

THE CAPITAL CHEMIST



A Publication of the Chemical Society of Washington Section of the American Chemical Society

Next CSW Dinner Meeting 10/10

Join us on Thursday, October 10th, for the Chemical Society of Washington (CSW) dinner meeting.

Dr. Janice Reutt-Robey, Professor and Chair, Department of Chemistry and Biochemistry, University of Maryland, will present on “Marvelous Metals: Critical Elements for Energy & Nanotechnology”.

Meeting Logistics

Date: Thursday, October 10, 2019

Time: 6:00 p.m. Check-in/Social Hour

6:30 p.m. Dinner

7:00 p.m. Presentation & discussion of bylaws

Location: Department of Chemistry Atrium, Bldg. # 91 University of Maryland - College Park

** CSW will be voting on new bylaws as part of the upcoming elections and that there will be time allotted for discussion of the updated bylaws at the October 10 dinner meeting*

Menu: Meal will be catered by La Prima Catering and will feature a hot buffet with chicken, sherried mushrooms, and potatoes.

Vegetarian Option: Caponata vegetarian penne pasta

Sides: Grilled Vegetables, Caesar Salad

Dessert: Dessert Bars

Beverages will be provided

Cost: \$24 (Members and guests) / \$12 (Students and High School Teachers)

RSVP by noon Tuesday, October 8, to csw@acs.org (preferred) or by phone (messages only: 202.659.2650). Please provide the names in your party when you RSVP, and your preference for the meat or vegetarian option. The public is invited to attend. You may attend the talk only, but reservations are appreciated. If you need any further information or would like to make a reservation, please contact the CSW office by email at csw@acs.org or by voicemail at 202.659.2650.

Speaker Bio

Janice Reutt-Robey is a Professor and Chair of the Department of Chemistry & Biochemistry at the University of Maryland, College Park. She earned her Chemistry B.S. from Haverford College and PhD from the University of California, Berkeley. As a graduate student, she was introduced to surface electronic structure by Prof. David Shirley, and chemical dynamics by Prof. Yuan T. Lee. Following a post-doc at A.T. Bell Labs in surface physics, she joined the University of Maryland, College Park as an Assistant Professor, rising through the ranks to her current position. Her research program centers on surface chemistry and nanoscale science. She is known for the development and application of Scan Probe Microscopy methods to study chemical phenomena at metal surfaces, and for her elucidation of the role of crystallographic steps and metal adatoms. She has authored more than 75 publications on topics that include surface diffusion, self-assembly, nanophase separation, interface reactions, gas sensors, and nanobatteries.

The recipient of numerous awards, including Sloan and Packard Fellowships, she has been active in the AVS, APS, and the ACS, serving most recently as the Director of the 2019 U.S. National Chemistry Olympiad Training Camp. She and her physicist husband Steve Robey reside in Silver Spring, Maryland where they raised two daughters and their flat-coat retriever.

Volume 69, Number 7
October 2019

Inside this issue:

- Learn about this year's CSW election
- This year's NCW theme is, "Marvelous Metals"
- Nominate a friend or colleague for a CSW award
- Volunteer for the Spooky Science Expo
- Learn more about two open positions in the DMV area

Abstract

In this talk, Janice will highlight metals in clean energy technologies, and challenges for sustainability. She will discuss where metals, such as lithium, platinum, and ruthenium are found, and the chemical processes used for their conversion into technology-grade materials. She will describe how the rich and varied electronic properties of metals drives their technology applications. Lithium, with its low work function and small size, has helped spur the revolution in energy storage technology. Later in the periodic chart, the electronic properties of transition metals are better harnessed for chemical catalysis. Atomistic processes that underlie the surface chemistry in energy storage systems and heterogeneous catalysts are illustrated with model systems. Through direct imaging and localized spectroscopies, we decipher surface phenomena, including chemical adsorption, surface reaction, ion insertion/deinsertion and solvation.

