

Forensic Science at the Library of Congress Will be Featured at CSW December Dinner

Fenella G. France, a Preservation Research Program Liaison at the Library of Congress, will address the CSW's December dinner meeting on December 9. The subject of the seminar will be "Hyperspectral Imaging and Document Forensics at the Library of Congress." Details of the dinner meeting are on page 2. The dinner will also honor the recipients of CSW's Gordon and Schubert awards, and Project SEED mentors.

Fenella France received her Ph.D from Otago University, New Zealand. A preservation scientist in the Library of Congress Preservation Directorate, she is implementing non-destructive hyperspectral imaging, and anoxic storage and exhibition environments for "Top Treasures" including the Waldseemüller 1507 Map, draft of the Declaration of Independence and other collection items. An international specialist on polymer aging, she focuses on preventing environmental damage to cultural objects. Over the past 15 years she has served as research scientist for a range of projects including the Star-Spangled Banner project (NMAH), the World Trade Center Archive, and the Ellis Island Immigration Museum.

Seminar Abstract: The Library of Congress contains over 145 million items in its collections, with the aim to make these resources available to researchers, and to sustain and preserve a universal collection of knowledge and creativity for future generations. The mission of the Preservation Directorate is to assure long-term, uninterrupted access to the intellectual content of the Library's collections, either in original or reformatted form. The challenge for chemists at the Library is the investigation of aged documents and iconic objects that were created on a range of substrates with many different media. Many reflect natural aging and deterioration due to environmental factors and treatments over their lifetime, and require materials science and chemical analyses to ascertain the undocumented history of these items. The utilization of hyperspectral imaging techniques and other portable technologies and instrumentation have led to huge advances in non-invasive analysis of cultural heritage materials. Integrating digital imaging techniques allows the recovery and preservation of lost information that increases access while preserving original documents and objects. Spectral imaging systems have been used for medical imaging and remote sensing, as a powerful tool for non-invasive, non-contact collection of chemical information about the material composition of artifacts. Significant artifacts studied with this system include not only Jefferson's handwritten draft of the Declaration of Independence, but also Lincoln's Gettysburg Address, the Waldseemüller 1507 World Map and the L'Enfant Plan of Washington DC. Integrating the range and volume of data collected from an object in a cohesive data set requires the development of a spatial "map" of the object with layers of information that relate to specific details on the document. The scripto-spatial organization of data enhances the interpretation of cultural objects and advances the role of science techniques in humanities research.



Fenella France, Library of Congress, CSW Speaker

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In January, *The Capital Chemist* will convert to electronic publication. **Members who wish to continue receiving mailed paper copies may do so for a fee of \$10 per year. Payment of \$10.00, in the form of a check or money order payable to "Chemical Society of Washington" should be sent to the CSW office (address, page 2). If payment is received by close of business on December 30, 2010, the member will receive all nine issues of *The Capital Chemist* for 2011. Otherwise, the member will receive all issues for 2011 with press deadlines after the date of receipt of the \$10 payment (pro-rated price will not be available).**

All members who do not have valid e-mail addresses listed (*continued, page 3*)

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Business Staff

CSW Publications Committee

Noel Turner, Chair

703-569-5153 voice

Business Manager

Jessica Pullen, CSW

Advertising Manager

MBO Services

PO Box 1150, Marshfield, MA 02050-1150

781-837-0424 voice

www.mboservices.net

CSW Correspondence

Kristy A. Martin, Administrator

CSW, 1155 16th Street, NW, O-218

Washington, DC 20036

202-659-2650 voice

email: csw@acs.org

CSW Web site:

<http://csw.sites.acs.org>

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THE CHEMICAL SOCIETY OF WASHINGTON PRESENTS: 1098th Dinner Meeting

Thursday, December 9

Phillips Seafood Restaurant (Flagship)

