

## Dr. Isiah Warner, LSU, to Speak About GUMBOS at December Meeting

On December 11, CSW will host its monthly meeting in conjunction with the Washington Chromatography Discussion Group. The featured speaker will be Dr. Isiah Warner, who will give a talk on “GUMBOS: Tunable Materials for Biomedical Applications.” Additional meeting information can be found on page 2.

Professor Warner is an analytical chemist with more than 300 refereed publications in a variety of journals relevant to his general area of research. He has particular expertise in the area of fluorescence spectroscopy, where his research has focused for more than 35 years. He is considered one of the world's experts in this analytical spectroscopy. He is the corresponding author in the highly cited biannual reviews on “Molecular Fluorescence, Phosphorescence, and Chemilumines-

cence Spectrometry” for the journal *Analytical Chemistry*. Over the past 20 years, he has also maintained a strong research effort in the areas of organized media and separation science.

Professor Warner has been performing research in the more specific area of analytical measurements using ionic liquids (ILs) for several years. It is this research on ionic liquids which has lead to the recent conceptualization and implementation of a group of uniform materials based on organic salts (“GUMBOS”) as novel materials which can be exploited for a variety of applications. Novel nanoparticles (nanoGUMBOS) have been derived from these materials which can primarily be classified as frozen ILs. However, some GUMBOS are not ionic liquids since they do not fit the traditional definition of ILs. The

utility of these materials is that they provide solid phase materials with the same tunability of ionic liquids. Several publications in key chemistry journals (e.g. *JACS*, *Nano Letters*, *ACS Nano*, *Analytical Chemistry*, *Chemical Communications*, and *Langmuir*) and pending patents have resulted from this new area of research.



### Abstract: “GUMBOS: Tunable Materials for Biomedical Applications”

My research group has been exploring the scientific applications of  
...Cont. on page 4

## APPLY NOW: U.S. National Chemistry Olympiad (USNCO) High School Chemistry Mentor Needed *Sponsored by the American Chemical Society (ACS)*

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

- preparing students for the International Chemistry Olympiad (IChO) competition,
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- developing practice problems, theoretical and practical tests for the study camp, and
- accompanying the U.S. team at the IChO in July of 2016 and 2017.

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](http://www.acs.org/olympiad) or

contact Margaret Thatcher, Program Administrator, at [USNCO@acs.org](mailto:USNCO@acs.org) or 202-872-6328. **The deadline to submit an application is January 24, 2014.** Applicants must arrange to send three letters of recommendation directly to Cecilia Hernandez, Assistant Director, Endowed Programs, Education Division, at [c\\_hernandez@acs.org](mailto:c_hernandez@acs.org) by February 7, 2014.

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## THE CHEMICAL SOCIETY OF WASHINGTON PRESENTS: *1123rd Evening Meeting*

*Joint meeting with the Washington Chromatography Discussion Group*

Wednesday, December 11, 2013

ACS Hach Building  
(ACS Headquarters)  
1155 16th Street, NW  
Washington, DC

### **Agenda**

**6:00 p.m.:** Check in, Social Hour, Dinner

**7:00 p.m.:** Speaker Presentation

**Cost and Reservations:** This is a free event, and the public is invited to attend. A light dinner will be catered by Panera Bread. Register online by Monday, December 9, 2013, 12:00 noon, at <http://wcdg2013dec.ezregister.com>.

**Directions:** The ACS Hach Building is located at the corner of M & 16th Streets in Northwest Washington, four blocks north of the White House. Please note that 16th Street is two-way, and M Street is one-way westbound.

**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.

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

### **About WCDG**

The Washington Chromatography Discussion Group began in the early 1960s as an informal group of gas chromatographers who gathered to exchange ideas related to separation science. In 1965, the group, comprised of distinguished scientists from government, academia, and industry, formally became known as the "Washington Area Gas Chromatography Discussion Group". The first president was M. Beroza, and president-elect and program chairperson was I. Hornstein, both from the USDA. The group met once a month from September through June in several locations throughout the area to hear an invited speaker and share information. As the group gained popularity, its activities included seminars, dinners, short courses, and symposia.

By 1970, HPLC had become a viable technique so the group's name was changed to the more encompassing "Washington Chromatography Discussion Group", or WCDG. The group's meetings were held regularly at one location, the office of Hewlett-Packard in Rockville, Maryland, and instrument manufacturers began sponsoring a light dinner before each meeting.

Today, the Washington Chromatography Discussion Group is a thriving organization of vivacious, highly respected scientists. The program schedule is very interesting and diverse with topics ranging from fundamental to applied chromatography in an array of biological and chemical systems. The WCDG holds regular meetings on the third Wednesday of each month from September through May at the US Pharmacopeia in Rockville, Maryland. At 6:00 p.m. a light dinner is served followed by the featured speaker at 7:00 p.m. We welcome you to join in our discussions.

