

Hillebrand Award Winner, Debra Rolison, to Speak at March 22nd Meeting

Dr. Debra Rolison, NRL, will speak at the CSW Dinner Meeting on March 22, 2012. She is the Hillebrand Award recipient for 2011. The title of her talk is, “Rewiring Electrochemical Power From Start to Finish via Architectural Design on the Nanoscale.”

Dr. Rolison heads the Advanced Electrochemical Materials section at the NRL (also known as the U.S. Navy’s nanoarchitectural firm), where her research focuses on multifunctional nanoarchitectures for rate-critical applications, such as catalysis, energy storage and conversion, and sensors. She received a Ph.D. in Chemistry (UNC-CH, 1980) and is a Fellow of the American Association for the Advancement of Science, the Association for Women in Science, the Materials Research Society (inaugural class), and the American Chemical Society. Dr. Rolison received the 2011 ACS Award in the Chemistry of Materials and the 2012 C.N. Reilly Award of the Society for Electroanalytical Chemistry. She is also an Adjunct Professor of Chemistry at the University of Utah (2000–present). When not otherwise bringing the importance of order and disorder to materials chemistry, Dr. Rolison writes and lectures widely on issues affecting women in science, including proposing Title IX assessments of science and engineering departments. She is the author of over 200 articles and holds 24 patents.



Abstract: “Rewiring Electrochemical Power From Start to Finish via Architectural Design on the Nanoscale”

Designing high-performance energy-storage devices that combine nanometric feature size with well-wired transport paths and that bridge to the macroscale requires an architectural perspective. We use aerogel-like carbon nanofoam papers as our architectural test-bed because they provide a low-cost and scalable nanocomposite that offers an optimal balance of critical architectural features: open, 3D interconnected macropores sized at 20-to-250 nm co-continuous, with ~20-nm pore walls of a size that reduces dead weight and volume, yet retains mechanical strength and flexibility without compromising electronic conductivity. Charge-storage or catalytic functionality can then be imparted to internal carbon walls simply by transporting reactants within the 3D “plumbing”

Speaker Abstract Continued on Page 2

2012 High School Chemistry Olympiad

The Chemistry Olympiad is an annual program for high school students that has been organized by the American Chemical Society (ACS) since 1984. The ACS conducts the U.S. High School Chemistry Olympiad through its Local Sections. The CSW is proud that it is one of 16 Local Sections that has participated in the U. S. Olympiad

each year. Preparation for the 2012 Olympiad has begun.

CSW conducts its Chemistry Olympiad in two levels; the first level is the Local Section examination and the second level is the U.S. National examination in the latter half of April. For the National exam the CSW is allotted (by ACS) a certain number of students to take

the exam based upon the Section membership; usually we are given 18 – 20 student slots. A maximum of two students can be from one school.

We in CSW use the Local Section examination to select the 18 -20 students to take the National exam, and we work with the high school chemistry teachers for this

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The Capital Chemist™



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THE CHEMICAL SOCIETY OF WASHINGTON PRESENTS: *1109th Dinner Meeting*

Thursday, March 22, 2012

Pier 7 Restaurant

650 Water Street, SW

Washington, DC

6:00 p.m. Social Hour

7:00 p.m. Dinner

8:00 p.m. Hillebrand Award Ceremony

Featured Speaker: Dr. Debra Rolison,
CSW Hillebrand Award Recipient

COST \$30.00 Members & guests, \$15.00 Students

MENU includes choice of entrée: filet of corvina, shrimp, and scallop, with lobster sauce; chicken pomodoro; or eggplant parmigiana. Entrées served with fisherman's chowder, mixed green salad, thyme-roasted red bliss potatoes, broccoli, fresh bread and butter, chocolate fudge cake, and coffee/tea.

Please make reservations by **Monday, March 19, 2012, 12:00 noon**, to the CSW office: csw@acs.org or 202-659-2650. Please designate the names in your party, and your entrée choice(s). 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.**

LOCATION: The restaurant is located at 650 Water Street, SW in Washington D.C. on the corner of Maine Ave. & 7th St. S.W. on Washington D.C.'s waterfront. For directions, please visit <http://csw.sites.acs.org/meetings.htm>.