900 Water Street

Washington, DC

6:00 pm Check-in, Social

6:30 pm Dinner

COST \$30.00 Members & guests

\$15.00 Students

Menu includes: Seafood Buffet, including soup and salad, various seafood selections, assorted sides, and dessert. Cash bar.
www.phillipsseafood.com

Make reservations by **Monday, December 6, 2010, 12:00 noon**, to the CSW office: csw@acs.org or 202-659-2650. Please designate the names in your party. The public is invited to attend. You may attend the talk only, but reservations are appreciated. **Those who make a reservation but are unable to attend should send a check for the cost of their meal to the CSW office.**

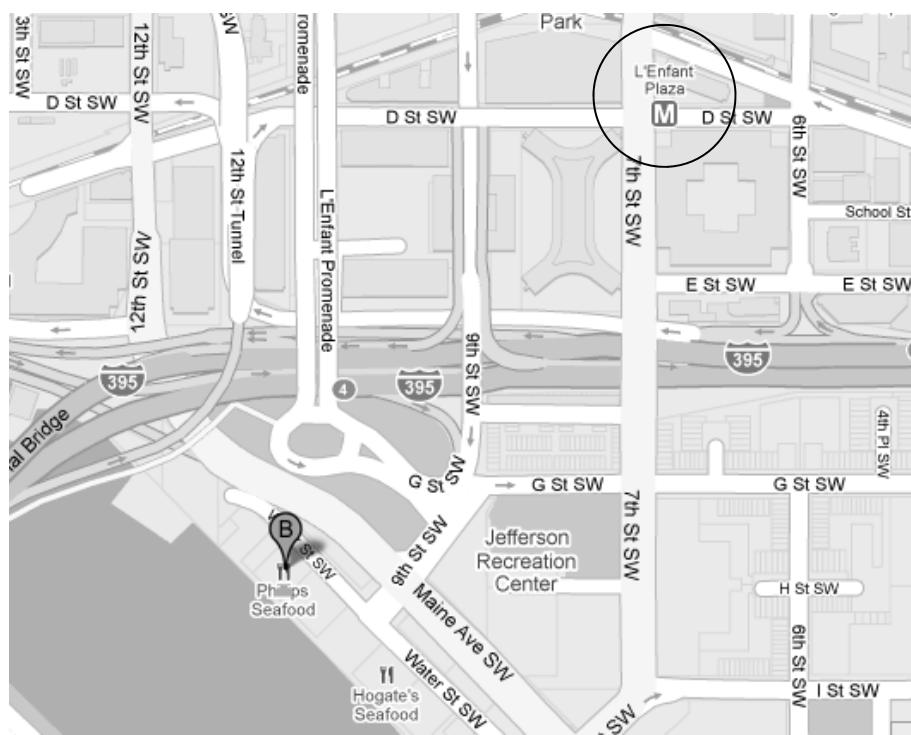
Directions: Phillips Flagship Restaurant is most directly accessible using Interstate 395 into DC from Virginia (see map below). The web site www.phillipsseafood.com has a link for directions.

Parking: Phone (202) 488-8515 for details.

METRO: Green or Yellow Line to L'Enfant Plaza (circled below). Exit the Metro Station and proceed south on 7th St. SW. Turn right onto G St. SW, left on 9th St. SW, and cross Maine Ave. to reach Water St.

7:30 pm: Awards presentations for CSW award recipients

8:00 p.m. Featured Speaker: Fenella G. France Ph.D, MBA, FAIC, Preservation Research Program Liaison, Library of Congress
Title: Hyperspectral Imaging and Document Forensics at the Library of Congress



Schaff, Morehouse, Zwolenik Named CSW Awardees

The 2010 Charles L. Gordon Award recognizing exemplary service to the science of chemistry and to the CSW is awarded to Dr. Jason Schaff. Dr. Schaff is currently serving his third consecutive term as Secretary for the Board of Managers to the Chemical Society of Washington. He



Dr. Jason Schaff

has also served on the Steering Committees for the "Forensic Chemistry in Action" workshop (2006); the "Chemical Toxicology in Action" workshop (2008); the forthcoming "Career Development Workshop for Chemists: Experience from the Past and Tools to Build the Future" scheduled for 2011; and the Host Committee for the 238th ACS National Meeting held in Washington, DC (2009).

