



Division of Nuclear Chemistry and Technology  
American Chemical Society

NUCL Webpage – <http://www.nucl-acs.org>

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## NEWSLETTER

April 2023

Newsletter Editor: *Andrew Klose*  
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### Topics

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- > UPCOMING PROGRAMMING
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### FROM THE CHAIR

*Richard E. Wilson*

Happy Spring! The meeting in Indianapolis is in the rearview mirror and a lot of great things are developing. First let me begin by thanking all of the Division's volunteers who made our programming in Indianapolis a success, in particular Tara Mastren, Todd Bredeweg, and Deborah Penchoff. Their work continues to be the prominent face of our Division at the national level. Let me also congratulate our Kinard Award winners, Trish Baisden, Paul Mantica, and Dale Ensor, who attended the meeting; their commitments to the Division with their time, expertise, and service have, without a doubt, left a positive and lasting impact on our field. Secondly, let me thank all of you who attended the business meeting on Tuesday evening. A lot of excitement and good ideas were contributed at that meeting and we must capitalize on that to bring those ideas to action.

First and foremost, our Division took a leadership position in being one of the first technical divisions to have a Diversity officer on our executive committee. This position is currently vacant, and we are looking for volunteers to fill this position and reconfigure our bylaws and governance documents to make it a permanent position within the division.

Please reach out to me or members of the executive committee if you are interested. We have already had a number of people express and interest in this role.

Secondly, one of my priorities during my tenure as chair of your Division is to make our Division's programming more robust, timely, and topical. Toward this goal I am asking for your help in engaging with our programming committee if you have symposia that you feel would be appropriate for our Division to sponsor. At a baseline effort to grow and sustain our program I would like to put together a rotating schedule of programming for the Spring and Fall National meetings so that there is a predictable schedule of topical programming. We need your input to help us identify broad topical areas and to help us deconflict our scheduling with standing specialized meetings outside of the ACS programming and meeting schedule. We also are looking for volunteers to take ownership of the organization and chairing of these symposia. These are good opportunities for professional networking, growing collaborations among your colleagues and contributing to the advancement of your particular field. Along with these rotating topical symposia I would like capitalize on specialized symposia that are in line with current funding and scientific initiatives. Recent funding opportunities from DOE, NSF and other agencies are driving new and exciting research opportunities that many of you are contributing to. We should be socializing these advancements and ideas with one another to make sure that our field, nuclear science, nuclear chemistry, nuclear physics, radiochemistry, radiopharmaceuticals, forensics, etc. and the world class science that we each contribute to are featured prominently within the broader chemistry community. I would like to have these initiatives and schedules in place for our programming in 2024.

Driving these ideas and initiatives requires your help and your input. Our executive

committee and our membership that serve on our programming committee want your help and input. You have told us that one of the most valuable aspects of your membership in our Division is our programming, and I hope that together we fulfill that value proposition.

### **FROM THE TREASURER**

*Brian Powell*

NUCL is currently in a very stable financial position with \$184,870 in checking and \$77,069 in savings. A significant upcoming cost is to pay the annual fee for the Glenn T. Seaborg national level award. The ACS national level charges the division \$17,000 per year. We are currently evaluating means to continue to pay the high annual cost for the award. We have also asked the ACS to provide a detailed breakdown of this expense since the award winner receives only \$7,500 (\$5,000 award and \$2,500 travel funds) of the annual \$17,000 fee for the award. To strategically manage our finances and produce additional funds to support this award, several members of the executive committee have been discussing investment options with a financial planner to gain a higher rate of return than the 0.05% our savings account currently offers. More information on this effort will be provided in the next newsletter.

### **FROM THE COUNCILORS**

*Silvia Jurisson and Graham Peaslee*

The ACS is governance structure is largely comprised of elected councilors that represent either Technical Divisions (20%) or Local Sections (80%). The Nuclear Division is large enough now to have two ACS councilors who represent our interests at the Council Meeting held at every national meeting as well as on several sub-committees that discuss matters that impact the Division. Together with Nuclear Division members that represent local sections the Councilors funnel information from the ACS governance to the

Nuclear Division members and they also can convey concerns from the membership to the ACS leadership.

The Spring ACS National Meeting in Indianapolis was held from 26-30 March 2023 in hybrid format.

The ACS Meeting App was again used exclusively with no hard copies available. The members will not need to upload a new app for each meeting, but will be able to open the current meeting within this app. If you had any difficulties that you would like to have relayed to the ACS Staff, let us know. Improvements are being made regularly.

