

THE CAPITAL CHEMIST

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

October 15th Virtual Meeting Featuring Jonathan Wilker

The CSW Monthly Meeting for October will take place on October 15th from noon to 1pm ET on Zoom, and will feature Jonathan Wilker, Professor, Department of Chemistry and School of Materials Engineering, Purdue University.

Registration Link: <https://american-chemical-society.zoom.com/join/zoom/register/tJcsduqvqDosGdM4dHxJT2QF-wgu3KAP5tLu>

Biography:

1991: B.S. in Chemistry,
University of Massachusetts at
Amherst
1996: Ph.D. in Chemistry,
Massachusetts Institute of
Technology
1996-1999: Postdoc, California
Institute of Technology



Jon grew up in the Boston area his parents. Now at Purdue, materials produced by marine organisms. A particular emphasis is the adhesives and cements produced by mussels and oysters for sticking to rocks. Ongoing efforts include characterization of these marine biological materials, developing synthetic polymer mimics, and designing applications for these new materials. Projects are often inspired by what is seen while out scuba diving.

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Inside this issue:

- Join us virtually for the next CSW meeting
- Vote in this year's CSW election
- "Stick" with chemists worldwide this year for NCW
- Read about Project SEED's first ever virtual summer camp
- Nominate a member for an award

and was often taken to the beach by his research program focuses on

Abstract, "Adhesives at the Beach"

Peer into a tide pool and you will see the impressive array of materials generated by marine biology. Mussels, barnacles, oysters, soft coral, and kelp all produce adhesives to stay in place. By sticking together in communities these organisms avoid capture by predators, decrease hydrodynamic forces to which they are subjected, and increase population densities for efficient reproduction. Despite the conspicuous presence on beaches, surprisingly little is known about the chemistry and engineering behind such marine biological materials.

Human technology cannot yet rival the properties of materials generated by these seemingly simple animals. Purchase any glue from a hardware store and try to bond two substrates together when underwater. Nothing will stick. Yet sea creatures accomplish such tasks daily. So far, only marine biology can offer the wet setting and strong bonding needed for surgical glues, dental adhesives, and bone cements.

Ongoing efforts in our group address three compelling questions:

- How does marine biology use chemistry to generate materials?
- Can we make synthetic polymer mimics of biological materials with similar properties?
- Will this knowledge allow us to make adhesives for industrial and biomedical applications?

Please Vote in the CSW Election!

2020 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 (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 Elections: Candidates

President-Elect (vote for 1)

LaKesha Perry

Treasurer (vote for 1)

_____ Write-in

Councilor (vote for up to 3)

Novella Bridges
Raychelle Burks
Wesley Farrell
Monika Konaklieva
N. Bhushan Mondava
Sara Orski
Judith Faye Robinson
Alexander Zestos

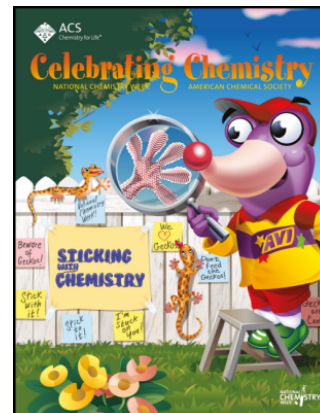
Manager (vote for up to 6)

Seth Cohen
Joseph Duran
Rodrigo Lazo-Portugal
Ashley Pennington
Lauren Ragle
Jacqueline Smith
Alessandra Zimmerman

Candidate Statements can be viewed here: <https://capitalchemist.org/candidates-full-list-2021/>

National Chemistry Week - October 18-24, 2020

National Chemistry Week (NCW) is a public awareness campaign that promotes the value of chemistry in everyday life. American Chemical Society (ACS) members and chemistry enthusiasts celebrate NCW by coordinating events and communicating the importance of chemistry. Each year the 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.



Stick with chemists across the world in celebrating #NationalChemistryWeek 2020 with the theme "Sticking with Chemistry" from October 18-24, 2020.

