The Reactor Physics Division is in an excellent financial state. The continued support of the expanding membership and a number of financially successful topical meetings led to our significant balance of $73,239 for 2014. The 2014 member allocation division income was $3,942 (actual for 3 months of 2014 reported as $954). The fund balance as of 1/1/2014 is $72,979 ($71,251 as of 3/31/14 after provided student support).

We support student conferences annually at $2,500, invest $1,000 in our website development efforts, and continue our regular support of student travel to national meetings, $500/national meeting. The Reactor Physics Division is currently working to establish a second endowed scholarship. Finally, the division is currently working to establish a second, undergraduate endowed scholarship. This year we allocated $30,000 as our 1st RPD endowed undergraduate scholarship.

The detailed RFP can be found at: http://rpd.ans.org/pdf/RFP_PHYSOR_2016.pdf
2013 Winter Meeting Washington, DC

By Alex Stanculescu (Program Chair, RPD) alexander.stanculescu@ornl.gov

The 2013 Winter Meeting was held in Washington, DC November 10 – 14, 2013. A total of 68 papers, out of the 81 submitted to the RPD, have been accepted and presented in seven technical sessions. Moreover, the RPD co-organized one special panel, as well as one special session. The overall technical quality was high, and all sessions and the panel enjoyed good attendance.

The three standing RPD sessions for the 2013 Winter meeting featured 41 papers divided among “Reactor Physics General I, II and III” (21 papers), “Reactor Physics Analysis Methods I and II” (13 papers), and “Reactor Physics Design, Validation and Operating Experience” (7 papers). In addition there have been four special sessions and one special panel with 27 papers overall. The special sessions were: “Advanced Modeling and Simulation in Reactor Physics”, organized by Alexander Stanculescu (8 papers), “Fuel Cycle Options: A Physics perspective”, organized Andrew Wornall (9 papers), “Lattice Physics Benchmarking”, organized Matthew Jossee (3 papers), and the RPD-ANSDT joint session “Physics of Compact Reactors for Territorial and Space Applications”, organized by Blair Bromley and John Bess (7 papers). The special panel, co-organized by the RPD and the MCD, was “Nuclear Fission: Seventy-Five Year Anniversary”, organized by Mark DeHart, Augusto Gandini (University of Rome “Sapienza”), the 2013 Eugene P. Wigner Reactor Physics Award winner, captivated the audience with his memorable Wigner Lecture titled “Highlights of Historically-based Generalized Perturbation Theory”, which can be found at https://drive.google.com/file/d/0B1YQeyOCPKxQaVZud0dVZ1RxOFU/edit?usp=sharing.

To volunteer or learn more about RPD email to Ron Ellis elliisrj@ornl.gov or join us at one of the national meetings.

http://rpd.ans.org/

The 2014 Annual Meeting

By Alex Stanculescu (Program Chair, RPD) alexander.stanculescu@ornl.gov

We hope you can join us in Reno June 15-19, 2014. Everyone is welcome at our executive and program meetings — please check the time and location in the final conference program (final pages).

At the ANS 2014 Annual Meeting, the RPD is facing strong competition from the reactor physics topical meeting PHYSOR 2014 (Kyoto, September 28 – October 3, 2014), as far as participation and paper submission numbers are concerned. This led to only 39 papers being submitted to the ANS 2014 Annual Meeting.

The submissions were assigned to the standing RPD session “Reactor Physics General I, II, III, IV and V” (28 papers) and to two special sessions, viz. “ANS Reactor Physics Division Session in Memory of Richard (Dick) McKnight (co-sponsored with the NCSD, 6 papers) and “Nuclear Criticality Safety and Space Technology Applications” (co-sponsored with the AAD and the ANSTD, 5 papers).

At the ANS 2014 Annual Meeting there will be two special sessions honoring the memory of Dick McKnight held as part of the RPD and the NCSD sessions, and both co-sponsored by the two Divisions. The efforts of Blair Briggs, Michael Dunn and Luiz Leal in making these sessions happen are gratefully acknowledged.

Another important timely item on the RPD Website is the information from our Program Chair (Alex Stanculescu) about the call for proposals for the upcoming PHYSOR 2016 conference, which will be held in North America. Interested organizations or institutions are encouraged to contact Alex by May 30 to express your intention to submit a proposal, which will be considered during the Program Committee meeting at the Reno ANS Annual Meeting in June.

To check out our Website.

http://rpd.ans.org/

Richard Mc. Farlane, Jean- Pierre West, Alex Stanculescu, Phillip Finck, Augusto Gandini, Massimo Salvatores and Yoshikai Oka at the Nuclear Fission: Seventy-Five Year Anniversary Special Panel
May 2014 Session In Memory of Richard D. McKnight