The Community Service Award for 2010 recognizing exemplary service to the public by a CSW member is awarded to Dr. Kim Morehouse and to Dr. James Zwolenik. For many years Kim Morehouse has been the primary driving force behind CSW's numerous excellent National Chemistry Week and Chemists Celebrate Earth Day programs by actively planning, scheduling, and advertising these events, and recruiting volunteers to make each of those events a success. James Zwolenik has been at the center

of every CSW public service project for the last four years, chairing the Workshop on Forensic Chemistry in Action in 2006, the Workshop in Chemistry in Toxicology in 2008, the Host Committee for the 238th ACS National Meeting in 2009, and is currently chairing and organizing the Career Development Workshop for Chemists scheduled to be held in 2011.



Dr. James Zwolenik

CSW to Recognize Researchers and High School Teachers for 2010 Project Seed Participation

At the December 9 dinner meeting, CSW will honor the 2010 chemistry sponsors and mentors with an evening dinner and lecture in appreciation of their efforts in allowing high school students to participate in Project SEED. Without these volunteers serving as sponsors and mentors, this program would not be possible.

The high school teachers who sponsored students for the 2010 program :

- Mark Agnew of Rockville High School, MD
- Vernita Jefferson, Counselor, Banneker Academic High School, Washington, DC
- Hadan Kauffman of Thomas Jefferson High School, Alexandria, VA
- Daniel Pogonowski and Eric Elston, Annapolis HS, MD
- Dr. Joseph Stills of Northwestern High School, Hyattsville, MD
- Marta Walter of High Point High School, Beltsville, MD

The scientists who served as mentors for the 2010 program were:

- Dr. Fritz Riedel, Smithsonian Environmental Research Center
- Prof. Sarah Stoll of Georgetown University
- Prof. Andrei Vedernikov of University of Maryland
- Dr. Shiw Wang of ARS, USDA
- Prof. Tim Warren of Georgetown University
- Prof. Richard Weiss of Georgetown University

The CSW Board of Managers appreciates the effort of these individuals in making the 2010 program for Project SEED a success and encourages them, and others, to volunteer for the 2011 program.

Electronic *Capital Chemist* in 2011

(Continued from page 1) with ACS will be mailed paper copies of the nomination and election ballots, regardless of whether or not they pay for mailed delivery of *The Capital Chemist*. If you have a valid e-mail address on file, but still want a paper copy of a ballot sent, contact us at csw@acs.org in order to make appropriate arrangements.

ACS Publications from DC Area Research Groups

This feature of *The Capital Chemist* is a compilation of selected publications in ACS journals, appearing recently, from area institutions.

Wei W. Yu and Ian M. White (2010) "Inkjet Printed Surface Enhanced Raman Spectroscopy Array on Cellulose Paper," *Anal. Chem.*, Article ASAP, Publication Date (Web): November 8, 2010. (Fischell Department of Bioengineering, University of Maryland, College Park)

Matthew B. Dowling, Linjie Li, Juhee Park, George Kumi, Anjan Nan, Hamid Ghandehari, John T. Fourkas, and Philip DeShong (2010) "Multiphoton-Absorption-Induced-Luminescence (MAIL) Imaging of Tumor-Targeted Gold Nanoparticles," *Bioconjugate Chem.*, **21** (11), pp 1968–1977. (Department of Bioengineering, Department of Chemistry and Biochemistry, University of Maryland, College Park; School of Pharmacy, University of Maryland, Baltimore; Department of Bioengineering, University of Utah)

