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NESACS

THE NUCLEUS

September 2012 *Vol. XCI, No. 1*

Monthly Meeting

A Medicinal Chemistry Symposium

Globalization of the Japanese Pharmaceutical Industry

Report from Paris – Frontiers of Chemical Sciences

By Morton Z. Hoffman

Education Night Awards

Photos from the Esselen Award Meeting

Photography by Joel Laino

Report from Paris: Frontiers of Chemical Sciences (Malta-V)

Morton Z. Hoffman <hoffman@bu.edu>
Treasurer, Malta Conferences Foundation

The fifth in the series of biennial conferences, *Frontiers of Chemical Sciences: Research and Education in the Middle East*, took place in Paris, France, December 4-9, 2011, at the headquarters of UNESCO, as one of the culminating events of the International Year of Chemistry. More than 80 chemists and other scientists from 12 Middle Eastern countries (Bahrain, Egypt, Iraq, Israel, Jordan, Lebanon, Libya, Palestine, Qatar, Saudi Arabia, Syria, Turkey) and representatives from other nations (France, Germany, Norway, Switzerland, U.K., U.S.A.) met to hear plenary lectures, attend workshops on topics of regional importance, and participate in poster sessions at which the latest research and educational results were displayed. Unfortunately, the seven-person delegation from Iran could not attend because its members were unable to obtain visas to enter France.

Front row (l-r): Zafra Lerman (President, MCF, U.S.A.), HRH Prince El Hassan bin Talal (Jordan), Venice Gouda (former Science Minister, Egypt). The others in the picture are Malta-V participants from Jordan.

Named for the site of the first "Malta" conference in 2003, subsequent conferences were held in Malta (2005), Istanbul, Turkey (2007), and Amman, Jordan (2009) to serve as one of the few opportunities that exist for the building of bridges through science diplomacy toward peace in the Middle East. The following organizations, in addition to the Malta Conferences Foundation (MCF), provided nominal or financial sponsorship of Malta-V: American Chemical Society, Royal Society of Chemistry, IUPAC, UNESCO, American Association for the Advancement of Science, New York Academy of Sciences, Civilian Research and Development Fund Global, Office of Naval Research Global, Munin Foundation (Norway), U.S. Army Forward Element Command-Atlantic, Organization for the Prohibition of Chemical Weapons, Terrific Science, UCLA Center for Global Mentoring, ACS Division of Chemistry and the Law, Palo Alto Church of

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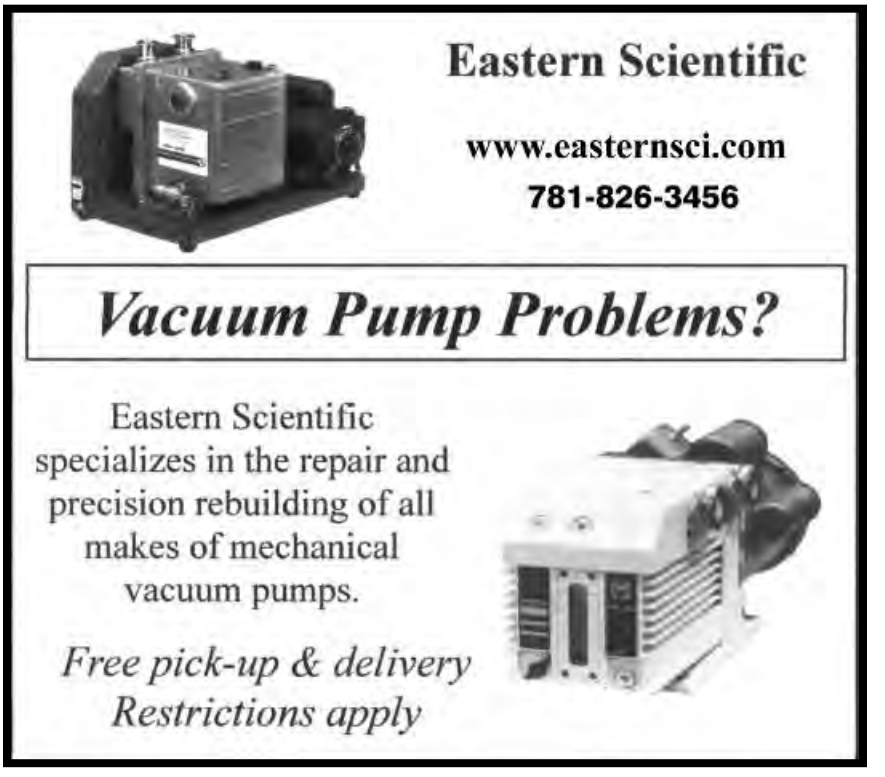
NESACS at Malta-V (l-r): Cathy Costello (Boston University Medical School), Chuck Kolb (Aerodyne Research), Dudley Herschbach (Harvard University), Georgene Herschbach (Harvard University), Morton Hoffman (Boston University).

Sharing the moment (l-r): Rachel Mamlok-Naaman (Israel) and Samira Islam (Saudi Arabia).