METRO: The closest metro stations are Waterfront (Green Line), or L'Enfant Plaza (Green/Yellow/Blue/Orange) and each is approximately 0.5 miles from the restaurant.

Speaker Abstract, Continued from Page 1

of the macroporous foam. Self-limiting modification strategies allow us to incorporate conformal, nanoscopic functional "paints" of metal (Mn, Ti, Ru, Fe) oxides or polymer (redox-active or electron insulating) or specifically adsorb metal nanoparticles (Pt, Au, Pd, Ag) throughout the macroscopic thickness (0.07 to 0.3 millimeter) of carbon nanofoam papers. For instance, painting the carbon walls with 10-nm MnOx increases the mass-, geometric-, and volume-normalized capacitance (2- to 10-fold) relative to the native carbon nanofoam without significantly altering its high-rate character. The oxide-modified paper is now a multifunctional electrode structure that can be used in an aqueous asymmetric electrochemical capacitor or as an air cathode in a Zn/air cell to electrocatalyze oxygen reduction and provide pulse power. Our redesign of electrode structures using modified carbon nanofoam papers has catalyzed breakthroughs in our work within a broad range of multifunctional energy storage and conversion, including asymmetric electrochemical capacitors, air cathodes for metal-air batteries, 3-D batteries, and semifuel cells.

Undergraduates Honored at February Dinner Meeting

The College Chemistry Achievement Awards are presented annually by the Chemical Society of Washington to the outstanding seniors majoring in chemistry and biochemistry from each of the area colleges and universities. The following students received awards (in photo below, left to right, pictured with Robert Wiacek, CSW President):

- James G. Ferguson, University of the District of Columbia
- Ian Johnson, George Mason University
- Monica Liddi, St. Mary's College
- Julia Lister, George Washington University
- Gregory J. Manas, Georgetown University
- Kyle Pires, Georgetown University
- Samuel J. Wagner, Catholic University
- Katherine Manfred, University of Maryland (not pictured)



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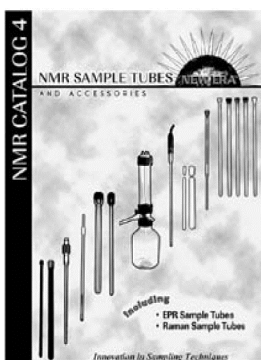
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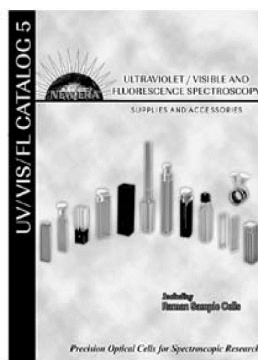
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March Anniversaries in Chemistry

March 1, 1862. One hundred and fifty years ago, Edward Franklin was born. He published the classic monograph *The Nitrogen System of Compounds* in 1935.

March 5, 1637. Three hundred and seventy-five years ago, John van der Heyden, who invented the fire extinguisher, was born. He and his brother, Nicolaas, patented it on September 21, 1677.

March 6, 1787. Two hundred and twenty-five years ago, Joseph von Fraunhofer, who discovered the dark lines in the solar spectrum (Fraunhofer lines), was born.

March 9, 1912. One hundred years ago, Stanley G. Thompson was born. He codiscovered berkelium (Bk, 97), californium (Cf, 98), einsteinium (Es, 99), fermium (Fm, 100), & mendelevium (Md, 101).

March 10, 1762. Two hundred and fifty years ago, Jeremias B. Richter, who discovered the law of equivalent proportions, was born. He was the first to establish stoichiometry, the basis of quantitative chemical analysis.

March 19, 1883. Walter N. Haworth was born on this date. Seventy five years ago in 1937, he shared the Nobel Prize in Chemistry for his investigations on carbohydrates and vitamin C with Paul Karrer for his investigations on carotenoids, flavins, and vitamins A and B2. He also synthesized ascorbic acid (Vitamin C) in 1933, and did research on sugars and dextran as blood plasma substitute.

March 23, 1962. Fifty years ago, Neil Bartlett made the first noble gas compound, XePtF₆, on this date.