Soumen K. Manna, Andrew D. Patterson, Qian Yang, Kristopher W. Krausz, Henghong Li, Jeffrey R. Idle, Albert J. Fornace Jr. and Frank J. Gonzalez (2010) "Identification of Noninvasive Biomarkers for Alcohol-Induced Liver Disease Using Urinary Metabolomics and the *Ppara*-null Mouse," *J. Proteome Res.*, **9** (8), pp 4176–4188. (Laboratory of Metabolism, Center for Cancer Research, NCI, Bethesda; Lombardi Comprehensive Cancer Center, Georgetown University, Washington, DC; and Institute of Pharmacology, Charles University, Prague, Czech Republic)

Hisataka Kobayashi and Peter L. Choyke (2010) "Target-Cancer-Cell-Specific Activatable Fluorescence Imaging Probes: Rational Design and in Vivo Applications," *Acc. Chem. Res.*, Article ASAP, Publication Date (Web): November 9, 2010. (Molecular Imaging Program, National Cancer Institute, National Institutes of Health, 10 Center Drive, Bethesda, MD)

December Anniversaries in Chemistry

December 6, 1835: One hundred and seventy-five years ago, Rudolf Fitting was born on this date. He synthesized organic compounds, e.g., lactones, with B. C. G. Tollens; synthesized toluene; discovered diphenyl, phenanthrene, 1872, and coumarone, 1883.

December 7, 1810: Two hundred years ago, Theodor Schwann was born. He named and investigated pepsin, 1836, coined the word metabolism; discovered the striated muscle of the upper esophagus and the myelin sheath of peripheral axons, called Schwann cells; and was the founder of modern histology.

December 12, 1960: Fifty years ago, it was announced at a meeting of The American Nuclear Society that the first pure compound of californium (Cf, 98) was synthesized.

December 13, 1935: Seventy-five years ago on this date, F. Victor Grignard died. He developed the magnesium reagent used in organic chemistry and was awarded the Nobel Prize in 1912 for the discovery of the so-called Grignard reagent, which in recent years has greatly advanced the progress of organic chemistry; shared the prize with Paul Sabatier who received it because for his method of hydrogenating organic compounds in the presence of finely disintegrated metals whereby the progress of organic chemistry has been greatly advanced in recent years. He was born on May 6, 1871.

December 17, 1908: Willard F. Libby was born on this date. He was awarded the Nobel Prize in Chemistry for his method to use carbon-14 for age determination in archaeology, geology, geophysics, and other branches of science.

Additional historical events can be found at Dr. May's website
<http://faculty.cua.edu/may/Chemistrycalendar.htm>

DC Area Chemistry Seminar Schedules

Listed below are chemistry-related seminar schedule web sites from area universities, that were up-to-date as of press time. More will be posted as they become updated. Contact the department to find out about general public admission, directions to campus, and parking. **Viewing the PDF? Just click!**

Carnegie Institution of Washington: <http://www.glcw.edu>

Georgetown Chem: <http://chemistry.georgetown.edu/news/seminars.html>

GMU Chem: http://chemistry.gmu.edu/seminar/seminar_fall2010.html

GWU Biochem: <http://www.gwumc.edu/biochem/biochemevents.html>

GWU Chem: <http://www.gwu.edu/~gwchem/seminars.cfm>

GMU Computational Materials Science Colloquium:

<http://cmasc.gmu.edu/seminar/schedule.html>

Maryland Biotechnology Institute: <http://www.umbi.org/home.php>

Maryland Chem: <http://www.chem.umd.edu/seminars>

Maryland Chem Eng: <http://www.chbe.umd.edu/events/seminars.html>

Maryland Chemical Physics:

http://www.chemicalphysics.umd.edu/10_seminars.htm

DC Area Chemistry Seminars: Editor's Choice

Check web sites for times and locations.

Maryland Chem: Distinguished Speaker Seminar Series - Professor Eric Anslyn, University of Texas, Austin, Friday, January 28.