You can learn more about WCDG online at <http://wcdg.squarespace.com>.

## CSW Younger Chemists Committee (YCC) News and Events

*Contributed by Dr. Ajay Mallia and Dr. Deana Jabor, YCC-coordinators*

### Library of Congress Lab Visit and Tour

On November 5<sup>th</sup>, 2013, CSW visited the chemistry lab at the Library of Congress. CSW-YCC would like to recognize and thank Dr. Fenella France (Chief, Preservation Research and Testing Division) and all members of the library who helped us and made this a wonderful and informative event.

### “Chemistry of Money” Talk

In another successful event, about 60 participants gathered at Caruthers Hall, Marymount University, on November 6<sup>th</sup>, 2013 to listen to the “Money Talk” by Dr. Steve Carlo, who is a chemist at the Department of the Treasury’s Bureau of Printing and Engraving. CSW-YCC coordinator Dr. Deana Jabor welcomed everyone and introduced Dr. Steve Carlo. Dr. Carlo clearly explained various processes of currency making, different printing methods, and also the optical mechanism involved in the advanced 3-D security ribbon and the bell in the ink in the new redesigned \$100 bill. The talk was followed by an active question and answer session and a raffle for a beaker mug. This event was collaboratively organized by CSW-YCC and Marymount University’s Science Club.

### “Acing the Interview”-A Career Workshop

An interview is a conversation with an ulterior purpose. CSW-YCC organized a career-related workshop called “Acing the Interview” with Dr. David Harwell, Assistant Director of Career Management & Development at ACS, which was attended by about 40 participants on November 9<sup>th</sup>, 2013. The workshop started with a general first interview topic, “tell me about yourself...”, and included different activities in which participants formed into pairs/groups and practiced acting as interviewer and interviewee. Dr. Harwell helped participants and explained how to organize and prepare answers for general interview questions, behavioral questions, and also some “difficult” questions. CSW-YCC wishes all the best to the participants in attaining their dream job.

### This Month in Photos



Clockwise, from top left: Dr. Steve Carlo (Chemist, Department of the Treasury’s Bureau of Printing and Engraving) explaining the chemistry of money; Dr. Eric Breitung (Culture Heritage Scientist, Library of Congress) explaining their research; Participants enjoying the “Chemistry of Money” talk; Dr. Deana Jabor (CSW-YCC coordinator) welcoming participants at the “Chemistry of Money” talk; “Acing the Interview” participants at ACS Headquarters, DC; Dr. David Harwell (Assistant Director, ACS careers, standing left) answering a question from a participant; Library of Congress visit participants with Dr. Fenella France (Chief, Preservation Research and Testing Division, first from right) and Ajay Mallia (YCC co-ordinator, first from left).

## CSW Participates in National Chemistry Week at Crystal City Family Festival and Ludlow Taylor Elementary

As part of National Chemistry Week, CSW participated in the Family Festival event in Crystal City, held in conjunction with the Marine Corp Marathon on Sunday, October 27, 2013. CSW Volunteers performed hands-on activities for the children who attended and distributed over 150 CSW pencils, as well as copies of the *Celebrating Chemistry* newsletter and NCW-themed publications. About 100 children learned about polymers and enjoyed making bouncy balls and color changing beads.



*Above Right: Eileen and Kim Morehouse preparing for NCW Event. Above: Betsy Yakes, Kim Morehouse, and Jason Schaff hold chemistry demonstrations. Right: Alan Anderson performing a surfactant chemistry demonstration at Ludlow Taylor Elementary School on October 24th.*

On October 24th, CSW members Alan Anderson and Edward Ollie, staff from the ACC, and students from Prince George's Community College provided hands on activities for students at Ludlow Taylor Elementary School.



## Calendar of Events

December 11, 2013  
CSW Evening Meeting  
ACS Headquarters, DC

January 17, 2014  
Deadline to Submit CSW Travel  
Award Application

January 30, 2014  
Deadline for Project SEED  
Mentors to Submit Research  
Applications

## Speaker Abstract

*Continued from page 1*

room-temperature ionic liquids (RTILs) for several years. More recently, we have extended the range of these materials to include applications of similar solid phase materials, i.e. organic salts with melting points of solid phase ionic liquids (25°C to 100°C) up to organic salts with melting points of 250°C. To contrast these new materials with RTILs, we have created the acronym GUMBOS (Group of Uniform Materials Based on Organic Salts). These GUMBOS have the tunable properties frequently associated with RTILs, including tunable solubility, melting point, viscosity, thermal stability, hydrophobicity, and functionality. Thus, when taken in aggregate, GUMBOS allow the production of solid phase materials which have a wide range of biomedical and other scientific applications. In this talk, I will highlight the applications of GUMBOS which we have recently explored for biomedical science, including production of nanomaterials. In regard to these nanomaterials (nanoGUMBOS), we believe that our methodology represents an extremely useful approach to production of tunable nanomaterials, since our materials are designed and assembled for specific uses, rather than adapted for use as is often done for nanomaterials. Selected applications will be highlighted in this talk. Particular emphasis will be placed on a recently developed strategy for cancer therapy.