Explore the world of glues and adhesives! An adhesive is something used to stick things together. There are all sorts of adhesives for different uses and they stick in many different ways. You will learn more about the chemistry of glues and adhesives in this year's issue of *Celebrating Chemistry*. The electronic version of the *Celebrating Chemistry* newsletter is available from the ACS NCW website (www.acs.org/ncw).

This year, NCW will be a virtual event. Be sure to check the Capital Chemist website (<https://capitalchemist.org/>) for some of the fun virtual events that the Chemical Society of Washington (CSW), and the ACS Office of Community Activities, will be hosting for NCW 2020. For further information, or to volunteer, contact the CSW NCW coordinator, Kim M. Morehouse via e-mail at csw@acs.org, or by phone at 301-384-7311.

NCW 2020 Illustrated Poem Contest - entries due by October 26, 2020

Each year as part of National Chemistry Week (NCW) activities, the American Chemical Society (ACS) sponsors an illustrated poem contest for students in Kindergarten - 12th grades. Schools are encouraged to have a contest within the school as part of their classroom studies and submit one entry per grade category. CSW will be sponsoring a local NCW Illustrated Poem contest. The National illustrated poem contest is focused on "Where's the Chemistry?"

Participants are encouraged to explore topics related to the chemistry associated with glues and adhesives. Write and illustrate a poem using the National Chemistry Week theme, "Sticking with Chemistry." Your poem can be in any style as long as it is no more than 40 words. All entries must be received no later than Sunday, October 26, 2020. Entries should be submitted using the ACS NCW Illustrated Poem entry website (<https://www.acs.org/content/acs/en/education/outreach/ncw/plan-an-event/illustrated-poem-contest.html>). Additional information on the contest, as well as NCW, is available on the ACS web site (www.acs.org/ncw).



Project SEED Virtual Summer Camp 2020: Updates

As mentioned in the last edition of Capital Chemist, in-person research was cancelled for Summer 2020, but that did not mean that students were left without a Project SEED program. A total of 291 students from across the country completed the program between July 1st and July 31st.

Project SEED Fellows were organized into cabins of 8-10 students with two undergraduate students serving as Cabin Leaders. There were then 2 cabins organized into a Campsite. The students met at least twice a week in their cabins and once a week as a campsite. CSW members served as Camp Managers for three campsites: Camp Gamma was headed up by Wes Farrell (USNA) and Faye Robinson (Georgetown), Camp Delta by Alexandra Tarabolletti (UDC), and Camp Theta by Jamie Setline (LoC).



The virtual experience included programming in three basic areas: Research basics and preparedness (online lab safety courses and activities, ethics, reading technical papers), professional etiquette and college readiness (resumes and person statements, communication tips), and chemistry related careers (chemists talking about their work and a panel discussion). There were assignments and activities associated with these. In addition, the program featured "Research Hikes" in which speakers talked about their individual research interests as well as their career paths and interactions with students and peers.



