



Division of Nuclear Chemistry and Technology  
American Chemical Society

NUCL WWW Home Page – <http://www.nucl-acs.org>

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## NEWSLETTER

### January 2017

*Newsletter Editor: Andrew Klose*  
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### FROM THE PAST CHAIR

*Paul Benny*

It has been a great privilege serving as chair for the NUCL division this past year. I have enjoyed working with so many talented people over the years to continue the legacy of nuclear science within ACS. I personally would like to thank the executive committee that provided critical insights and guidance to aid the stewardship of the division. As we continue to grow as a division, we need to continuously address key focus areas involving membership (recruitment and retention), programming, cross pollination with other ACS divisions, and societal impact. Tremendous thanks to Jeff Terry and Amy Hixon who have been instrumental in organizing the fall and spring programming for the national meetings. Without these two individuals, successful programming for the division would not have been possible this past year.

A key division goal is to reach and to cultivate the next generation scientists. As a division, we need to continue to support the efforts of the DOE Nuclear Chemistry summer school program as it provides a critical cornerstone for young scientists to receive an introduction to nuclear science. I would like to personally thank Dave Robertson for his tireless efforts to oversee and retain funding for the DOE Nuclear Chemistry summer school in recent years. The young investigator symposium continues to be a highlight of the NUCL spring program, where students can present their work in a national setting.

Another key focus area is outreach within the framework of local and national level. I would thank Donivan Porterfield for his efforts to obtain DAC funding for supporting different symposium and his work to help integrate with local sections of ACS. In addition to service as a NUCL division councilor, Graham Peaslee was our representative at the Philadelphia ACS meeting presenting an overview of nuclear science in the NUCL division within a cross divisional symposium.

While this provides only a few highlights of the many events that have transpired this past year, it has been a great pleasure and honor to serve in the NUCL division leadership. I have greatly appreciated the support from the division. Please join me in welcoming and supporting the new NUCL chair for 2017, Laetitia Delmau from Oak Ridge National Laboratory.

## **FROM THE CHAIR**

*Laetitia Delmau*

First and foremost, I want to wish all of you a Happy New Year! New year, new Chair and I am looking forward to serving the NUCL Division in this function. Although my term started only a few days ago, I have been part of NUCL for almost 15 years when I was approached to take care of the newsletter. I

was fortunate to work along individuals who have made NUCL a better Division and my goal for this year is to continue their effort. I want to thank Past Chair Paul Benny for his leadership and all the officers who are continuing to serve. Welcome to new (or reelected) officers Vice-Chair Jenifer Braley, Treasurer Brian Powell, Secretary Samantha Schrell (formerly Cary), and Councilor Silvia Jurisson. Special and heartfelt thanks to our past treasurer, Alice Murray.

Just like the Chairs in recent years, I'll be relying heavily on our Program Chairs, Amy Hixon for Spring meetings and Jeff Terry for Fall meetings. I encourage all of you to contact them if you would like to organize a symposium in the coming years. Organization of the upcoming San Francisco meeting is complete. The technical program will run from Sunday morning through Thursday afternoon and is highlighted by symposia honoring the 2017 Seaborg Award winner, David L. Clark, and a Tribute to Bruce Bursten. A special symposium Nuclear & Radiochemistry Summer School: Past, Present & Future will feature alumni of the Summer School. Other symposia will be dedicated to Nuclear Fission, Advanced Actinide Materials: Nanostructure, Complexity & Extreme Environments, Young Investigators, and General Topics in Nuclear Chemistry. NUCL will be co-sponsoring with GOEC and INOR the symposia Evolving Nanoparticle Reactivity throughout Nucleation, Growth & Dissolution-Oral Nanoparticles and Frontiers in Heavy Element Electronic Structure. NUCL was also asked to co-sponsor the ACS symposium "Hollyweird Chemistry". It will present individuals who are experienced in communicating science to the public, including science advisors for movies / TV shows, science advocates to the public and/or children, authors of popular science writings and/or scripts, and others.