2019 Electronic Voting Procedures

The Chemical Society of Washington will conduct its election of Officers, Councilors, and Managers with electronic ballots. If you are a full CSW member and have a valid e-mail address on file with The American Chemical Society, then on or about October 11 you will receive an e-mail with instructions for accessing the secure voting website and candidate statements, along with a unique voter ID code. The ballot will be sent to the same e-mail address at which you receive official communications from ACS. If your e-mail account has strong spam filters, please “white list” elections@vote-now.com and election.ballot@vote-now.com in order to ensure that you receive your voter ID code. If you haven’t provided an e-mail address to ACS, fear not—anyone without an e-mail address on file, or whose ballot e-mail is returned as undeliverable, will receive a paper ballot with voting instructions and candidate statements. Candidate statements will also be posted on the CSW website (www.capitalchemist.org) on or about October 11. As in previous elections, voting will close at 11:59 pm on November 15. Just click, read, and vote! Even better—if you, like many of us, are chronically absent-minded, you will receive two reminder e-mails if you have forgotten to cast your ballot. If you haven’t voted in prior CSW elections, please take this opportunity to do so, and help shape the future direction of CSW. If you have questions about the new voting process, or if you do not receive a ballot by October 21, please contact us at csw@acs.org.

CSW Election: Candidates

President-Elect: Jennifer Tanir

Secretary: William Hickling

Councilor:

Joseph Antonucci
Christopher Avery
Darryl Boyd
Richard Goodman
LaKesha Perry
Judith Faye Rubinson
Jason E. Schaff
Nevart Tahmazian

Manager:

Regina Cody
Kristy Crews
Leila Duman
Joseph Duran
Felicia Fullilove
Xiaoyong Lu
Vamsee Veeramachineni
Joan Walker

Candidate Statements can be found on the CSW website at https://capitalchemist.org/wp-content/uploads/2019/09/Candidates-Full-List-2019_election.pdf

CSW Bylaws

The Chemical Society of Washington has drafted new bylaws for approval by the membership. CSW's current bylaws were adopted in 2005 and in the intervening 14 years much of its terminology and many of its provisions have either become outdated or have drifted out of harmony with expected practice for ACS Local Sections. The proposed revised bylaws were drafted in consultation with the ACS Council Committee on Constitution and Bylaws, and have received approval from that committee for submission to the CSW membership for vote. The CSW Board of Managers has also approved the new bylaws and recommends that CSW members vote in favor of their adoption. A vote on the revised bylaws will be included with the ballot for election of Officers, Councilors, and Managers; an affirmative vote of 2/3 of the valid ballots cast will be required to adopt the revised bylaws. The Chair of CSW's Committee on Bylaws and Standing Rules will be present and available at the October 10 dinner meeting to answer questions about the revised bylaws. Printed copies of the proposed bylaws revisions will be available for reference.

CSW's current (2005) bylaws can be viewed here: <https://capitalchemist.org/wp-content/uploads/2019/09/CSW-bylaws-2005.pdf>

and the revised bylaws to be voted upon can be viewed here: <https://capitalchemist.org/wp-content/uploads/2019/09/CSW-Bylaws-for-2019-vote.pdf>

National Chemistry Week (NCW) - October 20-26, 2019



National Chemistry Week (NCW) is a public awareness campaign that promotes the value of chemistry in everyday life. ACS members and chemistry enthusiasts celebrate NCW by coordinating events and communicating the importance of chemistry. Each year the American Chemical Society's (ACS) NCW campaign reaches millions of people with positive messages about the contributions of chemistry to their daily lives. NCW is a community-based annual event that unites ACS local sections, businesses, schools, and individuals in communicating the importance of chemistry to our quality of life. It is the one time during the year that chemists, regardless of background, unite with the common goal of spreading the word that chemistry is good for our economy, our health and our well-being.

This Year's National Chemistry Week theme is "Marvelous Metals!" focusing on metals. You will learn more about the chemistry of metals in this year's issue of *Celebrating Chemistry*. Metals are chemical elements or mixtures of elements that are good conductors of electricity and heat. Precious metals such as gold, silver, and copper were some of the first elements identified by humans. Did you know that 76% of the elements in the periodic table are metals? Scientists have been studying the elements for hundreds of years. In fact, the modern periodic table is just a way to organize the elements and describe how they are related to each other. It is based on the work of a chemist named Dmitri Mendeleev. This year is the 150th anniversary of Mendeleev's periodic table! The yearlong celebration is called the "International Year of the Periodic Table of Chemical Elements" or "IYPT 2019." The electronic version of the Celebrating Chemistry Newsletter is available from the ACS website (www.acs.org/ncw).

