

Dr. W. Jeffrey Hurst to Speak on “Chocolate Archaeology” at February Dinner Meeting

Dr. W. Jeffrey Hurst, Principle Scientist for the Hershey Company Technical Center, will speak on the subject, “Chocolate Archaeology” at the CSW February dinner meeting at the University of Maryland in College Park. The address will be preceded by an achievement awards ceremony for undergraduate students. Dinner meeting agenda, speaker abstract, and details follow on pages 2-3.

W. Jeffrey Hurst is a Principal Scientist at the Hershey Company Technical Center. His emphases are in separation science using standard, micro and nanotechniques, laboratory automation, the evaluation of new and emerging analytical technologies, the development and evaluations of methods for the determination for food allergens and the application of nontraditional analytical methods to

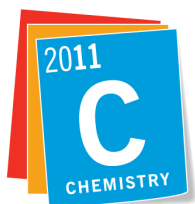
food analysis. He was the founding editor and editor-in-chief of *Laboratory Robotics and Automation*, an international journal with a focus on all facets of automation in the laboratory until it ceased publication. He is the founding editor of the Wiley-Interscience book series on laboratory automation, serves on the editorial board of the *Journal of Liquid Chromatography*, and was founding editor of *Seminars in Food Analysis*. He was a contributing editor for *Scientific Computing and Instrumentation* and prepared a monthly column on some aspect of instrument and laboratory operations. He is a member of the American Chemical Society (ACS), Laboratory Robotics Interest Group of New Jersey (LRIG), a Professional Member of the Institute of Food Technologies, American Society of Mass Spectrometry (ASMS), a Fellow of the American Institute of Chemists



(FAIC), a Certified Professional Chemist (CPC), a Fellow of the Royal Australian Chemical Institute (FRACI), a Charter Chemist (CChem), a member of the Society of Ancient Medicine and a Diplomate of the American Association for Integrative Medicine (DAAIM). He is a member of the Board of Directors of SMPAC, Southern Maya Project for Archaeology and a member of the FAMSBI Botanical Working Group. He

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International Year of Chemistry 2011: “Chemistry—Our Life, Our Future”



International Year of
CHEMISTRY
2011

The International Year of Chemistry 2011 (IYC 2011) is a worldwide celebration of the achievements of chemistry and its contributions to the well-being of humankind. Under the unifying theme “*Chemistry—our life, our future*,” IYC 2011 will offer a range of interactive, entertaining, and educational activities for all ages. The Year of Chemistry is intended to reach across the globe, with opportunities for public participation at the local, regional, and national level. More In-

formation can be found at www.chemistry2011.org.

The goals of IYC2011 are to increase the public appreciation of chemistry in meeting world needs, to encourage interest in chemistry among young people, and to generate enthusiasm for the creative future of chemistry. The year 2011 will coincide with the 100th anniversary of the Nobel Prize awarded to Madame Marie Curie—an opportunity to celebrate the contributions of women to science. The year will

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The Capital Chemist™



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

Volume 61 Number 2 Feb 2011

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GENERAL: The Capital Chemist (ISSN 0411-0080) is published monthly from January to December (except June, July, and August) by the Chemical Society of Washington, 1155 16th Street, NW, Washington, DC 20036. Periodical Postage is paid at Washington, DC and additional mailing offices. Subscription price is included in all membership fees; non-member subscription is \$10.00 per year.
ISSN 0411-0080

POSTMASTER: Send address changes to The Capital Chemist, 1155 16th Street, NW, Washington, DC 20036.

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THE CHEMICAL SOCIETY OF WASHINGTON PRESENTS: *1100th Dinner Meeting*

Thursday, February 10, 2011
University of Maryland
Chemistry Building Atrium

6:00 pm: Poster Presentations
7:00 pm: Dinner
8:00 pm: Awards
8:30 pm: Speaker Presentation

COST \$20.00 Members & guests, \$10.00 Students

Menu includes: Chicken or steak Florentine, served with a garden salad, herb roasted potatoes, assorted cookies, and soda.