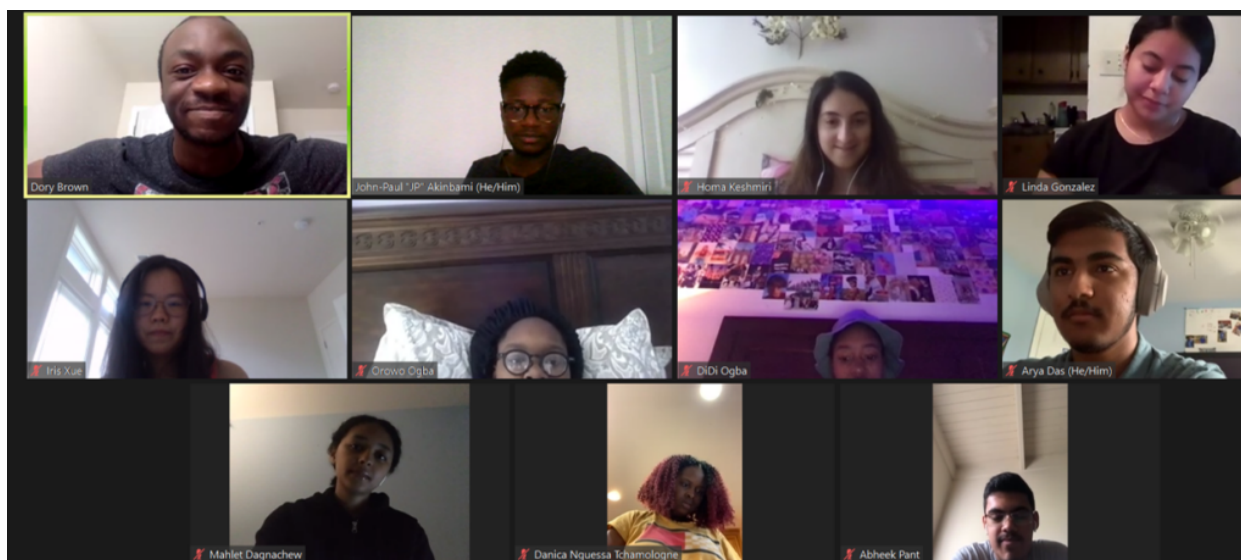
Camp Theta's participants included a total of 19 students from Ohio and Pennsylvania and Cabin Leaders were Brandi James (U. of Cincinnati), Michele Meline (U. Penn.), Claire Gray (Brown U.), and Francesca Samony (St. Joseph's U.) Activities included two outside speakers during fire side chats. One was an undergraduate student who was about to start graduate school, and had a bit of an unconventional path to a position in the Federal Government. Camp Theta also hosted an optional session called "Science at the Library", where a scientist from the Preservation, Research and Testing Division at the Library of Congress spoke to students and sponsored a trivia session at their last camp meeting.

Camp Gamma hosted a total of nineteen students from Maryland and Virginia. Included were four of our Project SEED I students from 2019. The cabin leaders were Leilani Garcia (NJIT), Autumn Cook (UMBC), Dorian

Brown (Salisbury) and John-Paul Akinbami (Morgan State). In addition to the national program, students in Camp Gamma had visits from two outside speakers during the weekly campfire meetings – Dr. Allison Winkels, an internist at Georgetown University Medical Center, and Dr. Jesse Sabatini, a chemist from US Army Futures Command. In both cases, the speakers shared not only their professional experiences, but also their paths from choosing undergraduate colleges and universities for their postgraduate studies, and the challenges and rewards along the way.