I hope to have a chance to meet as many members as possible during the Division's Business Meeting and Social Hour on Tuesday evening after the close of the technical sessions. Please encourage your colleagues and co-workers who are already members of the ACS but are not NUCL members to come and find out what happens in our Division. Note that all technical sessions will be held at the Moscone Convention Center. This location should help promote interactions with other Divisions.

We have at present two symposia planned for Washington, DC in the Fall, including a symposium Materials Science in Nuclear Waste Disposal and Chemistry Past Curium. As always, we encourage and solicit your ideas for future programming - organizing a symposium is not as difficult as it sounds and it is both a professionally and personally rewarding experience.

One item of importance that you have seen before but that I believe is worth reiterating: we must develop a plan for the continued financial support of the Glenn T. Seaborg Award in Nuclear Chemistry. Please contact any of the NUCL officers if you could help identify support for the future.

I will close by saying that I encourage open dialogues, questions, and suggestions aiming at making the Division better, so feel free to contact me. I'll make sure that what I receive is conveyed to the other officers and proper attention is given to the matter.

## **TREASURERS REPORT**

*Alice Murray*

The NUCL Division closed 2016 with \$71,247 in its checking account and \$76,967 in its savings account. The 2016 Income was \$60,939 and the 2016 Expenses were \$53,672. In addition to the \$30,944 from the ACS for the Annual Allotment and from Dues, the

NUCL Division received \$23,750 for donations to support symposia at the 2016 and 2017 ACS National Meetings: \$4,000 for the following symposia: Frances P. Garvan – John M. Olin Medal: Honoring Annie Kersting, \$6,500 for the Tackling the Challenging Electronic Structure of Actinides: Honoring Richard Martin, \$4,000 for Frontiers in Heavy Element Electronic Structure, \$4,000 the Seaborg Award Symposium Honoring David Clark, and \$5,000 for the Nuclear and Radiochemistry Summer School. NUCL also receive an Innovative Grant Award for \$2,500. The major expenses were: \$39,687 to support the two national ACS meetings including \$15,538 for social events and audiovisual support and \$23,233 for speaker expenses at the supported symposia (registration and travel) and \$10,000 for the NUCL Division support of the ACS Seaborg Award.

It has been a pleasure serving as your Treasurer for the past six years. Brian Powell and I are in the process of transitioning to him as Treasurer and you will be hearing from him in the next NUCL Newsletter.

## **NUCL MEMBER HIGHLIGHT**

*Alison Tamasi, editor*



**Annie Kersting**

Lawrence Livermore National Laboratory,  
Glenn T. Seaborg Institute Director

Dr. Kersting began her scientific career as a geologist working on volcanoes. And while, on the surface, environmental radiochemistry may seem like a very different field, Dr. Kersting drew the connection between the similar techniques and processes as she became involved in a project exploring environmental impact of underground testing of nuclear weapons. Her work exploring the behavior of plutonium at the Nevada Test Site has shattered the conventional notion that plutonium remains fixed due to adsorption, showing instead it can travel associated with colloids in the groundwater. She is still exploring the mechanism of this plutonium behavior. Dr. Kersting says she has had the benefit of amazing mentors and colleagues throughout her career, while attending graduate school, through her work at the Seaborg Institute at Lawrence Livermore National Laboratory, and in her collaborations with her environmental plutonium work. It is a testament to her enthusiasm and expertise that she has been able to lead cohesive efforts by the best and the brightest scientists in many diverse disciplines to tackle important radiochemical problems. When she isn't working, she applies the same passion to recreation. Her husband taught her to rock climb and she also enjoys going running and skiing with her two teenage boys. She also unwinds from outdoor adventuring by cooking delicious desserts.