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Cover: *The cover photo is from the social hour for the Esselen Award Meeting – April 2012 held at the Harvard Faculty Club. Seated is Mrs. Gustavus John Esselen III with two of her three children, Mrs. Jane Esselen Blocker and Gustavus J. Esselen IV. Gustavus J. Esslen IV presented the Esselen award to the 2012 recipient, Professor Bruce Ganem, Cornell University. (Photograph by Joel Laino).*

Editorial Deadlines: *November 2012 Issue: September 15, 2012*
December 2012 Issue: October 15, 2012

THE NUCLEUS

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Report from Paris

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Christ, Committee of Concerned Scientists.

Malta-V opened with welcoming remarks from Zafra Lerman (President, MCF), Irina Bokova (Director-General, UNESCO), Nicole Moreau (President, IUPAC), Ann Nalley (Vice President, MCF) for Bonnie Charpentier (Chair, ACS Board of Directors), Stanley Langer (MCF Board) for David Phillips (President, RSC), and Cindi Mentz (MCF Board) for Cathleen Campbell (President and CEO, CRDF). These were followed by a very stirring and sincere address by HRH Prince El Hassan bin Talal of Jordan, who emphasized the importance of scientific and educational cooperation among the nations of the Middle East in order to improve the human condition in the region.

The first plenary lecture was given by Omar Yaghi (University of California-Los Angeles; MCF Board) on *The Materials Beyond and its Development Through Global Mentoring* in which he described the growing of a vibrant global science community through the involvement of faculty and students at institutions and institutes throughout the world. The plenary lecture by Michael Grätzel (École Polytechnique Federale de Lausanne, Switzerland) on *Mesoscopic Photosystems for Electricity and Fuel Production from Sunlight* examined the progress that is being made toward the utilization of solar energy as a substitute for energy from fossil and nuclear sources.

Subsequent plenary lectures were given by the following Nobel Laureates: Walter Kohn (U.S.A), *A Lecture on Solar Energy*; Claude Cohen-Tannoudji (France), *Measuring Time with Ultracold Atoms*; Dudley Herschbach (U.S.A), *The Impossible Takes a Little Longer*; Richard Ernst (Switzerland), *Western and Eastern Concepts of Physics and Metaphysics*; Jean-Marie Lehn (France), *Perspectives in Chemistry: From Supramolecular Chemistry towards Adaptive Chemistry*. Ada Yonath (Israel), who was scheduled to speak on *Research Horizons in the Middle East – A Personal Account*, could not attend due to illness.

The following workshops, which were chaired by leaders in the field and featured oral presentations by the Middle Eastern participants, provided the opportunity for the attendees to interact directly and professionally: *Sustainability of Resources, Energy, and Materials*, Tareq Abu Hamed (Israel), Mohammed El-Khateeb (Jordan); *Medicinal Chemistry and Natural Products*, Cathy Costello (U.S.A.), Nadia Kandile (Egypt), Masoud Mehrgardi (Iran; unable to attend); *Science Education at All Levels*, Georgene Herschbach (U.S.A.), Rachel Mamlok-Naaman (Israel), Hanna Hallak (Palestine); *Environment: Air and Water Quality*, Chuck Kolb (U.S.A.), Yehuda Sheva (Israel), Alfred Abed Rabbo (Palestine); *Nanotechnology and Material Science*, Hadi Hadizadeh (Iran; unable to attend), Ron Naaman (Israel).

Events that promoted further personal interactions included breakfasts, lunches, and a welcome reception and dinner. Important social events were provided for the participants: a recep-

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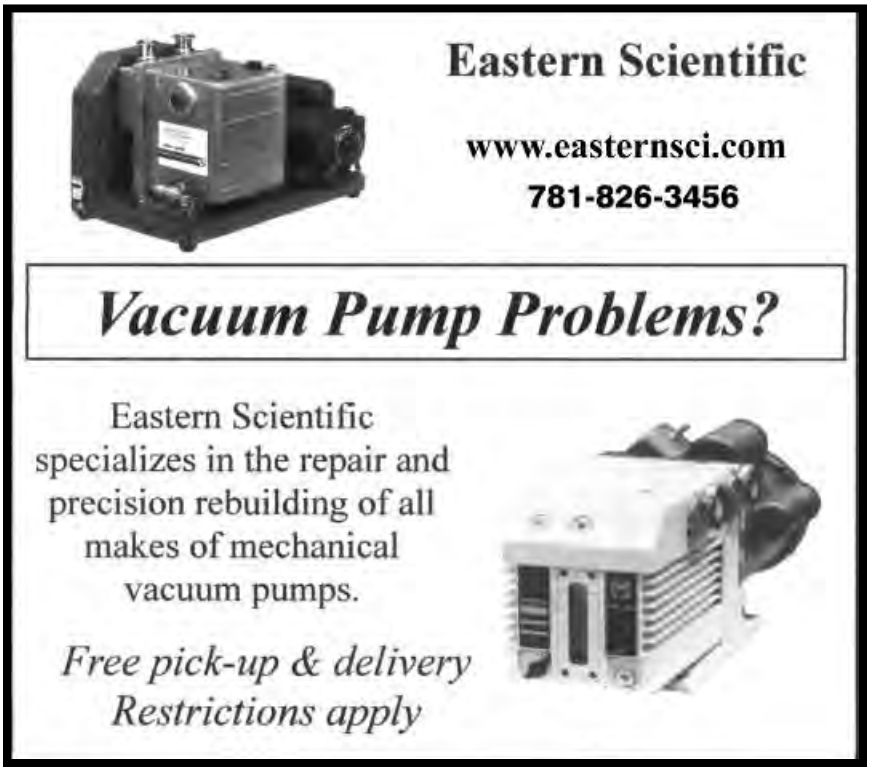