The Chemical Society of Washington (CSW), along with the ACS Office of Community Activities, is planning several NCW events. Volunteers are needed for these outreach activities. We are in the early stages of planning the events, so watch for additional information in the October Capital Chemist, or on the Capital Chemist and CSW webpages.

You can contribute to the NCW campaign by performing chemical demonstrations at a neighborhood school (consider having an illustrated poem contest); conducting hands-on activities with children at museums, malls, or libraries; or writing articles or letters to the editor of your local paper. If you would like to lead an activity at your local school or library, CSW will provide you with some grade specific materials to hand out to the students, as well as some simple demonstrations that you can use.



More information about local activities will be posted on the CSW (www.capitalchemist.org) web site as they become available. For further information, or to volunteer, contact the CSW NCW coordinator, Kim M. Morehouse via e-mail at Kim.Morehouse@FDA.HHS.GOV, or by phone at 240-402-1889 (day) or 301-384-7311 (evening).

Celebrate National Chemistry Week at Rockville Town Square - October 26, 2019

Celebrate National Chemistry Week at Rockville Town Square
Saturday, October 26, 2019
10:00 a.m. to 4:00 p.m.

The City of Rockville and Rockville Town Square are hosting a day of hands-on activities to teach students about the importance of chemistry, all in the name of National Chemistry Week (NCW). This Year's National Chemistry Week theme is "Marvelous Metals!" focusing on metals and their properties. The participants will be given a copy of the NCW 2019 edition of *Celebrating Chemistry* where they will learn more about the chemistry of outer space.

Volunteers needed

Volunteers are needed to assist with the hands-on activities and to hand out chemistry themed items to the participants. Set up will start at 9:00 am and clean up should be complete by 4:00 pm. If you would like to volunteer, please contact Kim Morehouse via e-mail at kim.morehouse@fda.hhs.gov or by phone at 240-402-1889.

2019 NCW Illustrated Poem Contest - Marvelous Metals

The Chemical Society of Washington Local Section of the American Chemical Society (ACS) is sponsoring an illustrated poem contest for students in Kindergarten through 12th grade.

[View/Download a PDF of the details.](#)

[View/Download Contest Entry Form.](#)

Contest Deadline: November 1, 2019

Prizes: Chemistry Themed Tee Shirt

Contact: Kim Morehouse, kim.morehouse@fda.hhs.gov

Winners of the Chemical Society of Washington Local Section's Illustrated Poem Contest will advance to the National Illustrated Poem Contest for a chance to be featured on the ACS website and to win prizes!

Write and illustrate a poem using the NCW theme, "Marvelous Metals." Your poem must be no more than 40 words and in the following styles to be considered:

HAIKU - LIMERICK - ODE - ABC POEM
FREE VERSE - END RHYME - BLANK VERSE

Possible topics related to metals include:

- Alloys
- Conductors
- Electricity
- Electrons
- Magnetism
- Metalloids
- Minerals
- Rust

Entries will be judged based upon:

- Artistic Merit - use of color, quality of drawing, design, and layout
- Poem Message - fun, motivational, inspiring about yearly theme
- Originality Creativity - unique, clever and/or creative design
- Neatness - free of spelling and grammatical errors

Contest rules:

All poems must be no more than 40 words, and in one of the following styles to be considered: Haiku, Limerick, Ode, ABC poem, Free verse, End rhyme, and Blank verse.

Entries are judged based upon relevance to and incorporation of the NCW theme, word choice and imagery, colorful artwork, adherence to poem style, originality and creativity, and overall presentation.

All entries must be original works without aid from others. Poems may be submitted by hand on an unlined sheet of paper not larger than 11" by 14" or scanned and sent via email. Illustrations may be created using crayons, watercolors, other types of paint, colored pencils, or markers. The illustration may also be electronically created by using a digital painting and drawing app on a computer, tablet, or mobile device.