**SPRING 2017 – SAN FRANCISCO, CA**  
**April 2 – 6, 2017** (*Amy Hixon*)

Abstract submission for the spring 2017 National Meeting has passed. Conference registration is now open and the early registration deadline is February 20, 2017. Symposia are listed below. Please contact Amy Hixon ([ahixon@nd.edu](mailto:ahixon@nd.edu)) for more information.

- **Advanced Actinide Materials: Nanostructure, Complexity, and Extreme Environments**  
*Organizers: Peter Burns* ([pburns@nd.edu](mailto:pburns@nd.edu)) and *Ginger Sigmon* ([gsigmon@nd.edu](mailto:gsigmon@nd.edu))
- **Nuclear and Radiochemistry Summer School: Past, Present, and Future**  
*Organizers: Dale Ensor* ([densor@tnitech.edu](mailto:densor@tnitech.edu)) and *J. David Robertson* ([robertsonjo@missouri.edu](mailto:robertsonjo@missouri.edu))
- **Frontiers in Heavy Element Electronic Structure: A Tribute to Bruce Bursten**  
*Organizers: David Clark* ([dlclark@lanl.gov](mailto:dlclark@lanl.gov)), *David Shuh* ([dkshuh@lbl.gov](mailto:dkshuh@lbl.gov)), and *Lynne Soderholm* ([ls@anl.gov](mailto:ls@anl.gov)), cosponsored by INOR
- **Nuclear Fission**  
*Organizers: Todd Bredeweg* ([toddb@lanl.gov](mailto:toddb@lanl.gov)) and *Robert Rundberg* ([rundberg@lanl.gov](mailto:rundberg@lanl.gov))
- **General Topics in Nuclear Chemistry and Technology**  
*Organizer: Lætitia Delmau* ([delmaulh@ornl.gov](mailto:delmaulh@ornl.gov))  
(Note: both oral and poster)
- **Young Investigators in Nuclear and Radiochemistry**  
*Organizers: Amy Hixon* ([ahixon@nd.edu](mailto:ahixon@nd.edu)) and *Erin May* ([erin.may@inl.gov](mailto:erin.may@inl.gov))  
cosponsored by YCC

- **Evolving Nanoparticle Reactivity Throughout Nucleation, Growth, and Dissolution**

*Organizers: GEOC (Jennifer Soltis (jennifer.soltis@pnnl.gov), Michele Contory, Frances Smith, and R Lee Penn (cosponsored by NUCL, COLL, and ENVR)*

- **Glenn T. Seaborg Award for Nuclear Chemistry: Symposium in honor of David Clark**

*Organizers: Bruce Bursten (bbursten@wpi.edu), Al Sattelberger (asattelberger@anl.gov), and Bill Evans (wevans@uci.edu), cosponsored by INOR*

**FALL 2017 – Washington, DC  
August 20-24, 2017 (Jeff Terry)**

Please contact Jeff Terry ([terryj@iit.edu](mailto:terryj@iit.edu)) if you are interested in organizing a symposium. Currently planned symposiums are:

- **Materials Science in Nuclear Waste Disposal Symposium**  
*Organizers: Thomas E. Albrecht-Schmitt, David E. Hobart and Ines Triay*
- **Chemistry Past Curium Symposium**  
*Organizers: Thomas E. Albrecht-Schmitt, Christoph Düllmann, and David E. Hobart*

**SPRING 2018 – New Orleans, LA  
March 18-22, 2018 (Amy Hixon)**

The 255th ACS National Meeting & Exposition will be held March 18 - 22, 2018 in New Orleans, Louisiana. If you would like to host a symposium, please contact Amy Hixon ([ahixon@nd.edu](mailto:ahixon@nd.edu)). We anticipate that the call for papers will be due in August 2017. Currently planned symposiums are:

- **Radioisotope Production**  
*Organizers: Suzanne Lapi and Dennis Phillips*

- **Radiopharmaceutical Chemistry**  
(FLUO primary sponsor, NUCL co-sponsored)  
*Organizers: Neil Vasdev, Alan Packard, and Suzanne Lapi.*

**AWARDS NOMINATIONS COMMITTEE OF NUCL**

*Steve Yates*

The Awards Nominations Committee of the Division was formed to encourage and facilitate nominations for national ACS awards. Please nominate a colleague for one of the awards given below or another ACS award

(<http://www.acs.org/content/acs/en/funding-and-awards/awards/national.html>).