Reservations: Make reservations by **Monday, February 7, 2011, 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: From Baltimore Avenue (US Hwy 1), enter the UMD campus using Campus Drive. At the traffic circle, bear right onto Regents Drive. Parking is available in the parking garage across from the Chemistry building (circled below). Parking is unrestricted after 4:00 p.m. Campus Drive is also accessible from University Boulevard or Adephi Road, on the west of campus.

Metro: Green line to College Park. The University runs a free shuttle bus from College Park Metro Station. The bus stops at the Student Union. If you need a map, one is available from the University of Maryland website, at www.umd.edu.



February Dinner Meeting Information, cont.

Abstract, "Chocolate Archaeology"

Cacao is a complex commodity consisting of over 500 discrete chemical compounds. In recent years, there have been substantial scientific reports about the positive health effects from selected compounds in cacao and chocolate products with many concentrating on the improvement of cardiovascular markers, such as blood pressure. Recently, a multiyear study was published comparing a population from Holland who consumed chocolate with those who did not with the results indicating a statistically significant difference between these two groups with the group

that consumed cocoa and chocolate and those who did not.

This presentation will discuss some of the unique chemical compounds in cacao and briefly chronicle the current literature related to cacao and health. It will then cover the process used to discover the chemical marker for cacao, the application of this marker on a series of samples from a variety of archaeological sites in Mesoamerica, and will finish up with some selected medicinal uses of cacao by native populations such as the Maya (600BC to 1200AD) and Aztec (1200-1520AD) for maladies ranging from fatigue to cardiovascular conditions and preg-

nancy. Many of these uses were embraced by the early Spanish occupiers and are reflected in literature of that period.

February 2011 Dinner Meeting Agenda

6:00 pm Undergraduate

Poster Presentations

7:00 pm Dinner

8:00 pm Undergraduate
Awards

8:30 pm Presentation by
Dr. Hurst,
"Cocoa Archeology"

February Dinner Meeting Speaker Biography

(continued from page 1) has served as a co-leader of the Chemical Measurement Subgroup in the ACS/AICHE/CMA Chemical Industry Technology Roadmap and as a Co-PI on an NSF grant exploring the use of cacao in the American Southwest. He is a member of the Continuing and Distance Education Faculty of Penn State University and serves as Clinical Professor of Comparative Medicine and a member of the graduate faculty at the M.S. Hershey Medical Center. He also has served on graduate examination committees at McGill University, Montreal, Quebec, Canada, Duquesne University and the University of Cordoba, Spain. In 1986 he was awarded a Pioneer in Laboratory Automation award by the International Symposium on Laboratory Robotics and in 2000 was named a Fellow of AOAC International. He is senior author of *Laboratory Robotics, A Guide to Planning Programming and Applications*, editor of *Automation in the Laboratory*, English language editor of *Analytical Techniques for Food and Agricultural Products*, editor of *Electronic Noses and Sensor Array Based Systems* and is editor of *Analysis of Functional Foods and Nutraceuticals*. He is an author on over

200 papers and presentations with papers in *Nature* and *Proceedings of the National Academy of Science*. He has developed in excess of 175 methods using chromatography, spectroscopy, spectrometry, immunoassay and assorted analytical techniques on food, environmental and biological samples. He also serves on the Analytical Methods Review Committee of the American Herbal Pharmacopoeia (AHP). He has participated in a peer review panel of the Institute for Regulatory Sciences on Chemical Analysis Automation and also participated on NSF Review Panels for Educational Chemical Instrumentation. He also serves as a reviewer for numerous journals including *J. Chromatography*, *Journal of Liquid Chromatography*, *Journal of Ag and Food Chem.*, *Journal of Food Science*, *Analytical Chemistry* and *Annals of Internal Medicine*. Finally, he is on the editorial board of the *Journal of Liquid Chromatography*, *Current Pharmaceutical Analysis*, *the Journal of Cardiovascular Translational Research*, *the Clinical Trials Magnifier*, *Chemistry Central* and *the World Journal of Gastrointestinal Therapeutics*.



The 2011 Student Achievement Awards will be presented at the February Dinner Meeting. Award winners will be announced in the March edition of the *Capital Chemist*.