The text of the poem should be easy to read and may be typed before the hand-drawn or digital illustration is added, or the poem may be written on lined paper, which is cut out and pasted onto the unlined paper with the illustration.

No clipart or unoriginal images can be used.

Only one entry per student will be accepted; all entries must include an entry form. If the illustration is created using a digital painting or drawing app, the name of the program must be included on the entry form.

All illustrated poems and/or digital representations of the poems become the property of the American Chemical Society.

Acceptance of prizes constitutes consent to use winners' names, likenesses, and entries for editorial, advertising, and publicity purposes.

Volunteers Needed for STEM Outreach Events in October

If you're available to volunteer for the event below, contact Allison Aldridge at Allison457@aol.com

3rd Annual Spooky Science Expo

Saturday, October 5, 2019
3:00 pm – 6:00 pm
Watergate at Landmark Terrace Lounge
211 Yoakum Parkway
Alexandria, VA 22304

The Watergate Youth Committee Science Club is a community organization that will be holding its third annual science event this year. This event will provide children with interactive demonstrations. This event celebrates the third anniversary for the club that meets the 2nd and 4th Friday of every month.



For more information, contact Zohreh Khoshnamak
Watergate At Landmark, Science Club Chair and Youth Committee Member
khoshnamak@gmail.com
(571) 421-6181

Summary of Governance Actions and Reports from Fall ACS Meeting (San Diego, California – August 25-29, 2019)

We are pleased to present you with the highlights of the recent meetings of the ACS Board of Directors and Council held at the Society's national meeting in San Diego, California. We hope that you will find this document helpful.

<https://capitalchemist.org/wp-content/uploads/2019/09/Councilor-Talking-Points-and-Summary-of-Governance-Actions-San-Diego-2019.pdf>

Analytical Chemistry Faculty Position Available at American University

Position Announcement:

Associate or Full Professor: Analytical Chemistry

Department of Chemistry

College of Arts and Sciences

American University

The Department of Chemistry in the College of Arts and Sciences at American University invites applications for a tenured position from candidates who currently hold a rank of Associate or Full Professor. The position is

expected to begin on August 1, 2020. Candidates currently at a rank of Assistant Professor who have a strong record of funding and publication are also encouraged to apply. This hire is part of the expansion of the sciences at AU as the Departments of Chemistry, Biology, and Environmental Science and the Neuroscience Program prepare to move into a new, state-of-the-art facility on campus.

The department is specifically searching for a candidate whose research focuses on the detection and identification of chemicals that are relevant to either human health, environmental health, or crime scene and military forensics.

The faculty member hired into this role will continue to grow and develop their research program, teach two classes per semester, and serve on university and departmental committees. The faculty member is also expected to mentor and train undergraduate students (70% of the department's majors self-identify as either white women or as coming from an underrepresented minority group). Consideration will be given to those who can participate in the Behavior, Cognition, and Neuroscience PhD program or the proposed PhD program focusing on biological and environmental health.

Please submit applications via: <http://apply.interfolio.com/65780> by October 1st. Include a cover letter, a CV, a description of research program, a statement on teaching and mentoring philosophy, and a list of three references. Inquiries can be directed to the search committee chair by email: hartings@american.edu.

About the Department

There are currently 7 tenure-line faculty and 5 professional teaching faculty members in the department. Many of our faculty collaborate with researchers at the local national laboratories. The department offers an ACS-accredited chemistry major and a biochemistry major. Our undergraduate students are research active and many are authors on published manuscripts. The department houses a suite of analytical instrumentation including TEM with EDS capabilities, SEM with EDS capabilities, NMR, GC-MS, LC-MS, HPLC, FPLC, powder X-ray diffractometer, DSC, TGA, DMA, FTIR, UV-Vis, and more.

About the University

American University is a private institution, recently classified in the "High Research" category by the Carnegie Classification system. The university has shown a strong commitment to supporting and growing the sciences with its recent emphasis on building infrastructure. The Don Myers Technology and Innovation Building opened in 2017 and houses the Departments of Physics, Mathematics and Statistics, and Computer Science. The Hall of Science, which will house the research program of the current hire, is set to be completed in July of 2020.