From the Committee on Economic and Professional Affairs (CEPA) meeting (Silvia Jurisson is a member, and Subcommittee on Marketing, Research and Volunteers (SMRV)): This committee oversees the Career Consultants (both virtually and in-person). There are monthly virtual workshops with 30-45 minute presentations and 30-45 breakout room sessions for ACS attendees. There were 279 virtual appointments in 2022, 537 in-person consultations at the Spring and Fall 2022 ACS meetings, 63 virtual appointments in Jan and Feb 2023, and they expect ~300 in-person consultations at this meeting. The Career Navigator Live was held in Expo Hall C; 32 career consultants were available for 1-on-1 meetings.

CEPA also is involved in the Salary Survey. If you have any suggestions for improving it (wording, etc.) let me know and I will pass it on. I passed on a few items that need changing: Nuclear is not an option for area of Chemistry; can only select one option for area of chemistry even though some of us are in more than one; other (chemistry) is not an option although other (non-chemistry) is; they do not include those 70 and over who are still working.

There is a petition for adding International representation to the Board of Directors. Currently, 18.6% of ACS members are international members (outside the US and Canada). They are proposing to create an International District, which will be converted from one of the six Director at Large positions. The vote will be on this at the Fall San Francisco meeting and the International Director would start January 2026.

From the Divisional Activities Committee (DAC) meeting (Graham Peaslee is a member):  
At the main Council meeting, electronic balloting selected the following members for committees:

President-Elect, 2024: Dorothy J. Phillips and Florian J. Schattenmann

District III Candidates: Diane Krone and Helen (Bonnie) A. Lawlor

District VI Candidates: Janet L. Bryant and Jeanette M. Van Emon

Committee on Nominations and Elections (CN&E) (2024-2026 term): Wayne E. Jones, Jr., Daniel Rabinovich, Carolyn Ribes, and Joseph P. Stoner

Committee on Committees (ConC): Daniel Rabinovich was elected for a 2-yr term (2023-2024)

If you have any additional suggestions for the ACS in this regard, or concerns about anything ACS-related, please don't hesitate to contact your councilors who will do their best to let your voice be heard.

## DARLENE HOFFMAN HONORED WITH THE ENRICO FERMI PRESIDENTIAL AWARD

Dave Hobart



In March, the White House announced NUCL Division member, Darleane Hoffman as one of two recipients of the prestigious Enrico Fermi Presidential Award, one of the oldest science and technology honors bestowed by the United States

government. “Hoffman is recognized for her scientific discoveries advancing the field of nuclear and radiochemistry, for distinguished service to the Department of Energy’s missions in national security and nuclear waste management, and for sustained leadership in radiochemistry research and education. This impact stems from her scientific record of accomplishment, her record of excellence in management and leadership, her technical service impacting policy related to radioactive waste management and national security, and her tireless support for education in nuclear and radiochemistry.” Hoffman shares the award with Gabor Somorjai of Lawrence Berkeley National Laboratory (LBNL) and the University of California, Berkeley.

“The Enrico Fermi Presidential Award was established in 1956 as a memorial to the legacy of Enrico Fermi, an Italian-born naturalized American citizen and 1938 Nobel Laureate in physics, who achieved the first nuclear chain reaction in 1942. It is given to encourage excellence in research in energy science and technology benefiting humanity; recognize scientists, engineers, and science policymakers who have given unstintingly over their careers to advance energy science

and technology; and inspire people of all ages through the examples of Fermi, and the Fermi Award laureates who followed in his footsteps, to explore new scientific and technological horizons.” [*News from Berkeley Lab*, March 28, 2023]

Scientist, author, leader, mentor, educator, conference organizer, committee member, element discoverer, science advisor, and stateswoman, Hoffman is recognized internationally as an expert in the study of actinide and transactinide elements. She was born in Terril, Iowa and earned her PhD in chemistry from Iowa State College in 1951. She started at Oak Ridge National Laboratory in 1952. From 1953 to 1984 she worked at Los Alamos National Laboratory. In 1984 she started as Faculty Senior Scientist and Leader of the Heavy Element Nuclear and Radiochemistry Group at Lawrence Berkeley National Laboratory with a joint position as Professor Emerita in the College of Chemistry at the University of California, Berkeley, nurturing the next generation of nuclear scientists. Darlene was co-founder and the charter director of the first Glenn T. Seaborg Institute at Lawrence Livermore National Laboratory. In 1993, Darleane and co-workers confirmed the existence of a new element, seaborgium 106, which was named for Nobel laureate Glenn Seaborg, a long-time colleague of Hoffman’s. She was also a member of the team that discovered elements 116, flerovium and 118, livermorium. She has authored more than 280 peer reviewed scientific papers, book chapters, and books.