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>

February Anniversaries in Chemistry

February 8, 1777: Two hundred years ago in 1811, Bernard Courtois discovered iodine (I, 53) in the liquor from the lixiviation of kelp. He was born on this date.

February 14, 1961: Fifty years ago in 1961, Lawrencium (Lr, 103) was produced at University of California, Berkeley on this date.

February 16, 1886: One hundred and twenty-five years ago in 1886, Robert R. Williams, Jr., who was born on this date, was a telephone company researcher who in his spare time developed ways to synthesize vitamins. He was a member of the Hall of Fame of Inventors for the Process for Obtaining Vitamins, Patent Number 2,049,988. He isolated thiamine in crystalline form in 1933 and

synthesized vitamin B.

February 19, 1764: Two hundred years ago in 1811, Gottlieb Sigismund Kirchhof applied the first controlled catalytic reaction to produce glucose from starch. He developed a method for refining vegetable oil and established a factory in St. Petersburg capable of producing two tons per day. Also, he experimented with brewing and fermentation and was born on this date.

February 20, 1836: One hundred and seventy-five years ago, Isaac Adams, Jr. was born on this date. He was a pioneer inventor in nickel plating.

February 23, 1886: One hundred and twenty-five years ago on this date, Charles M. Hall was the first to

produce electrolytic aluminum in his woodshed laboratory at his family's home.

Additional historical events can be found at Dr. May's website:

<http://faculty.cua.edu/may/Chemistrycalendar.htm>

The ACS Middle Atlantic Regional Meeting (MARM) 2011

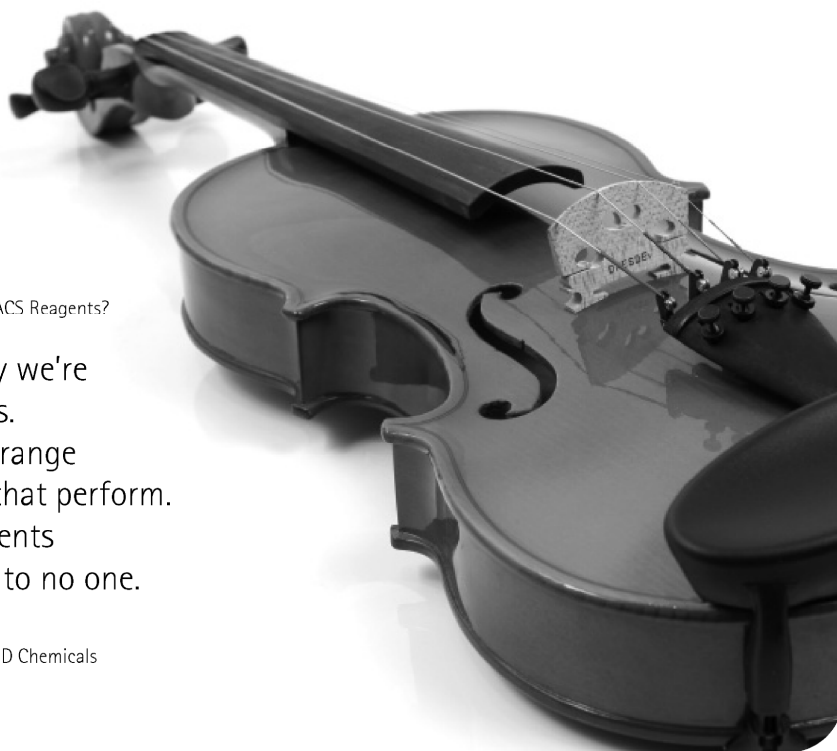
will be held at the University of Maryland, College Park on May 21-24, 2011. Visit the MARM 2011 website (www.marmacs.org/2011) for more information. Abstract submission is now open, and the deadline for submitting an abstract is April 10, 2011.

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CSW Happy Hour, February 23, 2011

You're invited to the CSW Happy Hour on Wednesday, February 23!