Carbon



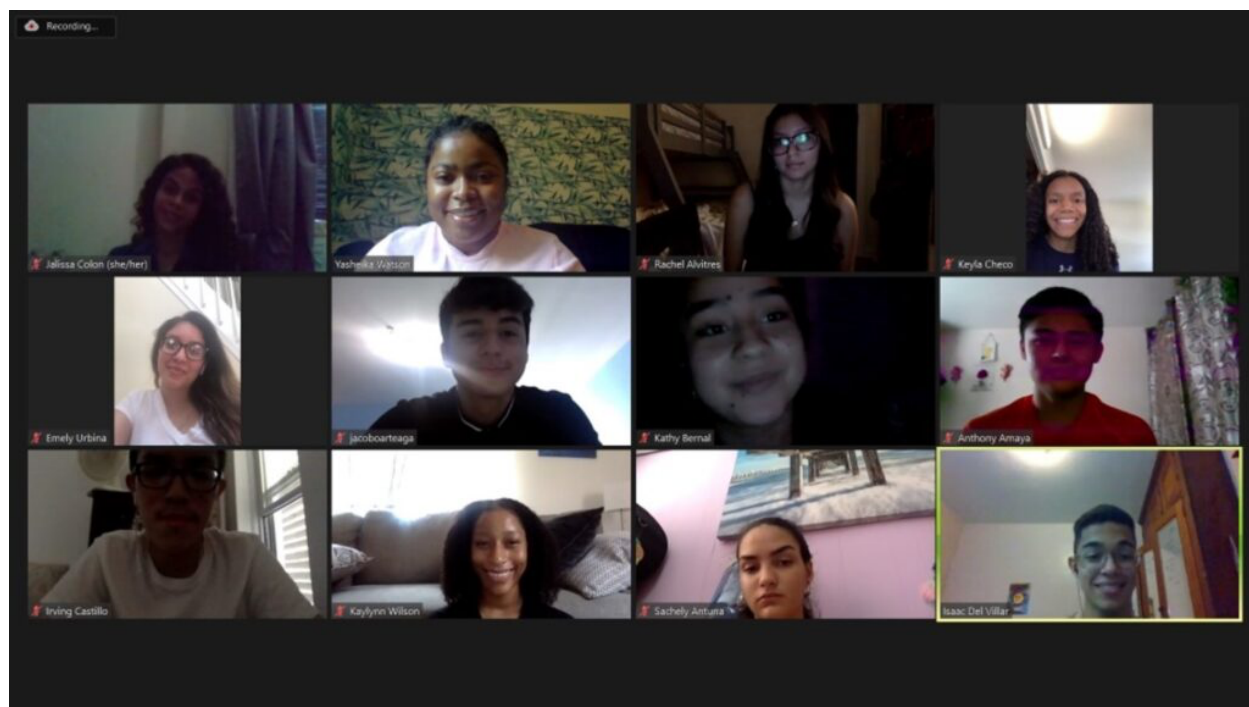
Boron

Camp Delta's cabins were host to a total of 21 students from Virginia and New Jersey. The Cabin Leaders hailed from Longwood U (Keira Naff), the DCPS K-12 community (Tasneen Abdus-Shakur), UDC (Yasheika Watson) and Rowan University (Emily Urbina). In addition to checking in with the students each week, and providing general guidance and tips for the week's topic, the camp included in activity in which students were

guided through using the free program Biorender (<https://biorender.com/>) and asked to design a scientific graphic. Students picked general scientific concepts to illustrate (i.e. photosynthesis, graphite deposition from a pencil). After designing their graphic, each student shared their illustration with the group and explain the concept they picked. Students were engaged using Kahoot and STEM-themed trivia, socializing through PolleEV polls, and relaxing while trying out some online origami and developing a Tik-Tok challenge.



Nitrogen



Oxygen

Feedback on the camp was generally positive and any glitches that resulted from the new program were dealt with in a timely manner. The most common comments were that the campers felt they learned a significant amount about research as well as college prep. There was also overwhelming satisfaction with the Cabin Leaders and the fact that they were very much engaged and willing to help. As Project SEED looks forward to

next summer, there are plans to (at the least) incorporate some of the ideas and activities that worked well into the on-site research program for next year.

Call for Nominations for the 2020 William F. Hillebrand Prize

Nominations are being accepted for the **2020 Hillebrand Prize Award**. The deadline to submit a nomination is November 15, 2020.

Nominations are invited for the 2020 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: <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 15, 2020. The awardee will be announced before the end of the year, and the Prize will be presented at the CSW dinner meeting in March 2021.

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 (voicemail only).

Call for Nominations for the 2020 Charles L. Gordon 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 2021 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, 2020. 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 for the 2020 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 2021 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.

Nomination form: [https://capitalchemist.org/wp-content/uploads/2020/04/Schubert nomination form.pdf](https://capitalchemist.org/wp-content/uploads/2020/04/Schubert_nomination_form.pdf)

Alternatively, a pdf version of the nomination form can be obtained by an email request to csw@acs.org. Completed nomination forms can be sent directly to csw@acs.org. All nominations must be submitted by November 15, 2020. Please contact the Chair of the Awards Committee, Bradley Scates (bascates@gmail.com), if you have any questions.

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The **Chemical Society of Washington (CSW)** is the local ACS Chapter for the Washington, DC area and serves approximately 3,500 members.

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CSW Calendar of Events

October 15: CSW Monthly Meeting (Virtual)

October 18-24: National Chemistry Week

October 26: Illustrated Poem Contest Deadline

November 15: CSW Award Nominations Due

November 15: CSW Election Voting Deadline

November 19: CSW Board of Managers Meeting