Prof. Hoffman has been bestowed with numerous awards and accolades throughout her celebrated career. These include, among others, the 1983 ACS Seaborg Award, 1990 ACS Garvan-Olin Medal, 1997 National Medal of Science, 2000 ACS Priestly Medal, and the 2014 Los Alamos Medal for her accomplishments and exceptionally distinguished career in nuclear science, actinide chemistry and separations, and her

pioneering work at the frontier of the periodic table. In her 70-year career in chemistry, Darleane has forged new paths and broken many glass ceilings as a female scientist in a male-dominated discipline. She was the first woman division leader at LANL and the first female recipient of the Los Alamos Medal. She was the second female recipient of the ACS Priestly Award. In 2002 she was recognized by Discover magazine as one of the 50 most important women in science. For the Fermi Award, Hoffman will receive a citation signed by the President and Secretary of Energy, a gold-plated medal embossed with the image of Enrico Fermi, and a half-share of a \$100,000.00 honorarium.

## NATIONAL MEETING PROGRAMMING

**FALL 2023 – San Francisco, CA**

**August 13 - 17**

*Theme: Harnessing the Power of Data*

The 266th ACS National Meeting & Exposition will be held August 13 - 17, 2023 in San Francisco, CA. The NUCL Division has five symposia planned for the Fall 2023 National ACS meeting, including sessions on data science, 4f and 5f element separations, nuclear forensics, targetry for nuclear physics experiments, and our young investigators symposium. Information regarding the session and their organizers can be found at <https://callforabstracts.acs.org/acsfall2023/NUCL>. Of particular note, the Young Investigators Symposium will feature panel discussions regarding career paths and opportunities for early career researchers. Finally, for any of you who may have missed the abstract submission window, but are still interested in submitting an Abstract for consideration, please reach out to the session organizers or the fall programming chair, Gian Surbella ([robert.surbella@pnnl.gov](mailto:robert.surbella@pnnl.gov)).

### **Advanced Materials and Strategies for Lanthanide and Actinide Separations (Invited)**

*Organizer: Amanda Carr ([carraj@anl.gov](mailto:carraj@anl.gov))*

### **Data Science and Artificial Intelligence Applications in Nuclear and Radiochemistry**

*Organizer: Deborah Penchoff*

*([dpenchof@utk.edu](mailto:dpenchof@utk.edu))*

### **Nuclear Forensics: The Measurements and Data**

*Organizers: Narek Gharibyan*

*([gharibyan1@llnl.gov](mailto:gharibyan1@llnl.gov)), Luther McDonald*

*([luther.mcdonald@utah.edu](mailto:luther.mcdonald@utah.edu)), Jennifer*

*Shusterman ([shusterman1@llnl.gov](mailto:shusterman1@llnl.gov))*

### **Targetry for Nuclear Physics Measurements and Accelerator Applications**

*Organizers: Todd Bredeweg ([toddb@lanl.gov](mailto:toddb@lanl.gov))*

*and John Despotopulos*

*([despotop@unlv.nevada.edu](mailto:despotop@unlv.nevada.edu))*

### **Young Investigators in Nuclear and Radiochemistry**

*Organizer: Gian Surbella*

*([robert.surbella@pnnl.gov](mailto:robert.surbella@pnnl.gov))*

### **SPRING 2024 – New Orleans, LA March 17-21**

*Theme: Many Flavors of Chemistry*

The 267th ACS National Meeting & Exposition will be held March 17 - 21, 2024 in New Orleans, La. We are looking for volunteers to organize symposia for this meeting. Please contact Tara Mastren ([Tara.Mastren@utah.edu](mailto:Tara.Mastren@utah.edu)) with potential symposia topics or for more information.

### **Panel Session/Contributed: Embracing Diversity in NUCL: The Many Flavors of LGBTQ+ Research in Nuclear Chemistry**

*Organizers: Tyler Spano ([spanotl@ornl.gov](mailto:spanotl@ornl.gov)),*

*Brodie Barth ([bbarth@nd.edu](mailto:bbarth@nd.edu))*

## General Topics in Nuclear Chemistry and Technology

Organizers: *Organizers Needed*

## Radiochemical Separations

Organizers: *Dustin Demoin*  
([Dustin.Demoin@ezag.com](mailto:Dustin.Demoin@ezag.com)) and *Laetitia Delmau* ([delmaulh@ornl.gov](mailto:delmaulh@ornl.gov))

## The Many Flavors of Radiochemical Separations

Organizers: *Dustin Demoin*  
([Dustin.Demoin@ezag.com](mailto:Dustin.Demoin@ezag.com)) and *Laetitia Delmau* ([delmaulh@ornl.gov](mailto:delmaulh@ornl.gov))