Mary Catherine Cross, Sherwood HS, Receives CSW 2010 Schubert Award for High School Teaching

The recipient of the 2010 Leo Schubert Memorial Award for outstanding teaching of high school chemistry is Dr. Mary Catherine Cross of Sherwood High School, Sandy Spring, MD. Dr. Cross has taught in the Montgomery County Public Schools since 1994. She is also an instructor for several University of Phoenix Online course series including Action Research; Measurement, Evaluation and Ethics; and Critical Issues in Education. Previously Dr. Cross taught chemistry in the DC and New York City Public Schools, and was a science instructor working in Botswana, Africa in the US Peace Corps.

Dr. Cross is a leader on the Sherwood High School Chemistry course team. She created the curriculum and all the course materials for Advanced Placement Chemistry, a course that is approved by the College Board. She monitors safety in the chemical preparation areas and assists every year with the Sherwood Science Fair by serving on the Institutional Review Board and Science Review Committee. For the past four years, Dr. Cross's AP students have run the Sherwood HS Chemistry Show, which has become a highlight for the students and the culminating activity for AP Chemistry. The show has gone 'on the road' to a local middle school to promote interest in Chemistry for young teens.

Dr. Cross's philosophy of teaching features her students as the master learners. In her classes, the students are instructed how to perform chemical demonstrations safely. It is they who earn the applause of their colleagues.

One of her students wrote: *"I did better in chemistry than I ever expected. Even more shocking to me, I learned to love the subject. My grades in Dr Cross' class helped me to receive a Howard Hughes Medical Institute internship at the NIH during my senior year of high school ... From this work I received two publications in the Journal of Medicinal Chemistry. And all from a student who used to dread chemistry."*

Another student stated: *"Even though Dr. Cross is a chemistry teacher, I attribute my sudden success in mathematics to her AP Chem class. Because mental math is such an integral part of the AP exam, Dr. Cross inextricably taught me math concepts. ... My success in her very difficult course has given me a "can-do" attitude that has had a very positive effect on my education this past year, and likely will continue to do so."*

Thanks to her excellent teaching of chemistry, as evidenced by the strong support from colleagues and former students, Dr. Mary Catherine Cross is chosen the 2010 recipient of CSW's Leo Schubert Memorial Award for excellence in High School Teaching.

Green Chemistry Conferences to be Held Jointly in DC

Two international conferences are uniting, June 21-23, 2011, to provide greater access to highly valuable exchanges of information, research and commercialization processes in the green chemistry and engineering fields. The 15th Annual Green Chemistry & Engineering Conference will be held jointly with the 5th International Conference on Green and Sustainable Chemistry.

The world's brightest scientific researchers, government and industry leaders will come together in Washington, DC, to catalyze green chemistry as the solution to global challenges. This joint event commemorates 2011 - the International Year of Chemistry; designated by the United Nations. One location, three days, twenty-one technical sessions and more!

Green Expo: Access products and services from the green marketplace in one location.

Green Chemistry Live: See the future of green innovation. U.S. Environmental Protection Agency's Presidential Green Chemistry Challenge Award recipients will share their innovative success stories. Plus, onsite webinars and interviews with speakers and exhibitors will be conducted in our media room.

Student Workshop & Outreach: Students will take a deeper dive into special topics of green chemistry and

engineering, such as toxicology, tools, metrics, and sustainability. At the end of the conference, students trained during the workshop track on Monday will lead outreach activities along with the Beyond Benign staff members and Beyond Benign Outreach Fellows.

Important Dates to Remember:

January 18: Abstract, Housing and Registration opens

February 25: Last day to submit abstracts

April 29: Advanced registration rate ends

April 30: Onsite registration rate begins

May 19: Last day to reserve housing at discounted rate

Visit www.gcande.org to learn more about this premiere event.

