

THE CAPITAL CHEMIST



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

Dr. Mark L. Miller to Speak at Joint CSW/WCDG Meeting in November

On November 17, Dr. Mark L. Miller, Research Chemist at the FBI Laboratory's Counterterrorism and Forensic Science Research Unit, will speak at a joint meeting of the Chemical Society of Washington, and the Washington Chromatography Discussion Group. Meeting logistics can be found on the next page.

Abstract: Challenges in Forensic Separations

The popularity of forensic science on TV shows and movies has glamorized forensic scientists and their work for the last couple of decades. But can you really inject a DNA sample in your GC and instantly obtain the name and address for the criminal? Can your arsenal of instruments perform an analysis and find a chemical database for every reference material related to the evidence? While practicing chemists recognize that this is not the case in real life, we can be thankful that these TV shows inspire many young people to seek careers in science. Research in forensics manifests many challenges as new and unusual samples present themselves in casework. One of the first tasks of a researcher is to determine the relevant target molecule(s) and the matrix one must analyze. Often in casework these are common matrices such as biological material (e.g. blood, urine, etc.) or an environmental sample (e.g. soil, water, etc.). But many times there is a twist to the complexities of getting the right results. For example, who could have foreseen that one day we would need to or be able to detect drugs in bugs or hair? Forensic chemistry research deals with these challenges by developing new methods that require both a separation of a complex mixture and a detection technique. The evolving threats mean that both small and large, organic and inorganic chemicals must be separated and analyzed for evidence examinations. GC and LC are the most useful tools for the separation of complex mixtures for everything from hydrogen peroxide to ricin. One of the tricks to effective use of chromatography is to have adequate retention of your analyte on the separation column, which from review of the literature is not always present in forensic practice. This talk will provide real examples of improved and new methods developed for different types of evidence for application in toxicology and explosives casework.

Bio: Dr. Mark L. Miller

Mark L Miller is a Research Chemist at the FBI Laboratory's Counterterrorism and Forensic Science Research Unit in Quantico, Virginia. He has been working on various chromatographic and mass spectrometric applications in forensic science since joining the FBI in 1992. His research interests include trace analysis in toxicology, drugs, explosives, chemicals, and materials. Prior to working at the FBI, he was a Senior Research Chemist for Monsanto Chemical Company in the R&D group. Dr. Miller received a Ph.D. in Analytical Chemistry from the University of North Carolina in Chapel Hill where he was under the direction of Professors Richard Linton and James Jorgenson. He has a B.S. in Chemistry from Indiana University in Bloomington and did research in Professor Milos Novotny's lab. He is an avid Tarheel fan and from a family of UNC graduates or impending graduates.

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Inside this issue:

- Speaker info and meeting logistics for November's joint CSW/WCDG meeting
- Mentors needed for the Chemistry Olympiad
- Mentors needed for Project SEED
- Learn more about the 2016 voting procedures
- Nominate someone for the Leo Schubert or Charles Gordon awards

Joint CSW/WCDG Meeting Logistics

Date: Thursday, November 17

Time: 6:00 p.m. social hour, 7:00 p.m. Presentation

Location: ACS Headquarters, Marvel Hall
1155 16th St., N.W., Washington, DC

Menu: Kabobs of beef, chicken, and vegetables with saffron scented rice and tzatziki sauce, Cyprus salad, hummus with pita chips, traditional and chocolate dipped baklava. Vegetarian option: Paella Peppers (bell peppers filled with saffron rice, sweet peas and roasted onions and tomatoes), black bean salad, kale salad, sun-dried sour cherry tiger cookies

RSVP by noon Tuesday, November 15 - csw@acs.org or by phone (messages only: 202-659-2650)

Please provide the names in your party when you RSVP. 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

Parking: Parking is available in nearby commercial parking garages. Please be aware that garage closing times vary. Parking is also available on the street after 6:30 pm, but be aware that most parking meters are in effect until 10:00 pm and may be limited to 2 hours. You should check the individual meters for details and payment methods as some are no longer coin-operated.

Metro: Blue/Orange/Silver Line: McPherson Square or Farragut West. Red Line: Farragut North.

Apply Now: U.S. National Chemistry Olympiad (USNCO) Mentor Needed

Sponsored by the American Chemical Society (ACS)

The USNCO seeks a Chemistry Olympiad Mentor. Some of the duties and responsibilities associated with this position are:

- helping to conduct a two-week study camp for the nation's brightest twenty chemistry high school students at the United States Air Force Academy in Colorado for the following years: 2018, 2019 and 2020,
- developing practice problems, theoretical and practical tests for the study camp,
- preparing students for the International Chemistry Olympiad (IChO) competition,
- accompanying the U.S. team at the IChO in July of 2019 and 2020.

Most students at the study camp have completed Advanced Placement Chemistry or the equivalent; therefore instruction at the camp is well beyond the level of high school general chemistry courses. The curriculum also includes considerable laboratory work.