March 24, 1917. John C. Kendrew was born on this date. Fifty years ago, he shared the Nobel Prize in Chemistry with M. F. Perutz for their studies of the structures of globular proteins. He also did research on the structure of hemoproteins with x-rays.

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

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March 6: Tips for Creating High Impact Scientific Poster Presentations

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March 22: EXTREME CHEMISTRY: Designer Babies



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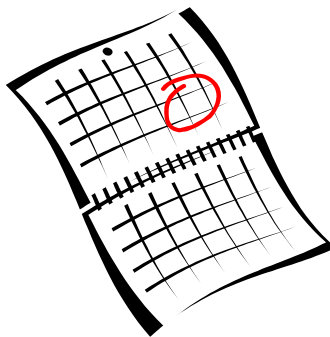
Save the Date!
Fall ACS National Meeting & Expo
August 19-23, 2012
Philadelphia, PA

Planning on submitting an abstract for the Fall ACS National Meeting? Please be advised that some deadlines occur soon.

For a list of deadlines, please visit
<http://abstracts.acs.org/chem/244nm/meetingview.php?page=division>



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Retired Chemists Group To Visit Hillwood Estate, Museum & Gardens

On Thursday, April 26, 2012, the Retired Chemists Group (RCG) and others wishing to attend will celebrate Spring and the 100th anniversary of the annual National Cherry Blossom Festival with a visit to the famous Hillwood Estate, Museum, and Gardens. Hillwood was founded by Marjorie Merriweather Post, heiress to the Post cereal empire and an avid art collector. The museum features a comprehensive collection of Russian Imperial art, as well as world-renowned eighteenth-century French decorative art and furnishings. Among its many items are Fabergé eggs, Russian Orthodox icons, Beauvais tapestries and Sevres porcelain. Enclosed in an idyllic woodland setting, the Estate provides an oasis of luscious formal gardens, ideal for our docent-led Spring Garden Tour. After the tour, which begins at 10:30 AM, we will proceed to the Hillwood Mansion to view a film about the history of the Estate. This will be followed by a light lunch at the Hillwood Café. The cost for this unique event is \$32 (\$13 for the tour plus \$19 for lunch). Parking is free near the gated entrance to Hillwood, located at 4155 Linnean Avenue, NW, Washington DC, 20008. Handicapped parking is available at the Visitor Center and visitor information can be obtained by telephone (202-686-5807) or from their website, www.hillwoodmuseum.org.



Photo taken by Flickr user Thom Watson

Luncheon Menu: Choices are (1) oven-roasted turkey breast sandwich served with soup or salad and cookies, (2) ham & brie sandwich with soup or salad and cookies, or (3) quiche of the day, with soup of the day or salad and cookies.

Reservations: Please send your check for \$32 per person, made out to RCG or Retired Chemists Group, along with your luncheon selection(s), to Dr. Jerome McDonald, 19636 Olney Mill Road, Brookeville, MD 20833. Numbers may be limited, so reservations should be received as soon as possible—no later than April 9.

CSW Calendar of Events



March Dinner Meeting

Pier 7 Restaurant
March 22, 2012

ACS Spring National Meeting

March 25-29, 2012
San Diego, CA

Retired Chemists Group Luncheon

April 26, 2012
Hillwood Estate, Museum, and Gardens

2012 International Chemistry Olympiad

July 21-30, 2012
University of Maryland

Encourage a Future Scientist: Judge a Science Fair!

The Chemical Society of Washington (CSW) encourages its members to serve as judges for high school science fairs held in the DC area. Events are late February through March. Serving as a judge is a great way to benefit the community and encourage young scientists.



Upcoming Dates:

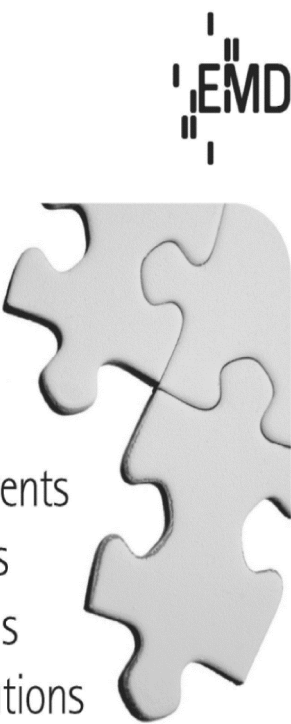
Northern Virginia-March 3
Loudon County-March 15
Fairfax County-March 17
Montgomery County-March 17
Prince Georges' Area-March 17
DC-March 24

Please visit
csw.sites.acs.org/activities.htm
for more information.

