



At the Interface of Science and Engineering



AMERICAN CHEMICAL SOCIETY

SS&T NEWSLETTER

September 2017, Kathryn Taylor-Pashow, Editor

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Chair's Message

by Cory Hawkins

Dear fellow members of the Separations Science and Technology Subdivision,

Looking forward to the next year, there are several opportunities to get involved in SS&T activities. Because we are focused on promulgating the science and engineering accounts of our members, the best way to make the most of your membership is to organize a symposium in your area of interest in separations. Another way to get involved and build your professional network is to run for a SS&T officer position. That's right, election season is upon us and this year's ballots are being prepared. You should expect an electronic survey to appear in your inbox within the next month. If at any point during the year, if you want to play an active, rather than passive role in SS&T and the ACS, then feel free to contact me or any of the officers listed on this page. We will be happy to introduce you to the rewarding experiences that can come with a modicum of commitment.

As the ACS Fall meeting recedes into the past, I would like to take the time to recognize the impressive volunteers who make this subdivision a consistent purveyor of excellent scientific programming. Thank you to all the volunteers who made 2017 a successful year. From the efforts of the active members who develop new programming, to the officers who help organize and drum-up support for the subdivision activities, SS&T is advancing its impact on the ACS and the science.

At our Spring meeting in San Francisco, Leigh Martin was honored as an I&EC Early Career Fellow with a full day of fascinating speakers and discussions, related and not related to Leigh's career, so far. We also witnessed the unveiling of a novel approach to monitoring the *in situ* kinetics of solvent extraction, the studies of which Leigh, not surprisingly, played a role. Thank you, Glenn Fugate for putting together an excellent panel on a generous full day schedule. Additionally, a good turn-out developed for the symposium on "Ionic Liquids in Separations and Analysis". A diverse audience was received, with established scientists and young investigators, alike. Thank you, Mark Dietz, for sharing in both the organization and presiding of an insightful set of talks.

Usually, the Fall meeting is not intensely programmed by SS&T. Yet, the symposium on "Structural & Supramolecular Aspects of Metal Ion Separations", organized by Carter Abney, was well attended and featured prominent speakers from around the globe for one and one half-day sessions. The talks covered developments and insights in solvent extraction, adsorption, ion exchange, and the characterization of interfacial chemistry, with an emphasis on the effects of aggregate structure on separations.

Looking forward to the Spring 2018 meeting committee is offering two new collaborative symposia. Be sure to explore these in New Orleans, the SS&T programming contributed symposia for a connection to your work or research.

Upcoming Conferences

(1) "Separation Science & Technology in the Medical Cannabis and Hemp Industry", organized by Jerry King (I&EC, U. Ark.) and Ezra Pryor (CANN, Heidolph Instruments)

(2) "Inaugural Joint Symposium of the Separation Science Subdivisions", organized by Glenn Fugate (I&EC, ORNL) and Catherine Rimmer (ANYL, NIST)

In one of these collaborations, a joint symposium between SS&T and Cannabis Chemistry Subdivision of CHAS was fostered by our Vice Chair. Talks and discussions will align with the theme of processing and scale-up of separation technology applied to the cannabis-hemp industry. Travel awards may be available for symposium participants. In the other, a combined program between the Subdivision of Chromatography and Separations of the Analytical Division and SS&T has been led by Glenn Fugate and Catherine Rimmer. This program is the first in a series to be co-sponsored by ANYL and I&EC. Designed to highlight our overlapping interests in separations and facilitate synergy among scientists and engineers across many fields, the I&EC will lead organization in Spring and ANYL will do so for the Fall meetings. Travel awards may be available for symposium participants.

For more information you may also *see the flyers attached* to this newsletter or visit the 255th ACS National Meeting: Call for Papers website at <https://callforpapers.acs.org/nola2018>.

Best wishes, and I look forward to meeting you at a coming meeting.

The 21st International Solvent Extraction Conference (ISEC)

November 5-9, 2017

Miyazaki, Japan

Conference website: www.solventextraction.gr.jp/isec2017

Supergreen 2017, 10th International Conference on Supercritical Fluids

December 1-3, 2017

Nagoya University, Nagoya, Japan

<http://www.supergreen2017.org/>

255th American Chemical Society National Meeting & Exposition

March 18-22, 2018

New Orleans, LA

Program Theme: Nexus of Food, Energy and Water

12th International Symposium on Supercritical Fluids

April 22-25, 2018

Antibes, France

www.issf21018.fr

42nd Actinide Separations Conference

May 21-24, 2018

Charleston, SC

256th American Chemical Society National Meeting & Exposition

August 19-23, 2018

Boston, MA

Program Theme: Nanoscience, Nanotechnology & Beyond

Post-Doctoral Position Posting

Oak Ridge National Laboratory

Postdoctoral Research Associate —Radiochemist/Radiochemical Engineer / NB50630659