*ACS Fellows*

(<http://www.acs.org/content/acs/en/funding-and-awards/fellows.html>) -- Nominations can be initiated by individuals; however, the Division can nominate up to four individuals as ACS Fellows annually. Nominations for the 2017 class of Fellows are scheduled to open February 1, 2017 and close April 1, 2017.

*W. Frank Kinard Distinguished Service Award*

This award, established in 2014, recognizes NUCL members for outstanding service to the Division and the field of nuclear science -- Nomination procedures are given on the NUCL website ([http://www.nucl.acs.org/?page\\_id=611](http://www.nucl.acs.org/?page_id=611)) and the next deadline is July 1, 2017.

Suggestions and questions should be addressed to Steve Yates (yates@uky.edu; 859-257-4005).

## 2016 Nuclear and Radiochemistry Summer School Outstanding Students

*Dave Robertson*

The outstanding students for the 2016 NCSS were Emily Kaufman from Augustana University (Brookhaven site) and Andrew Fletcher from Hamilton College (San Jose site). These two students will be honored at the Spring Meeting in San Francisco. Congratulations, Emily and Andrew!

## NUCL Division Highlighted in ACS Matters

The NUCL Division was the featured ACS Technical Division in the Jan. 17, 2017 edition of ACS Matters. The full newsletter can be found here: <http://bit.ly/2jHTKhY>



### Featured Technical Division: Nuclear Chemistry and Technology

The ACS Division of Nuclear Chemistry and Technology (NUCL) provides education, networking, and outreach opportunities to advance nuclear chemistry, radiochemistry and related nuclear science

technologies. Graham Peaslee, an ACS member since 1987 and NUCL member since 1990, talks about how the division's programming at ACS National Meetings provides invaluable exposure to peers in the field. Learn more about NUCL and ACS membership on our [website](#).



## Nuclear Chemistry and Technology Division Symposia

### 1. *Materials Science in Nuclear Waste Disposal*

**Topic:** Invited and contributed talks on materials science relevant to nuclear waste isolation and disposition

**Organizers:** Thomas Albrecht-Schmitt, [albrecht-schmitt@chem.fsu.edu](mailto:albrecht-schmitt@chem.fsu.edu) (*Florida State University*), David E. Hobart, [dhobart@fsu.edu](mailto:dhobart@fsu.edu) (*Florida State University*), Ines Triay, [triayin@fiu.edu](mailto:triayin@fiu.edu) (*Florida International University*)

### 2. *Chemistry Past Curium*

**Topic:** Invited and contributed talks on the chemistry of the actinide and transactinide elements heavier than curium

**Organizers:** Thomas Albrecht-Schmitt, [albrecht-schmitt@chem.fsu.edu](mailto:albrecht-schmitt@chem.fsu.edu) (*Florida State University*), Christoph Düllmann, [c.e.duellmann@gsi.de](mailto:c.e.duellmann@gsi.de) (*University of Mainz*), David E. Hobart, [dhobart@fsu.edu](mailto:dhobart@fsu.edu) (*Florida State University*)

**The Department of Chemistry at HUNTER COLLEGE OF THE CITY UNIVERSITY OF NEW YORK (CUNY)** invites applications for a tenure track position in Radiochemistry at the Assistant or Associate rank, but exceptional candidates will be considered at the Professor rank. We encourage applications from candidates with research interests in fundamental and applied aspects of radiochemistry and nuclear chemistry. These include research related to nuclear fuel cycle, environmental remediation, plant biology and biofuels, analytical chemistry. Candidates with interdisciplinary radiochemistry research interests that intersect with our current strengths in analytical, biochemistry, molecular imaging, polymers, and therapy, and fundamental chemistry of radiometals are encouraged. An online advertisement can be found at <https://chemistryjobs.acs.org/job-details/116/professor-in-radiochemistry/>