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Monthly Meeting

The 925th Meeting of the Northeastern Section of the American Chemical Society

Thursday, September 13th, 2012

Holiday Inn Select

15 Middlesex Canal Park, Woburn, MA 01801

1:00 pm **Symposium "Globalization of Japanese Pharmaceutical Industry — Strategies, Innovations, and Future Trends"**

Please visit NESACS website in August for detailed program (http://www.nesacs.org/)

5:30 pm Social Hour

6:30 pm Dinner

7:30 pm Welcome
Dr. Ruth Tanner, Chair, NESACS

Speaker: Dr. Maki Umemura, Cardiff University, UK

Title: ***Crisis and change in the system of innovation: the Japanese pharmaceutical industry since the 1990s***

Dinner reservations should be made no later than noon, Friday, September 7th. Reservations are to be made using PayPal: http://acssymposium.com/ paypal.html. Select pay with credit or debit card option and follow the additional instructions on the page. Members, $30; Non-members, $35; Retirees, $20; Students, $10. Reservations for new members and for additional information, contact the secretary Anna Singer at (781)272-1966 between 9am and 9pm or e-mail at secretary@nesacs.org. Reservations not cancelled at least 24 hours in advance must be paid.

Directions to Holiday Inn Select, Woburn:

A. From Boston - Cambridge - Points North: Take Route I-93 to Route 95/128 West. After 1 mile, take Exit 35 South to Route 38 (Main Street).

***After about 500 feet at the traffic light, turn right into Middlesex Canal Street to the hotel entrance.**

B. From the West: Take Route 95/128 North to Exit 35 South (Route 38 - Main Street. **Follow directions**

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It is now possible to sign up for electronic delivery of *The Nucleus* at www.nesacs.org . You can choose an electronic-only option, a paper-only option, or receive both an electronic copy and a paper copy. The electronic copy, in general, will be available two to three weeks before paper copies delivered by third class mail. Improved timeliness should greatly enhance the value of *The Nucleus* for our readers.

If you have any questions, contact the editor by email at michael.filosa(at) zink.com. ◇

Biography

Maki Umemura is a lecturer in Japanese Studies and International Business at Cardiff University in the UK. She has a PhD from the London School of Economics and an undergraduate degree from Yale. Her research interests are in Japanese business, the pharmaceutical industry, innovation, and business history. She has been studying the pharmaceutical industry and has written a book and a number of articles on the subject. ◇

Abstract

Crisis and change in the system of innovation: the Japanese pharmaceutical industry since the 1990s

The Lost Decades that followed Japan's much lauded economic performance in the second half of the 20th century undermined confidence in the country's system of innovation. Since the 1990s, there have been considerable efforts to update the institutions in Japan so as to facilitate engagement in more radical innovation at the technological frontier. The nature of innovation in Japan has since shifted from incremental toward more radical innovation, but this process entailed both substantial changes to the domestic system of innovation as well as the rigorous co-opting of components from systems outside Japan. This transformation is particularly dramatic in the pharmaceuticals industry; a high technology sector in which a paradigm shift in technology has necessitated a global, sector-wide change in business organization for breakthrough innovations. ◇

Call for Nominations

The Gustavus John Esselen Award for Chemistry in the Public Interest

The Northeastern Section of the American Chemical Society (NESACS) is inviting nominations for its prestigious Gustavus John Esselen Award for Chemistry in the Public Interest. This award is given annually to a chemical scientist, whose scientific and technical work has contributed to the public well-being and has thereby communicated the positive values of the chemical profession. The significance of this work should have become apparent within the five years preceding nomination. The awardee shall be a living resident of the United States or Canada at the time of the nomination.

There is no limitation to the field of chemistry. The selection committee focuses on the general public recognition of the work, as well as its scientific/technical significance.

The Award consists of a bronze medal and the sum of $5,000. Travel expenses incidental to the conferring of the award will be reimbursed. The award will be presented at the April 2013 meeting of the Section. The Awardee is expected to deliver an address on the subject of the work for which the honor is conferred, or for work in progress which is also directed toward chemistry in the public interest.

Nominations should be submitted as a single pdf file including: 1) a letter signed by the primary sponsor with a description of the nominee's work recognized as making a major contribution to the public welfare and as communicating positive values of the chemical profession, plus the names of two co-sponsors; 2) short supporting co-sponsor statements; 3) the nominee's professional biography including a list of no more than ten of the nominee's publications selected for their pertinence to the work nominated for recognition; and 4) copies of popular and technical press news or feature articles indicative of public benefit and interest. Further information is available at www.nesacs.org.