<https://www.ornl.gov/ornl/careers>

US citizen only

Purpose

The Nuclear Security and Isotope Technology Division (NSITD) performs a wide range of scientific, technical, and programmatic activities in all facets of the nuclear enterprise from nuclear nonproliferation and safeguards to research and development (R&D) pertaining to nuclear materials processing. NSITD has responsibility for much of the nuclear chemical processing and radiochemistry that is performed at the Oak Ridge National Laboratory. In particular, the Process Engineering Research (PER) Group applies chemistry, chemical engineering, and nuclear engineering fundamentals to the processing of nuclear materials, nuclear nonproliferation, safeguards and security, and national security. The PER Group is currently seeking applications for one or more Post-Doc positions. Sponsors include the U.S. Department of Energy Offices of Nuclear Energy, Science, and Environmental Management, the Department of Homeland Security, the National Nuclear Security Administration, and other government and private entities.

A distinguishing characteristic of the NSITD is the combination of fundamental, lab-scale research capabilities with the performance of larger-scale R&D to demonstrate and validate deployment concepts. The work conducted involves the use of nonhazardous materials in non-radiologic environments and the processing of radionuclides and hazardous chemicals in controlled (e.g., hood, glovebox, and hot cell) facilities. The work also leverages the extensive prior work in these fields through literature research on historical and current related work.

Major Duties/Responsibilities

The successful candidate will support proposal development, planning, conducting, coordinating, and reporting R&D activities in support of various technical areas with emphasis on gamma spectroscopy, radiochemical processing, and analytical chemistry. The successful candidate will be capable of participating in multi-laboratory and multi-national laboratory scale collaborations on projects relating to nuclear process R&D activities. The successful candidate will be expected to: conceive research plans to address specific problems; participate in experiment planning including risk identification and mitigation; participate in equipment design, analysis, and setup; conduct experiments; collect and analyze data; and report results. Consistent with the Division's capabilities, the candidate will likely be required to participate in experiments at scales ranging from lab- to engineering-scale, including experimental work with radionuclides and hazardous chemicals in controlled facilities or in the field.

The successful candidate will be required to interact effectively with various personnel and sponsors, both within and outside of ORNL. The candidate is expected to be able to maintain proper records including laboratory notebooks, to work in a team environment with co-workers and management as well as independently, to document work performed in the forms of technical reports, papers, and presentations, and to participate in the development of research proposals. Excellent communication skills, including verbal, presentation, and writing skills are required.

Qualifications Required

The successful candidate must have a PhD in chemistry, chemical engineering, nuclear engineering, or related discipline. An understanding of actinide chemistry and/or processing is necessary. Experience in actinide separations chemistry, and analytical methods utilized to evaluate actinide separations and reactions is required. Direct experience with handling radioactive materials is highly desirable. The ability to interact with individuals having differing scientific and engineering backgrounds, and the ability and willingness to acquire new knowledge and learn new skills are also required.

**Separation Science and Technology in the
Medical Cannabis and Hemp Industry**
255th National Meeting of the American Chemical
Society

New Orleans, LA, March 18-22, 2018

Co-Sponsored by the Separation Science and Technology Subdivision –IEC
Division and Cannabis Chemistry Sub-Division – CHAS Division

Abstracts are invited in the application of separation techniques and processes for this co-sponsored session – particularly papers focused on post- and pre-extraction techniques/processes as well as scale-up for cannabis/hemp processing. Applicable processes include distillation for concentration and solvent removal, phase separation (i.e. de-waxing), adsorption, chromatography (SFC), as well formulation of extract delivery systems (infusion), as well related topics such as automation, module mobility, and requisite physicochemical data.

Organized by:

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Abstracts are due by October 16, 2017. Abstracts are to be submitted using the Meeting Abstract Programming System (MAPS) at www.acs.org.

Call for Papers:

Inaugural Joint Symposium of the Separation Science Subdivisions

255th National Meeting of the
American Chemical Society
New Orleans, LA March 18 – 22, 2018

Sponsored by the Separation Science and Technology Subdivision
of the Industrial and Engineering Chemistry Division and the of Chromatography and Separations
Chemistry Subdivision of the of Analytical Chemistry Division

The Separations Subdivisions of the Industrial & Engineering Chemistry and Analytical Divisions both focus on separation science research and development. These subdivisions serve as forums to discuss basic science, technology and method improvements and as an interface between chemists and engineers in the transition of laboratory and bench scale studies to industrial application. This inaugural joint symposium aims to promote a wide range of technical talks over all aspects of separations science.

Particular areas of interest include novel and new research in the following areas:

- Method development
- Separation compounds and systems
- Laboratory or industrial instruments and hardware
- Industrial separations needs and development

Organized by:

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Abstracts are due by October 16, 2017 and are to be submitted using the Meeting Abstracts Programming System (MAPS). Feel free to contact us to indicate your interest or to answer any questions.