Responsibilities include teaching undergraduate and graduate courses in areas related to the candidates scholarly and research interests, advising students and supervising graduate and undergraduate student research. Credentials appropriate for an appointment to the CUNY doctoral faculty are required. More information about the department can be found at <http://www.hunter.cuny.edu/chemistry>.

#### *Qualifications*

Candidates must have a Ph.D. (or equivalent) degree in Chemistry, Biochemistry, or related discipline, such as nuclear engineering. A strong research program that can attract undergraduate and graduate students is essential. Postdoctoral research experience is a plus. Candidates should have an outstanding record of scholarly publications commensurate with their career trajectory. The potential to obtain external funding is necessary for junior rank and a history of such funding required for more senior candidates.

#### *Compensation*

Commensurate with experience. CUNY offers faculty a competitive compensation and benefits package covering health insurance, pension and retirement benefits, paid parental leave, and savings programs. We also provide mentoring and support for research, scholarship, and publication as part of our commitment to ongoing faculty professional development. CUNY offers a comprehensive benefits package to employees and eligible dependents based on job title and classification. Salary commensurate with experience.

#### *How to apply*

Applications must be submitted on-line by accessing the CUNY Portal on City University of New York job website (<http://www.cuny.edu/employment.html>) and following the CUNYfirst Job System Instructions. Current users of the site should access their established accounts; new users should follow the instructions to set up an account. To search for this vacancy, click on Search Job Listings, select More Options To Search For CUNY Jobs and enter the Job Opening ID number of 15734. The required material, as stated on the CUNYfirst vacancy notice, for the application package must be uploaded as ONE file in .doc, .docx, .pdf, .rtf, or text format. Incomplete applications will not be considered.



# Radiochemistry

## Undergraduate Summer School

### Oregon State University

June 18–July 28, 2017

The Undergraduate Radiochemistry Summer School is sponsored by the U.S. Department of Energy's Office of Nuclear Energy and hosted by the Oregon State University School of Nuclear Science and Engineering and the Department of Chemistry in Corvallis, Oregon.

#### EARN CASH & COLLEGE CREDIT

**Awards include a \$4,000 stipend** as well as coverage of housing and travel costs. Upon satisfactory completion of the summer school, participating students will receive **eight transferable credits** at the 400 level.

#### QUALIFICATIONS

Candidates should be junior- or senior-level undergraduates with an interest in nuclear science, and have completed a minimum of two years of chemistry and one year of physics. Applicants must be U.S. Citizens.

#### APPLICATION AND SELECTION

**Applications are due February 28, 2017.** The summer school is limited to 12 students and acceptance notification will be sent by March 31, 2017.

**Apply now at [ne.oregonstate.edu/radiochemistryschool](http://ne.oregonstate.edu/radiochemistryschool).**

#### DESCRIPTION

Blending classwork and labwork, participants will learn the physics of nuclear structure, radioactive decay and nuclear reactions, principles of radiodetection, chemistry of actinides and fission products, production and separation of radionuclides, and radiolysis. The nuclear fuel cycle will be presented from fundamental chemistry to engineering applications.

Students will benefit from the expertise of guest lecturers from DOE national labs and collaborating university partners. They will also work on independent research projects under faculty guidance and present their results at a student conference at the end of summer school. Tours of the Hanford Site, AREVA and Energy Northwest facilities in Richland, Washington, and the Oregon State TRIGA Research Reactor in Corvallis will also take place.

In addition, students will be guided about future career options and application processes for university graduate programs in nuclear science and radiochemistry.

