

# Reactor Physics Division

## A Message from the Chair

Amanda Lang  
Amanda.Lang@duke-energy.com

### Officers 2021-2022

Amanda Lang – Chair  
[amanda.lang@duke-energy.com](mailto:amanda.lang@duke-energy.com)

Matt Jessee – Vice-Chair  
[jesseema@ornl.gov](mailto:jesseema@ornl.gov)

Chris Perfetti – Treasurer  
[cperfetti@unm.edu](mailto:cperfetti@unm.edu)

Shane Stimpson – Secretary  
[sgstimpson@bwxt.com](mailto:sgstimpson@bwxt.com)

Florent Heidet – Immediate Past Chair  
[fheidet@anl.gov](mailto:fheidet@anl.gov)

### Get Involved!

The **RPD Executive and Program Committee** meetings are scheduled for **Monday, November 29** starting at 3pm Eastern:

RPD Program Committee meeting: **3-4pm Eastern**

RPD Executive Committee meeting: **4-5pm Eastern**

Feel free to join via the [Meeting Link](#) or via phone based on the number closest to your location:

+1 646 558 8656 (New York)  
+1 301 715 8592 (DC)  
+1 312 626 6799 (Chicago)  
+1 669 900 9128 (San Jose)  
+1 253 215 8782 (Tacoma)  
+1 346 248 7799 (Houston)

...and using this Meeting ID:  
889 8489 5378

Hello RPD Members,

I'm sure we are all sick (pun intended) of this pandemic and looking forward to resuming in-person conferences and networking as soon as possible. While virtual meetings have their downsides, I have been blown away by the attendance at our last 3 RPD Executive and Program Committee Meetings with 50+ RPD members calling in to help us determine technical track topics, special sessions, and set the direction for the division. I love this enthusiasm and hope everyone will join us again (on Zoom) at 3pm on Monday November 29<sup>th</sup>. The 2021 Winter Meeting (November 30-December 3) is fully hybrid this year meaning ALL SESSIONS will be available for streaming. Safety measures are in place for in person attendees (proof of vaccination or a negative COVID test) so please register now to hear from cutting edge researchers in our field. In addition, consider signing up for the (very affordable) Young Professionals Congress (YPC) November 12-13<sup>th</sup>. Your registration for YPC will be discounted from the Winter Meeting (so it's a 2 for 1 deal!) and you will be invited to a very unique experience: a virtual escape room team building social!



Amanda Lang  
Duke Energy

RPD is one of the biggest technical divisions of ANS so most of you have probably never met me! I am a University of Wisconsin grad and got into nuclear engineering because I care about the environment. People need electricity for lots of important stuff: pursuing education (lights!), connecting with the world (WiFi!), modern medicine (hospitals!), and to make life easier (washing machines!) and the impact of nuclear energy on the environment is small (carbon, land footprint, etc) compared to other electricity sources. In my mind, nuclear energy means preserving & protecting the environment while still bringing abundant electricity to everyone who needs it. This is why I'm so excited about some of the developments in our field: everything from advanced reactors coming online this decade, to Hydrogen production, nuclear propulsion and new ways to apply nuclear technology to solve problems.

I fell in love with core design during a summer internship and this led me to the Fuels Department at Duke Energy. I support fuel reloads for Oconee Nuclear Station in South Carolina. Outside of work, I love to travel (having visited 40+ countries) and read. I live in Charlotte, NC with my husband and two dogs.

Amanda Lang, RPD Chair

## Honors & Awards

Dimitrios Cokinos  
 cokinos@bnl.gov  
 RPD Honors & Awards  
 Committee Chair

### EUGENE P. WIGNER REACTOR PHYSICIST AWARD

Winner of this year's Eugene P. Wigner award has been selected Dr. Imre Pázsit, Professor of Physics at Chalmers University of Technology, Gothenburg, Sweden. The Reactor Physics Honors and Awards Committee extends its warmest congratulations to Professor Pázsit.

RPD members are invited to submit nominations for the Eugene P. Wigner Reactor Physicist Award. Deadline for nominations is April 1, 2022. Nomination forms and related information are available at the ANS website.



Imre Pázsit  
 Chalmers University of Technology

### EARLY CAREER REACTOR PHYSICIST AWARD

This relatively new RPD award is intended to honor the contributions of reactor physicists who at the time of nomination are thirty-nine years of age or younger. Nomination forms may be obtained from the ANS HQ. Deadline for nominations is August 1, 2022.

## Reactor Physics Standards

Dimitrios Cokinos  
 cokinos@bnl.gov  
 RPD Standards  
 Committee Chair

Progress on the revision of standards for reactor design is reported below. For the past 15 months, various ANS-19 working groups have been meeting virtually due to Covid-19 pandemic. Status and highlights of certain reactor physics standards are given here.

### ANS-19.3, "Steady State Methods for Power Reactor Analysis"

The ANS-19.3 Working Group has been meeting virtually for the past several months to make certain adjustments to, and updates of, the draft the Group felt was necessary to bring in line with current practice. It is expected that the draft will soon be submitted to ANS-19 for review.