Successful applicants are expected to have background in one or more of the areas of organic, inorganic, analytical, physical, or biochemistry with classroom experience, and should demonstrate involvement with students in special projects or activities. Applicants must be prepared to make a three-year term commitment. ACS pays an honorarium and most expenses associated with the study camp and the IChO.

Interested individuals may obtain an application and additional information at: www.acs.org/olympiad or contact: Margaret Thatcher, Program Administrator, at USNCO@acs.org or 202-872-6328.

The deadline to submit an application is December 2, 2016.

Applicants must arrange to send three letters of recommendation directly to Cecilia Hernandez, Assistant Director Endowed Programs, Education Division, at c_hernandez@acs.org by December 7, 2016.

Project SEED: Mentors Needed

Project SEED is a program for economically disadvantaged high school students administered by the American Chemical Society (ACS) that offers a unique opportunity to spend a summer conducting hands-on research with a scientist in a laboratory setting. Project SEED programs are initiated and hosted by research institutions (academic, government, or industrial laboratories). Students work 8–10 weeks and are awarded a stipend.

A Project SEED mentor can be any scientist involved in scientific work in several arenas including academic, industrial, nonprofit, and government facilities. A student project can take many forms but should be accomplishable in 8–10 weeks. It can be part of a larger project but suitable for a student with a minimal science background.

The project should be in a chemically-related discipline and can involve laboratory or field work. The first responsibility is to provide a meaningful research experience, including technical and safety training. Expectations should be clearly defined. The student should have an understanding of the project and its importance within the overall research program. It's also important to help students develop their communication, presentation, and team skills. One of the major responsibilities of a mentor is to listen and provide guidance.

Basic Mentor Responsibilities

- Provide technical and safety training.
- Provide career guidance.
- Define expectations clearly.
- Meet program deadlines.
- Guide student in writing a final report.
- Listen and provide advice.

The Project SEED application process opens on November 3, 2016 for summer 2017. If you're interested in becoming a Project SEED mentor, please send an email to Allison457@aol.com.

Reminder: 2016 Electronic Voting Procedures

The CSW Nominations and Elections Committee is proud to present an outstanding slate of candidates for the 2016 election. Candidates are running for positions as Officers, Councilors, and Managers with terms beginning in 2017.

Detailed candidate information, including biographies and statements, are listed in alphabetical order for each office on the Capital Chemist website. Candidate statements will also be available with your ballot. Take a look and get to know the people running!

By participating in our annual election you will play an important role in deciding the direction of the Chemical Society of Washington. Voting begins October 15 and is restricted to members of the Chemical Society of Washington.

How to Vote:

Electronic Voting:

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, along with a unique voter ID code. If your e-mail account has strong spam filters, please “white list” elections@vote-now.com and election.ballot@votenow.com in order to ensure that you receive your voter ID code.

Mailed Ballots:

CSW members without an email address in their ACS member record, those who have opted out of CSW email communications, or whose ballot e-mail is returned as undeliverable will receive a paper ballot package with voting instructions and candidate statements.

Voting deadline:

The deadline for voting is November 15, 2015 at 11:59 p.m. ET. The internet voting system will shut down at exactly 11:59 p.m. Eastern Time on November 15, 2015.

Results will be announced on the [Capital Chemist website](#) and in the December Issue.

We want CSW to be representative of its members, but we need your help! This is your chance to make your voices heard! Thank you in advance for your participation and if you have questions about the voting process, or if you did not receive a ballot by October 21, please do not hesitate to contact us at csw@acs.org.

Nominations Open for 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 February 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, 2016. The nomination should be submitted electronically to csw@acs.org. Please contact the Chair of the Awards Committee, Kim M. Morehouse at kim.morehouse@fda.hhs.gov, if you have any questions.

Nominations Open for 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 January 2017 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 and Virginia – Arlington, Fairfax and Loudoun Counties in Virginia, and Montgomery, Prince George's, Charles, Calvert and St. Mary's Counties in Maryland. The region of CSW also includes six counties on the Eastern Shore of Maryland – Caroline, Talbot, Dorchester, Wicomico, Worcester and Somerset.

A CSW Schubert Award nomination form is available directly via The Capital Chemist website (<http://www.capitalchemist.org/the-chemical-society-of-washingtons-leo-schubert-memorial-award-2016-nomination-form/>). Alternatively, a pdf version of the nomination form can be obtained by an e-mail 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, 2016.



CSW volunteers at NCW tent at the Marine Corp Marathon. From left to right: Kim Morehouse, Kin-Chun Luk, Ivana Brekalo, Jason Schaff, Diego Cortes and Michelle Cortes.

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CSW Calendar of Events

November

11/4: NCW Illustrated Poem Deadline

11/15: **Deadline to vote in CSW Election**

11/15: Schubert and Gordon award nominations due

11/17: Joint CSW/WCDG Meeting

11/29: CSW Board Meeting