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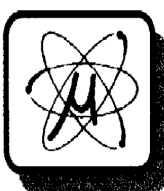
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Chemical Society of Washington Committee Chairs For 2012

The following is a list of the CSW Committee Chairs for 2012. Please note, participation in most committees is not exclusive to the Board of Managers, and any member of CSW can volunteer. Please send an email to csw@acs.org if you are interested in serving on any of these committees.

Awards: Doug Raber
Audit: Amy Mullin
Budget: Jason Schaff
By-Laws: Alan M. Ehrlich
Councilors: Bhushan Mandava
Education: Robert Brenneman
Environmental Improvement: Jennifer Young
Finance: John Malin
Long Range Planning: Robert Wiacek
MARM Delegate: Michael Doyle
Membership: Nicole Payne
Minority Affairs (sub-set of Membership): TBD
National Chemistry Week: Kim Morehouse
Newsletter Editor: Jessica Rasmussen
Nomination: Michael Doyle
Professional Relations: TBD
Program and Arrangements: Kim Morehouse
Project SEED (sub-set of Education): Walter Benson/
 Ajay Mallia
Public (or Government) Affairs: Robert Wiacek

Public Relations: Kelli Golanoski
Publications: Zory Glaser
Retired Chemist: John Malin
Safety: Jason Schaff
Tellers: Philip DeShong
Webmaster: Fred Fry
Women Chemists (sub-set of Membership): TBD
YCC (sub-set of Membership): Stefanie Sherrill



*From Jennifer Young, Chair of the
Environmental Improvement/
Sustainability Committee:*

I am starting a new Committee on Sustainability, and I'm looking for CSW members to get involved with planning for and participating in activities this year. I have a lot of ideas but I need your help! If you're interested, please contact me at jyoung@ilsil.org or csw@acs.org.

High School Chemistry Olympiad, Continued from Page 1

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purpose. Email letters have been sent to teachers asking for the nomination of up to twelve students to take the Local Section exam. If an interested teacher has not been contacted, please send an email to cswolympiad@gmail.com and include the teacher's email address, teacher's name, name of high school, address of high school, and a telephone number for the teacher or the school. The Local Section exam consists of 60 multiple-choice questions.

Based on the results of the Local Section exam, students will be selected to take the National Exam for CSW, which will be given between April 19-23. However, we cannot select more than two students from one high school for the National exam. This exam consists of three separate parts: one written multiple choice, one written essay response, and one laboratory practical. The ACS has a

separate grading site to grade the National exam.

This National exam is given in the same time period across the U.S. to about 900 – 1000 students. The 20 students who score the highest on the National exam are invited by ACS to the Study Camp, which will be held May 29 - June 13 at the Air Force Academy in Colorado. The U.S. team of four students for the International Chemistry Olympiad is selected from the 20 students at the Study Camp. Last year Mr. Kevin Yan from Thomas Wootton High School in Rockville attended the Study Camp and was selected as the first alternate to the U.S. team. Further information on the U.S. Olympiad can be found at this web site: <http://www.acs.org/olympiad>

The International Chemistry Olympiad (IChO) is being held in the U.S. for only the second time; the first was in 1992. CSW is proud that it will

be held at the University of Maryland—College Park campus July 21 – 30. The University of Maryland Department of Chemistry and the ACS Olympiad Office has been working hard for over a year to make this a great IChO. Dow Chemical Company is sponsoring the IChO with a grant of \$2.5 Million. Further information can be found at this web site: <http://www.icho2012.org/>

If you are interested in helping with the Olympiad, please contact the CSW Coordinator, Regina Cody, at cswolympiad@gmail.com

It's easy to become a CSW volunteer!

Email csw@acs.org about upcoming opportunities today!



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