### ANS-19.3.4, "Thermal Energy Deposition Rates in Nuclear Reactors"

The Working Group has been busy on adding an appendix to the standard and a draft was produced. Appendices to standards are not part of the standards. They are included for the convenience of the users. The standard was sent to the Subcommittee for review and comments.

### ANS-19.4, "A Guide for Acquisition and Documentation of Power Reactor Physics Measurements for Nuclear Analysis Verification"

An evaluation is underway to determine if a revision or reaffirmation of this standard is required

### ANS-19.6.1, "Reload Startup Physics Tests for PWRs"

Revision of this standard has been completed. The standard enjoys widespread use both in this country and abroad. It has been adopted by ISO, the International Organization for Standardization.

### ANS-19.10, "Methods for Determining Neutron Fluence in BWR and PWR Pressure Vessels and Reactor Internals"

Following virtual meetings the Working Group has produced a final, revised draft which will be submitted to the ANS-19 Subcommittee for review and balloting. This standard has been adopted by ISO and the French group has added Displacement Per Atom, dpa.

### ANS-5.1, "Decay Heat Power in Light Water Reactors"

This standard continues to be very popular among the nuclear utilities in the U.S. and internationally.

### U.S. Reactor Physics Standards Adopted by the ISO

To date, ISO has adopted our ANS-19.3, ANS-19.6.1, ANS-19.10 and ANS-5.1

### Executive Committee

#### (Terms Expiring June 2022)

Nathan J. Roskoff  
 roskofnj@gmail.com  
 Pavel V. Tsvetkov  
 tsvetkov@tamu.edu  
 Alireza Haghighat  
 haghighat@vt.edu  
 Hyung Jin Shim  
 shimhj@snu.ac.kr

#### (Terms Expiring June 2023)

Christophe Demaziere  
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 Paul Romano  
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 Luiz Leal  
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 Benjamin Betzler  
 betzlerbr@ornl.gov

#### (Terms Expiring June 2024)

Jason Hou  
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 Andrew Osborne  
 osbornea@mines.edu  
 Steven J. Douglass  
 steven.douglass@unnpp.gov  
 Ville Valtavirta  
 ville.valtavirta@vtt.fi  
 Sterling M. Harper  
 sterlingmharper@gmail.com

### Get Involved!

Contact [cokinos@bnl.gov](mailto:cokinos@bnl.gov) to volunteer to help with standards on Nuclear Data for Medical & Industrial Applications.

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

## Treasurer's Report

Christopher Perfetti  
cperfetti@unm.edu  
RPD Treasurer

The 2021 RPD financials were received from ANS in October 2021, providing the status as of the end of the 3rd quarter of 2021. The RPD fund balance as of January 1st was \$41,291. \$1,669 in membership dues revenue have been received through the third quarter, providing a new balance of \$42,870.

The budget for the 2021 fiscal year includes a \$2,500 allocation for student support and an anticipated revenue of \$2,600.

The RPD financial health would not be possible without your contributions. Please take a few minutes to renew your membership by the end of this calendar year.

## Scholarships

Benoit Forget  
bforget@mit.edu  
RPD Scholarships Chair

As in the past few years, the reactor physics division is proud to offer two scholarships: 1) the Rudi Stamm'ler undergraduate scholarship, and 2) the Allan Henry / Paul Greebler graduate scholarship. Additionally, the value of these awards was increased to \$3500 for the undergraduate award and \$5000 for the graduate award.

Please encourage all deserving students pursuing research in the field of reactor physics to apply. The application deadline is February 1<sup>st</sup>, 2022 and application forms can be found at: <https://www.ans.org/scholarships/>.

## Program Chair's Report

Massimiliano Fratoni  
maxfratoni@berkeley.edu  
Program Chair

It is my honor to write this first message as chair of the RPD program committee. First, I want to thank the previous chair, Pavel Tsvetkov, for his tireless service over the last few years and for his help in making the transition as smooth as possible.

We are now optimistic that the end of the pandemic is near, but as we are not quite there, yet, ANS has decided to have the Winter Meeting fully hybrid, meaning you will be able to attend the entire meeting either in person or remotely. RPD believes this provides the best value for our members, but at the same time it is a major logistical challenge and a completely new format after a few remote meetings. We are looking to everyone's contribution to make the meeting successful. As usual, RPD will have a large footprint with ten paper sessions and four panels. Topics of the panels include Advances in Enabling Technologies and Innovation in Nuclear Nonproliferation, Research Reactors in Support of Advanced Reactors R&D, and Advances in Design Through Advanced Reactor Development Program. In addition, there will be a panel dedicated to the Eugene P. Wigner Reactor Physicist Award with an hour-long presentation by the awardee. This is a new format that we believe is more appropriate to honor the outstanding achievements of the award recipients. Please join the Wigner Award Lecture session on Wednesday, December 1, at 2:35 pm EST, to celebrate this year's winner, professor Imre Pázsit (Chalmers University of Technology). Congratulations, Imre!