Prepared by Michael Dunn, Luiz Leal, Blair Briggs, and Robert Schaefer

The news that Richard D. McKnight known to most as Dick, had passed away, shocked and saddened all who knew him. Dick's career spanned over 43 years and involved pioneering work in the areas of reactor physics, criticality safety and nuclear data. Dick was a key leader in these technical areas as exemplified by his leadership and contributions to the ICSEP, JRP/HEP, US Cross Section Evaluation Working Group (CSEWG), and OECD/NEA nuclear data and reactor physics expert groups. Dick first came to Argonne National Laboratory in the early 1970s to work on his Ph.D. dissertation. Dick worked at ANL for his entire career. From those early days to the present, Dick was an active participant in the CSEWG, especially in the area of validation. Dick was an important contributor to Argonne’s work on data adjustment using integral experiment data to adjust microscopic cross section data within their uncertainties. In his work to implement modern core-follow analysis of the Experimental Breeder Reactor, EBR-II in the 1990s, Dick was a key player in populating the Physics Analysis Data Base and using radiochemistry measurement data to validate the calculations. Even more than his deep technical knowledge and ability, it was Dick’s human qualities that made him so special and influential. Dick was polite, kind, considerate, generous and respectful. These attributes, in turn, won him respect. Dick was articulate, presenting technical positions with clarity and sound logic. Dick also was hard working and a man of impeccable integrity. Everyone knew that, when he agreed to do something, it was sure to be delivered, and he often would offer to do more than his share. While his legacy remains, we will miss Dick’s presence. The Reactor Physics Division and Nuclear Criticality Safety Division have co-organized memorial sessions at the June 2014 ANS Meeting in Reno, NV, and the session papers will honor Dick’s extensive technical contributions in reactor physics, nuclear criticality safety, and nuclear data. Please plan to attend these memorial sessions at the June 2014 ANS Meeting.

RPD Special Sessions at Winter Meeting


MOOSE Multi-Physics Tutorial

Winter Meeting, Anaheim CA, November 9-13, 2014

Modeling and simulation has long been an integral aspect of reactor physics. However, building a useful large-scale simulation capability has traditionally been a daunting task because it required a team of developers working for years to develop, verify and validate such capabilities. MOOSE (Multiphysics Object Oriented Simulation Environment) now makes modeling and simulation more accessible to a broad array of engineers and scientists. MOOSE enables simulation tools to be developed in a fraction of the time previously required. The tool has revolutionized predictive modeling, especially in the field of nuclear engineering — providing the potential for reactor physicists to develop numerous applications that predict the behavior of fuel designs and reactors under operating and accident conditions. The MOOSE framework itself has been released as open source, and is available to the public at http://mooselibrary.com/, and is currently in use at over 50 (and growing) universities, national laboratories, and industrial interests.

A four-hour MOOSE tutorial is planned for the ANS Winter Meeting in Anaheim. This tutorial will provide an overview of the MOOSE system, describing the philosophy, underlying theory and model development concepts from a reactor physics perspective. The tutorial will conclude with a demonstration of the development of a simple neutron diffusion solver built with MOOSE. If you have an interest in learning more about MOOSE, either as a developer or potential user, please plan on attending the tutorial.

Key Dates

Japanese Standard Time

Final paper submission: Oct. 3, 2014
Online registration: By Oct. 13, 2014
Online accommodation: By Oct. 3, 2014
Conference date: Nov. 9 – 13, 2014

Technical tours

Fukushima Dai-ichi Nuclear Power Plant (35 persons)
Prototype Fast Breeder Reactor “Monju,” JAERI Tsuruga (20 persons)
Kumatori area (20 persons), including the Nuclear Fuel Industries (NFI) Ltd.
Kumatori

For more details: http://physor2014.org

Notes from the Chair

On behalf of the technical program committee of PHYSOR2014, I would like to express my heartfelt gratitude to the outstanding contributions from the Reactor Physics Division of ANS as well as the reactor physics community worldwide.

We have received approximately 500 submissions of technical papers to 15 regular technical tracks and 8 special sessions. Review of ~500 papers is a significant task, but has been almost completed thanks to outstanding efforts of expert reviewers. Comments from reviewers have been consolidated and notifications have been sent to the authors by April 26th as scheduled. The technical program committee is now organizing the day technical program.

Akiyo Yamamoto
a.yamamoto@nuct.nagoya-u.ac.jp
Technical Program Chair
PHYSOR 2014

Progress of PHYSOR 2014 Sep.28 – Oct.3, 2014 Kyoto, Japan

Key Dates

Japan Standard Time

Final paper submission: Apr. 26, 2014
Online registration: Apr. 7 to Sep. 11, 2014
Early registration: By Jul. 25, 2014
Online accommodation: By Jul. 25, 2014
Conference date: Sep. 28 - Oct. 3, 2014

Technical tours

Fukushima Dai-ichi Nuclear Power Plant (35 persons)
Prototype Fast Breeder Reactor “Monju,” JAERI Tsuruga (20 persons)
Kumatori area (20 persons), including the Nuclear Fuel Industries (NFI) Ltd.
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Akiyo Yamamoto
a.yamamoto@nuct.nagoya-u.ac.jp
Technical Program Chair
PHYSOR 2014
Augusto Gandini presented with the Wigner Award plaque and after his lecture at the "Nuclear Fission: Seventy-Five Year Anniversary" session, with A. Stanculescu. H. McFarlane, P. Finck and M. Salvadores.

How to Propose Conference Sessions

Any member can propose, organize or chair a session at an ANS meeting, just follow the steps below.

1. Write a ~100-word description (a paragraph) about the intended session/topic. Specify if it will be a panel or paper session.

2. Submit the summary at the Program Committee meeting or send it to Alex Stanculescu (alexander.stanculescu@inl.gov), or anyone on the leadership team to represent it for you.

Note: Sessions are decided on a year in advance (in June 2014 we choose sessions for the June 2015 meeting). The RPD Program Committee will need to approve the session by vote and provide feedback to you including suggestions for improvements.

3. If approved, solicit experts to submit summaries by the deadline (usually about six months in advance) of the meeting in which the session will occur.

4. Inform the Program Chair of who will chair the session at the meeting (chair does not have to be you).

Participation in RPD Program Committee Activities

I would like to commend all RPD members who have supported the PHYSOR 2014 topical meeting, in particular by participating in the peer review process.

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.

ANSTD/RPD Joint Session Physics of Compacts at 2013 Winter Meeting

RPD Program and Executive Committee at work during the 2013 Winter Meeting

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