Nominations Are Due October 15, 2012 to asromek@mclean.harvard.edu with cc to piper281@verizon.net. Award recipients will be notified by February 1, 2013.

***Inquiries** may be directed to the above or to Dr. Anna Sromek, Tel. (617) 855-3591 or Karen Piper, Tel. (978) 456-8622. Address: 19 Mill Rd., Harvard, MA 01451.* ◇

CAREER DEVELOPMENT

Being an active participant in NESACS activities will enable you to network with major institutions and corporations in our area and can open up new career opportunities.

The NESACS Board of Publications, which is responsible for both the *Nucleus* newsletter and the NESACS website, is looking to increase its activities in this arena.

We would like to expand our capabilities for keeping our membership informed on what is happening in our field and how to adapt to changing times and new technologies.

You can help us do that. All we ask of you is a few hours a month and a smile.

Call or email to see what opportunities are available.

contact – Vivian Walworth
NESACS Board of Publications
Phone - 978-369-3735

Email vwalworth@comcast.net

Q. Exactly, how many awards and scholarships does NESACS sponsor?

A) One b) Two c) Many

www.nesacs.org/awards

Meeting Date Changed

Calling All Lab Managers!

September 14, 2012
Harvard University
11 Oxford Street
Cambridge, MA 02138

The local chapter of the Association of Lab Managers (ALMA) will host a meeting on Friday, September 14 from 10 a.m. to 3 p.m. at Harvard University Center for Nanoscale Systems, 11 Oxford Street, LISE, Cambridge, MA 02138. The purpose of the meeting is to provide information to lab managers about various contract laboratories capabilities as well as provide an opportunity to network with fellow laboratory managers. Agilent is the meeting's sponsor, and attendance, parking and meals are free. Membership in ALMA is not required.

The meeting will begin at 10 a.m. with a continental breakfast networking session, followed by a keynote address on laboratory management by Dr. Wayne Collins, World-Wide Industry Marketing Manager at Agilent Technologies. There will be opportunities during the meeting to hear about various contract labs, to network with other lab managers over lunch and to tour the Harvard University Center for Nanoscale Systems.

The meeting will end with a round table session beginning at 2:30 p.m. and concluding at 3 p.m. Questions, please contact Lynne Garone at lgarone@eink.com. To register, send an email with your contact information (Name, address, email and phone) to: alma@labmanagers.org ◇

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Save the Date

Connections to Chemistry 2012
A Preliminary Announcement

Keynote Address: Robert S. Langer, Institute Professor, MIT

Burlington High School
Burlington, MA

Thursday, October 18, 2012
3:30 pm-8 pm

3:30-4:00	Registration and refreshments
4:00-4:25	Welcome and overview
4:30-6:15	Workshops
6:15-8:00	Dinner and keynote address (Robert S. Langer, Institute Professor, Masschusetts Institute of Technology)

The deadline for registration is Friday, October 5, 2012. The registration fee is $20 and is non-refundable after October 1st. Workshops and program-related materials, dinner and a certificate for three hours of professional development will be provided to all workshop participants.

The detailed program and registration form can be obtained on the NESACS website (http://www.nesacs.org) under *Connections to Chemistry 2012.*

For additional information, contact Dr. Marietta Schwartz, Chair, Education Committee, NESACS: 617-287-6146 or marietta.schwartz@umb.edu.

Photo courtesy of Stu Rosner

Robert S. Langer is the David H. Koch Institute Professor at the Massachusetts Institute of Technology. Institute Professor (there are 14) is the highest honor that can be awarded to a faculty member at MIT. Dr. Langer has written more than 1,175 articles. He also has approximately 800 issued and pending patents worldwide. Dr. Langer's patents have been licensed or sub-licensed to over 250 pharmaceutical, chemical, biotechnology and medical device companies. He is the most cited engineer in history.

He served as a member of the United States Food and Drug Administration's Science Board, the FDA's highest advisory board, from 1995 — 2002 and as its Chairman from 1999-2002.

Dr. Langer has received over 210 major awards including the 2006 United States National Medal of Science; the Charles Stark Draper Prize, considered the equivalent of the Nobel Prize for engineers, the 2008 Millennium Prize, the world's largest technology prize and the 2012 Priestley Medal, the highest award of the American Chemical Society. He is the also the only engineer to receive the Gairdner Foundation International Award; 78 recipients of this award have subsequently received a Nobel Prize. Among numerous other awards Langer has received are the Dickson Prize for Science (2002), Heinz Award for Technology, Economy and Employment (2003), the Harvey Prize (2003), the John Fritz Award (2003) (given previously to inventors such as Thomas Edison and Orville Wright), the General Motors Kettering Prize for Cancer Research (2004), the Dan David Prize in Materials Science (2005), the Albany Medical Center Prize in Medicine and Biomedical Research (2005), the largest prize in the U.S. for medical research, induction into the National

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National Chemistry Week Events

Celebrating

Nanotechnology – The Smallest BIG Idea in Science!

October 27, 2012 – Boston Children's Museum

From 11 am – 4 pm, NCW volunteers will be on-hand throughout the museum to perform demonstrations and assist in hands-on activities related to the yearly theme.