Looking at the future, the call for the 2022 Annual Meeting is already out. The submission deadline is February 4, 2022. Remember, the new policy is strict on no extension as we have seen for the last few meetings. The upcoming year will also mark the return of PHYSOR. The meeting will be held in Pittsburgh (PA), May 15-20, 2022 and full papers are due January 18, 2022.

The next Program Committee meeting will be held remotely on Monday, November 29, 3-4 pm EST. You can find the link online on the Winter Meeting page. The meeting is open, and everyone is welcome. We are seeking to expand the membership of the program committee. If you are interested in contributing to the activities of the division, want to sponsor special sessions, or want to bring new ideas, please reach out.

See you virtually or in person at the Winter meeting!

### PHYSOR 2022

Keep track of the latest and greatest on PHYSOR 2022 (upcoming in Pittsburg next May 15-20) per the [conference web-site](#).

### Thank you outgoing officers!

Huge shout out to our outgoing officer Florent Heidet! Thank you to our executive committee outgoing members: Nicholas Brown, Stephanie Kempf, Dave Kropaczek, and Zach McDaniel. **We appreciate your dedication and service to the Reactor Physics Division!**

### Treasurer's Report Prepared By:

Christopher Perfetti

Christopher Perfetti is an Assistant Professor of Nuclear Engineering at the University of New Mexico. In his spare time, he enjoys swing dancing, cycling, hiking, cooking, brewing beer, and horrible puns.



Treasurer Chris Perfetti in front of Urquhart Castle on Loch Ness in Scotland

## Fall 2021 Programs

The Winter 2021 American Nuclear Society Meeting is in a Hybrid Virtual/Physical format! (Register [here](#))

Be sure to check out these RPD technical sessions (all times Eastern):

Wednesday, December 1, 2021

12:30–2:15PM | Advances In Enabling Technologies and Innovation in Nuclear Nonproliferation

12:30–2:15PM | Reactor Physics of Advanced Reactors

2:35–4:00PM | Wigner Award Lecture

4:20–5:45PM | Reactor Physics: General - I

4:20–5:45PM | Reactor Analysis Methods - I

Thursday, December 2, 2021

10:00–11:45AM | Research Reactors in Support of Advanced Reactors R&D Panel

1:00–2:45PM | NRC Virtual Test Bed (Cosponsored by THD)

3:05–4:50PM | Reactor Analysis Methods - II

3:05–4:50PM | Progress in MSR Development and Deployment: Modeling Advances, Enabling Instrumentation and Material

Friday, December 3, 2021

8:00–9:45AM | Advances in Design Through Advanced Reactor Development Program Panel (Cosponsored by THD)

10:00–11:45AM | Reactor Physics Design, Validation and Operational Experience

1:00–2:45PM | Reactor Physics: General - II

3:05–4:50PM | Reactor Analysis Methods - III

3:05–4:50PM | Reactor Physics of Micro Reactors for Terrestrial and Space Applications (Cosponsored by ANSTD)

## RPD Committee Members

### Bylaws & Rules

**Chair: Arzu Alpan, Oak Ridge National Laboratory**

Luiz Leal, IRSN

Moussa Mahgerefteh, Exelon

Bojan Petrovic, Georgia Institute of Technology

Pavel Tsvetkov, Texas A&M University

William Walters, Penn State University

### Standards

**Chair: Dimitrios Cokinos, Brookhaven National Lab.**

**Rudi Stamm'ler Undergraduate Scholarship**

**Chair: Benoit Forget, MIT**

Fausto Franceschini, Westinghouse

Florent Heidet, Argonne National Laboratory

**Allan Henry/Paul Greebler Graduate Scholarship**

**Chair: Benoit Forget, MIT**

Dimitrios Cokinos, Brookhaven National Laboratory

Thomas Downar, University of Michigan

Jess Gehin, Idaho National Laboratory

Scott Palmtag, North Carolina State University

### Honors & Awards

**Chair: Dimitrios Cokinos, Brookhaven National Lab.**

Robert Little, Los Alamos National Laboratory

Farzad Rahnema, Georgia Institute of Technology

Charles Rombough, CTR Technical Services, Inc.

Paul Turinsky, North Carolina State University

## RPD Committee Meetings (All Are Invited!)

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+1 669 900 9128 (San Jose)

+1 253 215 8782 (Tacoma)

+1 346 248 7799 (Houston)

...and using this Meeting ID: 889 8489 5378

### Newsletter Prepared By:

**Shane Stimpson**  
sgstimpson@bwxt.com  
RPD Secretary

Shane is a technical integrator at BWX Technologies. Aside from doing yard work, his spare time consists of tea parties with his daughter.



### Program Committee

#### 2019/2022

Scott Palmtag  
Massimiliano Fratoni  
Yunlin Xu  
Paolo Balestra

#### 2021/2024

Ching-Sheng Lin  
Jason Hou  
Tian Jing  
Wei Shen  
Ben Betzler  
Blair Bromley  
Zeyun Wu  
Abdalla Abou Jaoude  
Vladimir Sobes  
Vefa Kucukboyaci  
Rike Bostelmann  
Eva Davidson  
Stephanie Kempf  
Pavel Tsvetkov

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



American Nuclear Society  
Reactor Physics Division