It's a New Year and time for another CSW Happy Hour. Step out of the cold and come join your CSW friends for some conversation and networking. What a great way to start celebrating the International Year of Chemistry! We had **over 40 attendees** at our last happy hour in September.

When: Wednesday, February 23, 6:30 pm - 9:00 pm

Where: Rí Rá Irish Pub Bethesda
4931 Elm Street
Bethesda, MD 20814
301.657.1122
www.rira.com/rira/bethesda.html

Metro: Bethesda on the Red Line

RSVP: csw@acs.org



This Happy Hour was organized by the new CSW Public Relations Committee. Do you have ideas for future activities and happy hours? Send us an email at csw@acs.org.

International Year of Chemistry 2011, Cont.

(continued from Page 1) also be the 100th anniversary of the founding of the International Association of Chemical Societies, providing a chance to highlight the benefits of international scientific collaboration.

IYC 2011 events will emphasize that chemistry is a creative science essential for sustainability and improvements to our way of life. Activities, such as lectures, exhibits, and hands-on experiments, will explore how chemical research is critical for solving our most vexing global problems involving food, water, health, energy, transportation, and more.

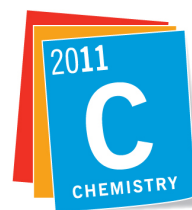
In addition, the Year of Chemistry will help enhance international cooperation by serving as a focal point or information source for activities by national chemical societies, educational institutions, industry, gov-

ernmental, and non-governmental organizations.

The Official International Launch Ceremony for IYC 2011 will take place at UNESCO World Headquarters in Paris on 27-28 January 2011, under the aegis of the UN, UNESCO (United Nations Educational, Scientific and Cultural Organization), and the IUPAC (International Union of Pure and Applied Chemistry).

To see how you can get involved during the International Year of Chemistry, please visit www.chemistry2011.org/participate/get-involved.

To view upcoming IYC activities, or contribute some of your own, please visit www.chemistry2011.org/participate/activities.



International Year of CHEMISTRY 2011

Look for coverage of local IYC Events in the *Capital Chemist*! If you have pictures or stories you would like to share, please submit them to csw@acs.org.

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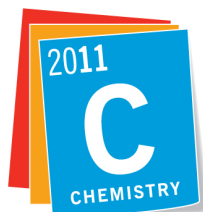
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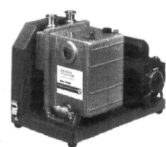
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International Year of CHEMISTRY 2011



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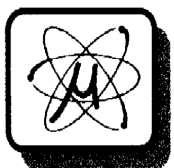
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CSW Career Development Workshop for Chemists:

Experience from the Past and Tools to Build the Future

Have you ever reflected on...

What do you do well?

Is your career on the right path?

Where do you want your career to go?

What do you love to do?

Is your résumé up to date?

How does the current economy affect your job search?

When: Saturday, April 9, 2011

8:15 a.m. to 3:45 p.m.

Where: George Washington University
Harry Harding Auditorium,
Room 213

1957 E. Street NW Building
Who: Graduate students, Post docs,
Undergraduates, and those
seeking a job change

For more details, or to register, please visit the CSW website!

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

Summer Undergraduate Opportunity

The Arts and Humanities Summer Institute at the University of Delaware provides highly motivated students with a unique opportunity to explore their interests in pursuing graduate studies. The 2011 Institute in Art Conservation will examine the fundamental properties of artists' materials as they relate to preventive conservation through a combination of hands-on activities, seminars, and field trips to area conservation labs.

Art Conservation is an interdisciplinary field that builds upon a strong foundation in chemistry, studio arts, art history, history, and anthropology. The chemical properties of pigments, polymers, glass, and natural fibers influence the use of such materials as artistic media; understanding the role of these same properties in art and artifact deterioration helps to ensure the long-term preservation of cultural heritage treasures.

Applications are due February 14, 2011. Undergraduate students in all disciplines are encouraged to apply. Participants selected for the Institute will receive a stipend; housing, transportation to and from the University of Delaware, and course materials are covered by the program.

For more details and application instructions, see <http://www.art-sci.udel.edu/ahsi/>

It's easy to become a CSW volunteer!