October 28, 2012 – Museum of Science Boston

* *Phyllis A. Brauner Memorial Lecture by Dr. Bassam Shakhashiri*

  Dr. Bassam Shakhashiri is a Professor of Chemistry at the University of Wisconsin-Madison and is the William T. Evjue Distinguished Chair for the Wisconsin Idea. Professor Shakhashiri is the 2012 President of the American Chemical Society. Professor Shakhashiri has captivated audiences with his scientific demonstrations at a variety of locations including Boston's Museum of Science, the National Academy of Sciences and the Smithsonian's National Air and Space Museum in Washington.

  Taking place in Cahners Theatre (2nd floor, Blue Wing) at 1:00 pm and 4:00 pm.

  * Admission to the museum is required. Free tickets to Dr. Shakhashiri's show will be available on a first come, first serve basis. Tickets are available via advance reservation. To reserve tickets, please contact the NESACS secretary either via email secretary@nesacs.org (preferred) or by phone 1-781-272-1966 before October 20, 2011. Tickets will be available for pick-up in the lobby of the museum at the ACS table.

* *Hands-on Activities related to nanotechnology*

  Taking place from 1:00 pm - 5:00 pm on October 28, 2012 throughout the Museum.

September 1 – October 5, 2012

K-12 students participate in the **NCW poetry contest**. Visit www.nesacs.org and http://portal.acs.org/portal/acs/corg/content?_nfpb=true&_pageLabel=PP_MULTICOLUMN_T2_50&node_id=1033&use_sec=false&sec_url_var=region1&__uuid=5b376657-e102-4ad6-88cb-4fe54b492b5d for more information (after July 15, 2012).

July 1 – September 20, 2012

K-12 students participate in the **Local Section design a t-shirt competition.** Visit www.nesacs.org for more information.

American Chemical Society
Local Section

ACS Chemistry for Life™

38th NORTHEAST REGIONAL MEETING 2012
HOSTED BY THE ROCHESTER LOCAL SECTION
September 30 – October 3, 2012
Radisson Hotel Rochester Riverside, Rochester, NY

Includes Maine, Vermont, Massachusetts, Rhode Island, Connecticut, and New York (except New York City)

NERM 2012

WWW.NERM2012.ORG (Register Now)

EARLY REGISTRATION CLOSES SEPTEMBER 7
REDUCED HOTEL RATES END AUGUST 29

ABSTRACT SUBMISSION CLOSES AUGUST 10
REDUCED VENDOR RATES END JULY 1

General Sessions

- Analytical
- Biological
- Bioorganic / Medicinal
- Environmental
- Inorganic
- Organic
- Physical
- Polymers

Contact the Program Chair

Terry Bluhm
16 Pine Hill Drive
Pittsford, NY 14534
TLBLUHM@GMAIL.COM

Special Event Speakers

- Harrison Howe Award Winner: Xiaoliang Sunney Xie, Mallinckrodt Professor of Chemistry and Chemical Biology, Harvard University
- Awards Dinner, Science Teacher Workshop and Presidential Event: Bassam Z. Shakhashiri, 2012 President of the ACS
- Presidential Event: Cathleen Crudden, 2012-13 President of the Canadian Society of Chemistry

Ticketed Events, Workshops and Course

- "Surface Modification Chemistries for Nanoparticles and Interfaces" Course
- Science Teacher Workshop
- Punch and Cookies
- Welcome Reception
- Chemical Entrepreneur Small Business Symposium and Workshop
- ACS Career Services
- Presidential Event (ACS & CSC)
- Awards Dinner
- Agilent Technologies Lunch Seminar
- 100 Year Anniversary Ice Cream Social (Rochester, New Haven and Maine)
- Harrison Howe Banquet and Reception
- Meeting and Talk with the ACS Governance over Breakfast
- Division of Public Relations Workshop

Symposia

- Advances in Energy & Fuel Chemistry: Biofuels
- Advances in Energy & Fuel Chemistry: Fuel Cells
- Advances in Energy & Fuel Chemistry: Photovoltaics
- Analytical/Separation (NERCDG)
- Biopolymers: Bio-based Polymers, their Production and Interaction with Biological Systems
- Catalyzing the Future of Chemistry
- Chemical Biology: Advancing Basic Science and Improving Human Health
- Chemical Education: Training the Next Generation
- Chemistry in Emerging Technologies
- Environmental Chemistry: Climate Change
- Harrison Howe Award: New Frontiers in Imaging
- Nanostructured Materials: Applied Science
- Nanostructured Materials: Basic Science
- Nanostructured Materials: Spectroscopy
- NSF Catalyzed Innovation in Undergraduate Education
- Polymers from Renewable Resources
- Synthetic Organic Chemistry Methods across the Border
- Undergraduate Research

Accommodations

- Radisson Rochester Riverside
- $128/night, free Wi-Fi and parking pending availability

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Finger Lakes Region of New York with Award-Winning Wineries

