INL facilities planning, including visits to EBR-I, the Materials and Fuels Complex, and the TREAT transient test facility.

As of the September 7 deadline for submission of extended summaries, 430 summaries had been submitted. Following the technical review of summaries, this number will likely be reduced somewhat; nevertheless these numbers suggest a substantial turnout for the meeting. The submissions also indicate a strong international turnout from both Asia and Europe.

Hotel registration has already been opened - in addition to \$99/night rooms in the Sun Valley Inn, a number of condominiums and apartments, family suites, and multi-room cottages are available for groups (split costs for most come to \$99/night or less). Higher end Lodge rooms are also available at a somewhat higher rate, including very well appointed Celebrity Suites. All lodging options are of course available on a first come, first served basis. The resort offers five-star accommodations with amenities such as glass-enclosed outdoor pools, a six-lane bowling alley and game room, a massage center and activities for all ages.

Meeting registration is anticipated to be available in late November/early December. More information on the meeting is available at the meeting website at www.physor2016.org.