The Retired Chemists Group

offers a social program of luncheons and outings available to all. Check the new web site:

<http://csw.sites.acs.org/rcg.htm>



CSW 50-year members were recognized at the November dinner, and included (l to r): Russell Arnold, George Cushmac, Lee Grady, Joe Rogers Jr., Patrick McCurdy, Paul Paulsen, Stuart Zimmerman

CSW Calendar

January Dinner Meeting
Thursday, January 13, 2011
Location: ACS Hach Building
Speaker: TBD

Glass Desiccators Available

The Geophysical Laboratory of the Carnegie Institute of Washington has a large number of high quality, lightly used glass desiccators in a variety of sizes that we wish to give away to educational institutions in the Washington area. If your department is interested in acquiring some of these desiccators, then please contact Steve Gramsch at 202-478-8939 or by e-mail at s.gramsch@gl.ciw.edu.

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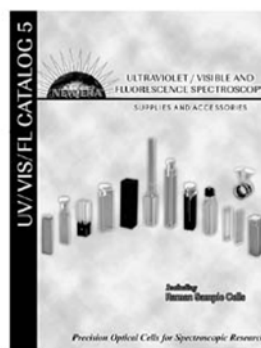
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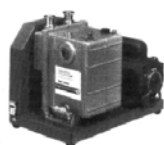
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- www.mboservices.net
- <http://membership.acs.org/W/WashDC/career.html>

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New ChemLuminary Award in Sustainability

The ChemLuminary Award for Outstanding Sustainability Activities is the newest addition to the annual local section awards, and it is sponsored by the ACS Committee on Environmental Improvement (CEI). The award recognizes a local section that has introduced a new and outstanding program promoting sustainability at the local level. The award recipient will have demonstrated that the program educates people about sustainability, enhances awareness or promotes discussions between society members and the general public about sustainability, or encourages sustainable activities in the community or local businesses. All local sections are encouraged to self-nominate their sustainability activities for this new award via the section's 2010 Annual Report due February 15, 2011.

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CSW: Celebrating over a Century of Service to Washington DC Area Chemists

MARM 2011, Hosted by CSW, Set for May in College Park

The 42nd Middle Atlantic Regional Meeting (MARM 2011) will be hosted by the Chemical Society of Washington (the Washington DC Section of the American Chemical Society) and held May 21-24 on the campus of the University of Maryland in College Park, Maryland. The Greater Washington Area houses one of the largest concentrations of chemical scientists and has the greatest diversity of government, industrial, and academic laboratories. The 2011 MARM provides an advantageous setting for interactions between the diverse segments of the chemistry enterprise, opportunities to make connections, and occasions to view different career opportunities.

The abstracts program will be open for submission of papers online after January 1, 2011. The deadline for abstracts will be April 11, 2011.

The theme of the meeting is "International Year of Chemistry" with regional, national, and international speakers representing the broad diversity of the chemical sciences. Topical symposia planned for the meeting include sessions on Bioorganic Chemistry, RNA Structure, Synthetic Chemistry, Supramolecular Chemistry, Graphene Chemistry, Genomics Using Mass Spectroscopy, Nutraceutical and Nutritional Chemistry, Polymer

Chemistry, Nanoparticle Metrology, Terahertz Spectroscopy, Catalysis, Chemistry in the High School, and more.

General sessions in organic chemistry, inorganic chemistry, physical chemistry, analytical chemistry, and biochemistry are planned. A poster session will also be held in conjunction with the exposition. In addition to the scientific content of the meeting, there will be opportunities for academic attendees to meet with funding program representatives. Other special events and programming are planned for high school teachers, including Chemagination. Recipients of the E. Emmet Reid Award in Chemistry Teaching at Small Colleges in the ACS Middle Atlantic Region, the E. Ann Nalley Regional Award for Volunteer Service to the American Chemical Society, the Stanley C. Israel Regional Award for Advancing Diversity in the Chemical Sciences, and the ACS Division of Chemical Education Middle Atlantic Region Award for Excellence in High School Teaching will be honored at MARM 2011. Nominations for these awards are due on February 15, 2011. Information on submitting nominees for these awards will be made available at the MARM 2011 website:

<http://marmacs.org/2011/>