Education Night Awards

Presented at Tufts University, Medford, Massachusetts, May 10, 2012

HIGH SCHOOL AWARDS

FIFTY-Third ANNUAL AVERY A. ASHDOWN HIGH SCHOOL EXAMINATION CONTEST

Student	School	Teacher
FIRST PLACE - THE SIMMONS COLLEGE AWARD		
Alan Zhou	Lexington HS	Parul Kumar
SECOND PLACE		
Charles Guan	Phillips Academy	Temba Maquebela
SECOND PLACE (Non-eligible because of a prior award)		
James Lin	Phillips Academy	Temba Maquebela
THIRD PLACE - Tied		
Jeong Kim	Groton School	Sandra Kelly
Eric Tao	Acton-Boxborough HS	David Baumritter
Jonas Whitney	Reading Memorial HS	Frank Buono
Honorable Mention – First Year		
Matthew Shorter	Lexington HS	Parul Kumar
Hyun Seo Oh	Phillips Exeter Academy	Michael McLaughlin
Pei jn Zhang	Lexington HS	James Woods
Victor Porras	Lexington HS	Jeffrey Shorter
Sheela Devadas	Lexington HS	Parul Kumar
Honorable Mention - Second Year		
Samantha Briasco-Stewart	Wayland HS	Jay Chandler
Ryan D. Budnick	Wayland HS	Jay Chandler
Kruti B. Vora	Wayland HS	Jay Chandler
Devin Fauteux	Hollis Brookline HS	Kelly Burishkin
David Fink	Acton-Boxborough HS	David Baumritter
Nicholas Barbier	Dover-Sherborn HS	Chris Levasseur
Hari Anbarasu	Sharon High School	Shawn Kenner

AULA LAUDIS SOCIETY

Jeff Bigler	Lynn English High School
Betty Iannuccilli	Andover High School
Parul Kumar	Lexington High School
Ann Lambert	King Phillip High School

Theodore William Richards Award for Excellence in Teaching Secondary School Chemistry

Ann Wolf	Plymouth South High School
Kathleen Markiewicz	Boston Latin School

PROJECT SEED

Justin Silva	Brockton High School
Liban Mohamed	Brockton High School---

NEWELL GRANTS (NEACT)

Cindy Scheetz	New Haven Public Schools
Manju Prakash	Fairmont Preparatory Academy
Hilary Blanchard	Recent graduate-St Joseph's College
Mary Jac Reed	Fairfield Ludlow High School

COLLEGE AND UNIVERSITY AWARDS

2012 UNDERGRADUATE RESEARCH SCHOLARS JAMES FLACK NORRIS AND THEODORE WILLIAM RICHARDS SCHOLARS

Boston College

Casey Brodsky — Chia-Kuang Tsing, Advisor

"Noble Metal Nanostructures for Electrochemical Energy Storage"

Boston University

Morris Eli Cohen — Binyomin Abrams, Advisor

"Simulation Studies of Helix Formation of Oligo(azobenzene) Foldamers"

Stonehill College

Patrick Kelleher — Deno Del Sesto, Advisor

"Determination of the Reactivity of the Vibrational Ground State of Methane on Ni(111)"

Boston College

Benjamin Reiner — Jeffery Byers, Advisor

"Ruthenium Catalyzed Brook Rearrangements for the Rapid Assembly of Complex Small Molecules"

NESACS UNDERGRADUATE GRANTS-IN-AID

Stonehill College

Emily Nicotera — Prof. Maria Curtin

"Investigation of Aluminum Chlorohydrate by Atmospheric Ionization Mass Spectrometry"

Stephanie Murray — Prof. Leon Tilley

"Trifluoromethyl Directed γ-Sylil Elimination in the Cationic Mediated Synthesis of Trifluoromethylcyclopropanes"

Eve A. Granatosky — Prof. Louis Liotta

"Stereochemically Controlled Dihydroxylations in the Synthesis of Polhydroxylated Pyrrolizidines"

Kelly McCarthy — Prof. Louis Liotta

"The Synthesis of Polyhydroxylated Pyrrolidine from a D-Altrose Derivative"

DR. PHYLLIS A. BRAUNER MEMORIAL BOOK AWARD

Harvard University

Allen Shih — David Liu, Advisor

NORTHEAST STUDENT CHEMISTRY RESEARCH CONFERENCE (NSCRC)

Oral Presentation Awards:

Outstanding Oral Presentation Award (sponsored by Strem Chemicals):

Nicholas DeLateur - Northeastern University

"Investigating Single Layer versus Multi-Layer Active Sites with Alkaline Phosphatase"

Excellent Oral Presentation Award (sponsored by The Conditas Group):

Christpher Theile - Boston College

"Synthesis of Ring Expanded Cyclo-deoxyuridine and Deoxyadenosine"

Continued on page 11

Photos from the Esselen Award Meeting – April 2012

Photography by Joel Laino

Prof. Jon Clardy of Harvard Medical School, who will introduce the awardee later in the evening, seems lost in thought as Gustavus J. Esselen IV greets Marty Idelson, former chair of the awards committee, and Dr. Bruce Ganem, 2012 recipient of the Esselen Award for Chemistry in the Public Interest.

Steve Buchwald, 2010 awardee and member of the committee, joins Dr. Howard and Mrs. Mayne at the social hour. Dr. Mayne is Chair of the Esselen Award Committee for 2012.

Marietta Schwartz greets Jim Phillips and Howard Mayne.