The University has recently developed and begun to enact a plan for inclusive excellence. This plan sets diversity, equity, and inclusion as guiding values for American University as it operates within an ever-changing world. We invite candidates to view the University's statements and commitment to these principles.

American University is an equal opportunity, affirmative action institution that operates in compliance with applicable laws and regulations. The university does not discriminate on the basis of race, color, national origin, religion, sex (including pregnancy), age, sexual orientation, disability, marital status, personal appearance, gender identity and expression, family responsibilities, political affiliation, source of income, veteran status, an individual's genetic information or any other bases under federal or local laws (collectively "Protected Bases") in its programs and activities. American University is a tobacco and smoke free campus.

Hiring an Application and Research Scientist

Materials Design is excited to announce a search for a new colleague who will enhance our Support team and provide solutions to our growing user community. The formal advertisement is available on <https://www.materialsdesign.com/careers>. We are looking for applicants with expertise in first principle methods to join our dynamic and growing team in San Diego, CA to support our users applying MedeA to solve their research problems and open new areas of exploration in the field of atomistic simulations.

If you know of a candidate with such expertise, please encourage them to apply. They are welcome to submit a cover letter and resume in one pdf document to recruiting@materialsdesign.com with the subject of "Application and Research Scientist: applicant name"

Call for Nominations: Hillebrand, Gordon, & Schubert Awards

Call for Nominations: William F. Hillebrand Prize

Nominations are invited for the 2019 Hillebrand Prize, awarded annually for original contributions to the science of chemistry by a member or members of the Chemical Society of Washington (CSW), the local section of the American Chemical Society. The Hillebrand Prize is the most prestigious honor given each year by CSW and is recognized nationally as a mark of significant accomplishment in chemistry. The Hillebrand Prize originated in 1924 and is named for Dr. William F. Hillebrand (1853- 1925), an internationally-recognized pioneer in analytical chemistry and one of Washington's most distinguished early chemists.

The prize carries an honorarium of \$2000. Many previous Hillebrand Prize recipients have won numerous other national and international awards, including three who have received the Nobel Prize. See the list of award winners at <https://capitalchemist.org/2018/06/hillebrand-prize-recipients-by-year/>.

The nominating package should contain the following:

Nominating Letter – limited to 1000 words

The letter should focus on the chemical accomplishments of the nominee, rather than the bio of the nominee, from a broad standpoint, leaving the finer points to those submitting seconding letters. Biographic details (degrees, positions held, major activities etc) will be given in the nominee's CV. The letter should begin with the major theme(s) in the nominee's research career with perhaps a summary of how these evolved over the years to create breakthroughs or push the field in a new or very productive direction.

Describing the nominee's major contribution(s) is extremely important and should be the bulk of the letter.

There is no preference or restriction for the specific area of contribution so long as it represents a significant accomplishment in chemistry. Anything is fair game; synthetic or analytical, experimental or theoretical, bio- or inorganic, etc. This section might detail such things as: the major techniques used in their research and how these were applied to a specific area to bring about significant results not previously achievable; if their research resulted in the development of a new experimental/instrumental technique or use of an existing technique in an innovative new way; how techniques the nominee developed became standard in that area; the impact the nominee's work had on influencing other areas of research; development of new reagents, catalysts or reaction conditions; development of a new computational method or theoretical approach; etc. The nominator should provide evidence in support of these statements. This could include information about: the number of citations, impact factors of certain articles (or aggregate numbers), especially influential articles/book chapters, important invited talks, previous awards by other societies, patents, funding, important leadership positions, etc. Mentioning an extremely productive collaboration is possible so long as the role/contributions of the nominee are clear. The award is not given for mentoring students (as a specific criteria) but nominators often mention if this has occurred, especially if these students have gone on to significant posts on their own.

Two Seconding Letters – limited to 500 words each

It is helpful if these be from established experts in the nominee's field, and best if they are from experts at institutions other than the nominee's unless a notable expert in the nominee's area is also from the nominee's institution.