## ACS Webinars™

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**December 5:** Alternative Assessments: Strategies for Sustainable Product Development

<http://www.acswebinars.org/alternative-assessments>

**December 12:** Chemistry & the Economy—2013 Year-end Review

<http://www.acswebinars.org/chem-economy-2013>

**January 9:** Wine Science—Designing Great Wines

<http://www.acswebinars.org/wine-design>



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## 2013 CSW Student Travel Award Application Process

The Chemical Society of Washington is pleased to announce a travel award to defray travel and/or registration costs to a National ACS meeting. Eligible expenses include meeting registration and travel expenses, such as airfare and lodging. Applicants should submit the following to CSW (email: [CSW@acs.org](mailto:CSW@acs.org)) by January 17, 2014:

1. A cover letter stating how and why attending this ACS meeting will promote his/her career;
2. The applicant's CV;
3. A letter of recommendation from the student's mentor explaining why the student deserves the award and how this will help his/her professional development;
4. An accepted abstract with proof of acceptance.

Within three weeks of returning from the ACS meeting, the awardees should submit receipts to the Treasurer for any or all of the eligible expenses described above, after which the Treasurer of the Chemical Society of Washington will issue a check to each of the awardees. After returning from the conference, awardees will be asked to present their posters at one of the upcoming CSW dinner meetings.

The award is not intended for post-doctoral fellows. There will be a maximum of 4 awards available for each National meeting. Each award will be for \$500 and award of this stipend will be based on the review of the above materials. The award is open to students who are graduate students in the jurisdiction of the Chemical Society of Washington.

### 2013 CSW Student Travel Award Winners

The CSW awarded four awards of \$500 each for the spring National ACS meeting in New Orleans. The award winners were:

- Gail Clements (The George Washington University)
- Kelli Sikorski (University of Maryland)
- Romina Heymann (University of Maryland)
- Zhenlei Xiao (University of Maryland).

Four additional awards of \$500 each were presented for the fall National ACS meeting in Indianapolis. The award winners were:

- Lauren Graham (University of Maryland)
- Soumya Rastogi (University of Maryland)
- Zi Teng (University of Maryland)
- Jie Zhou (University of Maryland)



### Project SEED News

*Contributed by Ajay Mallia, Project SEED Chair*

#### Deadlines for Project SEED 2014: Mentors and Students

The deadline for Project SEED mentors to send their research proposals is January 30, 2014. If you are interested in mentoring a Project SEED student, please contact the CSW Project SEED chair, Dr. Ajay Mallia at [vajaymallia@gmail.com](mailto:vajaymallia@gmail.com). High school teachers and counselors can submit applications for potential Project SEED candidates for 2014 to the Project SEED chair. In order to be eligible to participate in Project SEED, students need to have completed a year of chemistry class by June 2014, and be able to prove economic disadvantage. For information on Project SEED and student eligibility, please contact the CSW Project SEED committee or visit the Project SEED website at [www.acs.org/projectseed](http://www.acs.org/projectseed). Alternatively, you may also contact the ACS Project SEED office at [projectseed@acs.org](mailto:projectseed@acs.org) or 202-833-7732.

#### Project SEED Needs Your Support!

Project SEED cannot operate without the help from individuals and companies that support the Scientists-in-training. Are you interested in supporting Project SEED? Last year we unfortunately turned away many applicants because of lack of funding. CSW has established the Noel Turner Memorial Fund to help support Project SEED. Your donation will be used for student stipends (\$2500 for the SEED-1 and \$3000 for the SEED-2 program). Your contribution is fully tax deductible. For more information, Ajay Mallia, Project SEED Chair, can be reached by email at [vajaymallia@gmail.com](mailto:vajaymallia@gmail.com), or you may contact CSW at [csw@acs.org](mailto:csw@acs.org), or by phone at 202-659-2650.



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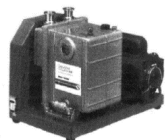
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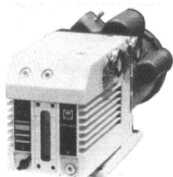
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- [www.mboservices.net](http://www.mboservices.net)
- <http://membership.acs.org/W/WashDC/career.html>

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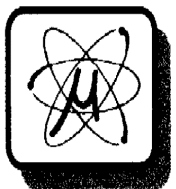
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