Two awardees greet each other: Dr. Stephen Buchwald, the 2010 recipient, and Dr. Bruce Ganem, the 2012 recipient, speak with Fred Greene.

Education Night Awards

Continued from page 10

NORTHEAST STUDENT CHEMISTRY RESEARCH CONFERENCE (NSCRC) *Continued*

Poster Presentation Awards:

Excellent Poster Presentation by a Graduate Student Award (sponsored by Strem Chemicals):

Colin J. Murphy, Tufts University

"Elucidating the rotation of a single surface bound molecule with a view of developing a synthetic molecular motor"

Excellent Poster Presentation by an Undergraduate Student Award (sponsored by The Conditas Group):

Shoshana Bachman, Wellesley College

"Stereospecific electrophilic addition of amidoaldehydes to oxazoles using Lewis acid catalysts"

Graduate Women in Science Award (sponsored by GWC, Alpha Omega Chapter)

Excellent Poster Presentation by a Female Presenter:

Anna Levina, MIT

"Palladium-Catalyzed β-Hydride Elimination Reactions of Alkyl Bromides and Tosylates Leading toTerminal Alkenes" ◇

Report from Paris

continued from page 4

tion at the residence of the U.S. Ambassador to UNESCO, David Killion and his wife; a reception at the residence of the British Ambassador to France, Sir Peter Westmacott (who is now the British Ambassador to the U.S.); a dinner at the Restaurant 58 Tour Eiffel; a farewell banquet on a cruise on the Seine.

At Malta-I, the initial atmosphere was like that of a junior high school dance with the various national groups clustered on different sides of the floor; by the end of the conference, the atmosphere was more like the end of summer camp with the participants truly sad that the extraordinary experience was coming to an end. At Malta-III, national and international politics were freely discussed and a resolution was unanimously passed that expressed concern about the state of the water supply in Gaza. At Malta-V, more than one-third of the attendees had participated in at least one previous Malta Conference, and personally knew many others. This had a very positive effect on the depth of the personal interactions during the five days in Paris.

On a happy note, mention should be made that the 2011 winner of the Nobel Prize in Chemistry, Dan Shechtman (Technion-Israel Institute of Technology, Haifa), was a participant at Malta-I. On a sad note, we mourn the passing of Nobel Laureate Sherry Rowland (University of California-Irvine), who was a supporter of the goals of the Malta Conferences, and a participant at several of them.

Malta-V was organized by the Malta Conferences Foundation, a 501(c)(3) non-profit corporation; NESACS members on the Board of Directors are Cathy Costello (Boston University Medical School), Chuck Kolb (Aerodyne Research), and Morton Hoffman (Boston University). Dudley Herschbach (Harvard University) serves as a member of the MCF International Advisory Committee. Information about MCF can be found at <www.maltaconferencesfoundation.org>. ◇

Esselen Award Meeting Photos

continued from page 11

Following the award presentation (from the left), Dr. Ruth Tanner, Chair of NESACS; Gustavus J. Esselen IV; Dr. Bruce Ganem, 2012 recipient of the Esselen Award; and Dr. Howard Mayne, Chair of the 2012 committee.

Seated at the committee table for dinner (again, from left) Mrs. Irene Vouros; Drs. Paulette and Martin Idelson; and Dr. Arthur Obermayer, a member of the founding committee. Standing behind his wife, Dr. Paul Vouros; Dr. Stephen Buchwald; Dr. John Neumeyer; and, Dr. Mukund Chorghade. All are either current or former members of the committee.

Seated at the head table for dinner (from left), Mrs. Rose Simon; Dr. Donald Ganem, brother of the award recipient; Dr. Jon Clardy; and Dr. Ruth Tanner, Chair of NESACS. Standing behind his wife, Dr. Myron Simon, founding member of the committee; Mrs. Deanna Mayne with her husband Dr. Howard Mayne, Chair of the 2012 committee; Mrs. Beth Ganem and her husband, Dr. Bruce Ganem, 2012 recipient of the Esselen Award.

Save the Date

continued from page 7

Inventors Hall of Fame (2006), the Max Planck Research Award (2008), the Prince of Asturias Award for Technical and Scientific Research (2008) and the Warren Alpert Foundation Prize (2011). In 1998, he received the Lemelson-MIT prize, the world's largest prize for invention for being "one of history's most prolific inventors in medicine." In 1989 Dr. Langer was elected to the Institute of Medicine of the National Academy of Sciences, and in 1992 he was elected to both the National Academy of Engineering and to the National Academy of Sciences. He is one of very few people ever elected to all three United States National Academies and the youngest in history (at age 43) to ever receive this distinction.

Forbes Magazine (1999) and Bio World (1990) named Dr. Langer as one of the 25 most important individuals in biotechnology in the world. Discover Magazine (2002) named him as one of the 20 most important people in this area. Forbes Magazine (2002) selected Dr. Langer as one of the 15 innovators world-wide who will reinvent our future. Time Magazine and CNN (2001) named Dr. Langer as one of the 100 most important people in America and one of the 18 top people in science or medicine in America (America's Best). Parade Magazine (2004) selected Dr. Langer as one of 6 "Heroes whose research may save your life."