## Computational Science Applications in Rare Earth Elements and Actinides

Organizers: *Deborah Penchhoff*  
([dpenchhof@utk.edu](mailto:dpenchhof@utk.edu)), *Charles C. Peterson*  
([Charles.Peterson@unt.edu](mailto:Charles.Peterson@unt.edu)) and *Theresa Windus* ([twindus@iastate.edu](mailto:twindus@iastate.edu))

## Bridging Computational and Experimental Research in NUCL

Organizers: *Ashley Shields*  
([shieldsae@ornl.gov](mailto:shieldsae@ornl.gov)) and *Sarah Finkeldei*  
([sfinkeld@uci.edu](mailto:sfinkeld@uci.edu))

## Nuclear Medicine

Organizers: *Ivis Chaple* ([ichaple@utk.edu](mailto:ichaple@utk.edu))

## NUCLEAR CHEMISTRY SUMMER SCHOOL UPDATE

*Lynn Francesconi*

The Nuclear Chemistry Summer School (NCSS) will be run from June 12, 2023 to July 21, 2023. The two sites for the NCSS are San Jose State University and Brookhaven National Laboratory. This year there were 150 applications from undergraduates from across the United States. Twelve students for each site have been selected. We would like to thank the selection committee for their service on evaluating and ranking all the applications. This year the selection committee consisted of Nick Esker, San Jose

State University, Karah Knope, Georgetown University, Julie Ezold, Oak Ridge National Laboratory, and Graham Peaslee, University of Notre Dame.

## AWARDS NOMINATIONS COMMITTEE OF NUCL

*Thomas Albrecht-Schoenzart*



Photo: Prof. Jason Lewis, Professor and Emily Tow Chair in Oncology, Memorial Sloan Kettering Cancer Center, receives the Glenn T. Seaboard Award for Nuclear Chemistry at the Spring 2023 National Meeting.

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

*Charles D. Coryell Award*

Any undergraduate who has been actively doing research in the nuclear chemistry field in the previous year is eligible for consideration of the Charles D. Coryell award. To nominate a student for this award (which includes a certificate and a \$1000 check), please submit a sample of the student's work (in the form of a written report or a publication), together with a nomination letter from the research mentor that describes the extent and the nature of the student's involvement in the research. The nomination deadline is by June 1, 2023, and all application materials should be emailed to Thomas Albrecht-Schoenzart ([talbrechtschoenzart@gmail.com](mailto:talbrechtschoenzart@gmail.com)).

## EMPLOYMENT OPPORTUNITIES

### Eckert & Ziegler

[Eckert & Ziegler Isotope Products](#) is hiring a [Health Physicist](#) to join their team. This position monitors radiation safety programs and policies to ensure compliance with federal, state, and local radiation regulations, and ensures a safe workplace environment. Assists with the development and implementation of operational radiation safety programs including decontamination, surveys and monitoring, and radioactive waste management. Contact Irena Petrovic ([irena.petrovic@ezag.com](mailto:irena.petrovic@ezag.com)) with questions.

### Oak Ridge National Laboratory

The [Glenn T. Seaborg Initiative \(GTSI\)](#) of Oak Ridge National Laboratory (ORNL) is committed to enhancing and maintaining US capabilities in actinide science and technology by helping to attract, develop, and retain the workforce of actinide scientists to meet the needs of the nation.

1) Oak Ridge National Laboratory is in search of a PostDoc to hire in the Advanced Nuclear Fuels for Nonproliferation Applications program. This program focuses on developing new nuclear fuel forms and increasing the permissible service envelopes of known nuclear fuels in collaboration with industry and other DOE laboratories. The program's goal is to screen and advance fuel concepts and materials technologies to enable high performance, compact nuclear reactors for remote power generation, space exploration, and other demanding environments. This objective requires advances in manufacturing technologies, improved understanding of nuclear fuel properties as a function of processing variables, development of novel test irradiation capabilities, and enhanced post irradiation examination methodologies.

This call will specifically focus on topics related to solid state processing of actinide materials, radiation effects in actinide compounds or nuclear fuel systems, and property measurements relevant to development of nuclear fuel forms.

For further information or to apply, <https://jobs.ornl.gov/job/Oak-Ridge-Glenn-T-Seaborg-Initiative-TN-37830/1010664600/>

2) This call is supported by the Plutonium-238 Supply Program which seeks to reestablish a domestic supply of heat source plutonium-238 oxide in support of NASA's deep space and planetary exploration missions. This call will focus on advancing the understanding of liquid-liquid extraction and ion exchange techniques as applied to the chemical separations needed within the Plutonium-238 Supply Program. Research which considers the study of redox chemistry as applied to neptunium/plutonium nitrate solutions is of specific interest.

For further information or to apply, <https://jobs.ornl.gov/job/Oak-Ridge-Postdoctoral-Research-Associate-Glenn-T-Seaborg-Initiative-TN-37830/1016493600/>