#### Contact

Dr. Alena Paulenova, summer school director, OSU School of Nuclear Science and Engineering. [alena.paulenova@oregonstate.edu](mailto:alena.paulenova@oregonstate.edu)



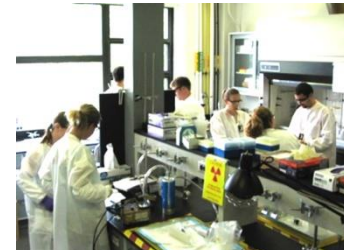
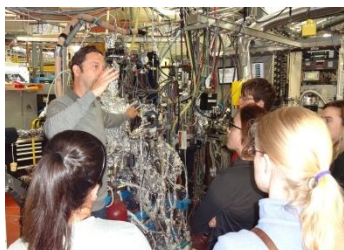
# EARN CASH & COLLEGE CREDIT!

## ACS NUCLEAR & RADIOCHEMISTRY UNDERGRADUATE SUMMER SCHOOLS

San Jose State University,  
San Jose, CA

Brookhaven National  
Laboratory, Upton, Long  
Island, NY

June 10, 2017 through July 22, 2017



The **Division of Nuclear Chemistry and Technology** of the **American Chemical Society** (ACS) is sponsoring **two INTENSIVE six-week Summer Schools in Nuclear and Radiochemistry** for undergraduates. Funding is provided by the US Department of Energy.



### AWARDS

**Fellowships include a stipend of \$4000**, all tuition and fees, transportation to and from the Summer School location, housing, books, and laboratory supplies. Transferable college credit will be awarded through the ACS accredited chemistry programs at San Jose State University (7 units) or the State University of New York at Stony Brook (6 units).

### QUALIFICATIONS

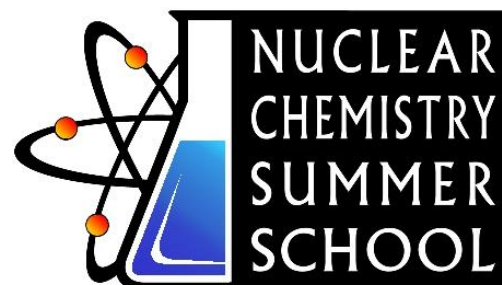
Candidates should be undergraduates with an interest in nuclear science who are presently in their sophomore or junior year of study at a US college or university. They should have completed at least two years of chemistry, one year of physics and one year of calculus. Applicants must be US citizens.

### SELECTION

**Completed applications must be received no later than February 1, 2017.** Each Summer School is limited to 12 students. Announcement of awards will be made in early March 2017.

### COURSE DESCRIPTION

The course will consist of lectures on the fundamentals of nuclear science, radiochemistry, and their applications in related fields. Laboratory work will introduce you to state-of-the-art instrumentation and technology used routinely in basic and applied nuclear science. In addition to the formal instruction, the course will include a Guest Lecture Series and tours of nearby research centers at universities and National Laboratories. Students will meet and interact with prominent research scientists from universities and the DOE national labs who are working in nuclear and radiochemistry, nuclear medicine, nuclear forensics, and related fields.



### FUTURE RESEARCH OPPORTUNITIES

Participants in the 2017 Summer Schools will be encouraged to join a research project during the following summer at a university or federal research institution. Considerable personal assistance will be provided to secure summer positions and admission to PhD and MD programs at leading universities.

An "**Outstanding Student**" is selected from each summer school site. These students will be invited to attend the following spring national meeting of the American Chemical Society with all expenses paid.

For more information contact:

**Prof. J. David Robertson, Director**  
Nuclear & Radiochemistry Summer Schools  
Department of Chemistry  
University of Missouri  
Columbia, MO 65211

Tel: 573/882-5346 Fax: 573/882-2754  
Email: [robertsonjo@missouri.edu](mailto:robertsonjo@missouri.edu)

On-line application forms are available at:  
<https://chemistry.missouri.edu/nucsummer>