Curriculum Vitae - the candidate must be a member of CSW

The CV should strongly emphasize individual academic backgrounds, appointments, publications, presentations, and patents.

List of Publications

This is critical in determining the specific scientific contribution of the nominee or team.

Proposed Citation – limited to 25 words

This is a brief statement that should be understood by chemists in almost any area. It should avoid highly specialized language but still give the reader the area of accomplishment and why this is a significant accomplishment in chemistry. In some ways it is a one or two sentence abstract of the first paragraph of the nominating letter. Since this is only 25 words, you may simply want to provide 1 or 2 examples of previous awardees.

We strongly recommend that the nominator collect all materials and forward in one email, preferably as PDF files(s), to csw@acs.org. Nominations will be active for three years.

If you would like to verify the eligibility of an individual as a nominee or nominator, please contact the CSW Administrator at csw@acs.org. All materials must be received by November 1, 2019. The awardee will be announced before the end of the year, and the Prize will be presented at the CSW dinner meeting in March 2020.

If you have any questions about the award or the procedure for nominating someone for the award, please contact our office – csw@acs.org or 202.659.2650.

Call for Nominations: Charles L. Gordon Memorial Award

Named after Charles Gordon for his years of service as managing editor of the Capital Chemist, the Charles L. Gordon Memorial Award is given in recognition of exemplary service by a CSW member to the profession of chemistry, to the science of chemistry, and/or to the Chemical Society of Washington. Nominations are invited for this award, consisting of a plaque that will be presented at the March 2020 CSW dinner meeting. A written nomination should include a description of the accomplishments on which the nomination is based. Additional documentation that includes seconding letters and the nominee's CV are welcome.

Completed nominations for the Charles L. Gordon Award are due on or before November 15, 2019. The nomination should be submitted electronically to csw@acs.org. Please contact the Chair of the Awards Committee, Bradley Scates (bascates@gmail.com), if you have any questions.

Call for Nominations: Leo Schubert Memorial Award

The Chemical Society of Washington (CSW) is pleased to announce the call for nominations for the Leo Schubert Memorial Award to recognize an outstanding teacher of high school chemistry in the Washington, D.C. area. The award was established in 1979 to honor Dr. Leo Schubert, a chemistry professor at American University who devoted much of his career to developing programs for high school teachers and students. The Schubert award consists of a \$500 honorarium and a certificate, which will be presented at the March 2020 CSW dinner meeting.

Nominations for the award must be comprehensive in describing the nominee's accomplishments in areas such as innovation in teaching, writing curricula, outside teaching, papers published, involvement in science fairs, and postgraduate study. The application may also include supporting letters, as well as any supporting documents that concisely illuminate the nominee's accomplishments.

To be eligible for the CSW Schubert award, the nominee must currently teach chemistry at a secondary school in the geographic region of the Chemical Society of Washington, which includes metropolitan Washington, D.C. and the neighboring counties in Maryland (Montgomery, Prince George's, Charles, Calvert and St. Mary's Counties) and Virginia (Arlington, Fairfax and Loudoun Counties). The region of CSW also includes six counties on the Eastern Shore of Maryland: Caroline, Talbot, Dorchester, Wicomico, Worcester, and Somerset.

The CSW Schubert Award nomination form is available directly via The Capital Chemist. Alternatively, a pdf version of the nomination form can be obtained by an email request to csw@acs.org. Completed pdf nomination forms can be sent directly to csw@acs.org. All nominations must be submitted by November 15, 2019.

Download the [2019 Schubert nomination form](#).

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The **Chemical Society of Washington (CSW)** is the local ACS Chapter for the Washington, DC area and serves approximately 4,000 members.

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www.facebook.com/ACSCSW.

CSW Calendar of Events

October 5: Spooky Science Expo

October 10: CSW Dinner Meeting

October 20-26: National Chemistry Week

November 1: Hillebrand Prize Nomination Deadline

November 14: CSW/WCDG Joint Meeting

November 15: Gordon and Schubert Award Nomination Deadline

November 15: Deadline to vote in CSW Election

November 21: CSW Board of Managers Meeting

December 14: CDW/SCC Joint Meeting