Email csw@acs.org to inquire about upcoming opportunities today!



Transform Your Classroom with an ACS—Hach High School Chemistry Grant

The ACS—Hach High School Chemistry Grant is awarded to chemistry teachers with innovative ideas that transform classroom learning, foster student development, and reveal the wonders of chemistry. Since 2006, more than 300 ACS—Hach High School Chemistry grants have been awarded to help fund instructional materials, field study, outreach events, and more. Applicants can request **up to \$1,500** to support their ideas. Applications are accepted annually between **February 1 and April 1**. Applicants for the 2011-2012 award cycle will be notified of their status by June 30, 2011.

Learn more, and apply online at <http://portal.acs.org/portal/Navigate?nodeid=2245>

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.gi.ciw.edu>

Georgetown Chem:

<http://chemistry.georgetown.edu/news/seminars.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 and Biochem:

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

Maryland Chem Eng:

www.chbe.umd.edu/events/seminars.html

ACS Publications from DC Area Research Groups

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

Bryan C. Eigenbrodt, Michael B. Pomfret, Daniel A. Steinhurst, Jeffrey C. Owruksy, and Robert A. Walker. "Direct, In Situ Optical Studies of Ni-YSZ Anodes in Solid Oxide Fuel Cells Operating with Methanol and Methane," *J. Phys. Chem. C*, Article ASAP, Publication Date (Web): December 27, 2010. (Department of Chemistry and Biochemistry, University of Maryland, College Park; Chemistry Division, Naval Research Laboratory, Washington, D.C.; Nova Research, Inc., Alexandria, Virginia; Department of Chemistry and Biochemistry, Montana State University)

Lior Ziserman, Hee-Young Lee, Srinivasa R. Raghavan, Amram Mor, and Dganit Danino. "Unraveling the Mechanism of Nanotube Formation by Chiral Self-Assembly of Amphiphiles," *J. Am. Chem. Soc.*, Article ASAP, Publication Date (Web): January 18, 2011. (Department of Biotechnology and Food Engineering, and Russell Berrie Nanotechnology Institute, Technion - Israel Institute of Technology Haifa, Israel; Department of Chemical and Biomolecular Engineering, University of Maryland, College Park)

Sayon A. Kumalah Robinson, Marion-Vincent L. Mempo, Amy J. Cairns, and K. Travis Holman. "A Cubic, 12-Connected, Microporous Metal-Organometallic Phosphate Framework Sustained by Truncated Tetrahedral Nodes," *J. Am. Chem. Soc.*, Article ASAP, Publication Date (Web): January 19, 2011. (Department of Chemistry, Georgetown University; Department of Chemistry, University of South Florida)

Xiantao Wang, Anthony J. Di Pasqua, Sudha Govind, Erin McCracken, Charles Hong, Lixin Mi, Yuehua Mao, Jessie Yu-Chieh Wu, York Tomita, Jordan C. Woodrick, Robert L. Fine, and Fung-Lung Chung. "Selective Depletion of Mutant p53 by Cancer Chemopreventive Isothiocyanates and Their Structure-Activity Relationships," *J. Med. Chem.*, Article ASAP, Publication Date (Web): January 11, 2011. (Department of Oncology, Lombardi Comprehensive Cancer Center, Georgetown University; Division of Medical Oncology, Columbia University, College of Physicians and Surgeons)

Do you have story ideas for the *Capital Chemist*? Email them to csw@acs.org!

CSW Calendar of Events

February Dinner Meeting

Thursday, February 10, 2011

Location: University of Maryland

Speaker: Dr. William J. Hurst, Hershey Company

CSW Career Development Workshop

April 9, 2011

George Washington University

CSW Happy Hour

Wednesday, February 23, 2011

Rí Rá Irish Pub Bethesda

April Dinner Meeting

Thursday, April 14, 2011

Location and Speaker: TBD

March Dinner Meeting

Thursday, March 10, 2011

Location: Far East Restaurant

Speaker: Dr. G. Marius Clore, NIH

MARM 2011

May 21-24, 2011

University of Maryland, College Park