Dr. Langer has received honorary doctorates from Harvard University, the Mt. Sinai School of Medicine, Yale University, the ETH (Switzerland), the Technion (Israel), the Hebrew University of Jerusalem (Israel), the Universite Catholique de Louvain (Belgium), Rensselaer Polytechnic Institute, Willamette University, the University of Liverpool (England), Bates College, the University of Nottingham (England), Albany Medical College, Pennsylvania State University, Northwestern University, Uppsala University (Sweden) and the University of California – San Francisco Medal.

He received his Bachelor's Degree from Cornell University in 1970 and his Sc.D. from the Massachusetts Institute of Technology in 1974, both in Chemical Engineering. ◇

THREE NESACS MEMBERS NAMED ACS FELLOWS

The selection of the 2012 class of ACS Fellows, which included three NESACS members among the 96 named, was announced in the July 23, 2012, issue of *C&EN*.

The new ACS Fellows received their lapel pins and certificates at the National Meeting in Philadelphia at a ceremony on Monday, August 20, hosted by ACS Immediate Past-President Nancy B. Jackson in recognition of their outstanding achievements in, and contributions to science, the profession, and the Society.

The following three NESACS members were honored: Ramanathan Nagarajan (U.S. Army Natick Soldier Research, Development, and Engineering Center), Lawrence T. Scott (Boston College), and Jeffrey I. Steinfeld (Massachusetts Institute of Technology). They join the Fellows who were elected in previous years.

2009: Charles Cooney (M.I.T.), Elias Corey (Harvard University), Morton Hoffman (Boston University), Charles Kolb (Aerodyne Research), Robert Lichter (Merrimack Consultants), Charles Lieber (Harvard University), Dietmar Seyferth (M.I.T.), George Whitesides (Harvard University).

2010: Mukund Chorghade (Thinq Pharma), Cynthia Friend (Harvard University), Peter Jacobi (Dartmouth College), Dorothy Phillips (Waters Corp.), Michael Strem (Strem Chemicals).

2011: Catherine Costello (Boston University School of Medicine), Peter Dedon (M.I.T.), Thomas Gilbert (Northeastern University), Dudley Herschbach (Harvard University), Esther Hopkins (Polaroid, retired), Russell Hughes (Dartmouth College), Robert Langer, M.I.T.), David Lemal (Dartmouth College), Stephen Lippard (M.I.T.), Patricia Ann Mabrouk (Northeastern University), John Neumeyer (Harvard Medical School), Barry Snider (Brandeis University), Steven Tannenbaum (M.I.T.), John Warner (Warner Babcock Institute for Green Chemistry).

Nominations for the 2013 class of ACS Fellows will open during the early part of next year. Additional information about the program is available at <www.acs.org/fellows>. ◇

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Note also the Chemistry Department web pages for travel directions and updates.
These include:
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http://www.chem.brandeis.edu/colloquium.shtml
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http://www.unh.edu/chemistry/seminars.html

Sept 04
Prof. Stephen Waters (Univ. Vermont)
Univ. New Hampshire, Room N104 (L103)
11:10 am

Sept 05
Prof. Daniel J. Mindiola (Indiana Univ.)
"Titanium Alkylidynes"
MIT, 6-120
4:00 pm

Sept 06
Prof. William Mustain (U. Connecticut)
"Electrochemical Room Temperature Activation of CH4 through a Carbonate Anion Pathway"
Univ. New Hampshire, Room N104 (L103)
11:10 am

Sept 10
Novartis Lectures in Organic Chemistry:
Prof. Scott Miller, Yale University & Christopher Straub, Novartis
MIT 6-120
4:00 pm Straub
5:00 pm Miller

Prof. Alan Aspuru-Guzik (Harvard)
"Molecules as quantum processors: Unraveling of energy transfer dynamics using quantum process tomography"
Harvard, Pfizer Lecture Hall
4:15 pm

Sept18
Prof. John Anthony (Univ. Kentucky)
"Small molecule design for organic transistors and solar cells"
Tufts, Pearson P106
4:30 pm

Sept 19
Prof. Akif Tezcan (UC-San Diego)
"New Inorganic Paths in the Biological Jungle"
MIT, 6-120
4:00 pm

Sept 20
Prof. Gerald J. Diebold (Brown Univ.)
Boston College, Merkert 130
4:00 pm

Sept 25
Prof. Paul Weiss (UCLA)
"Cooperative Function in Atomically Precise Nanoscale Assemblies"
Tufts, Pearson P106
4:30 pm

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Sept 26
Prof. Raymond Schaak (Penn State Univ.)
"Synthetic Design Tools for Complex Inorganic Solids and Nanostructures"
MIT, 6-120
4:00 pm

Sept 27
Prof. Raymond Schaak (Penn State Univ.)
Boston College, Merkert 130
4:00 p.m.

Prof. Peter Rossky (Univ. Texas)
R. B. Woodward Lectures in the Chemical Sciences,
Harvard, Pfizer Lecture Hall
5:00 pm

Sept 28
Novartis Symposium
Prof. Suzanne Walker, Harvard Medical School
Boston College, Merkert 130
4:00 pm

Notices for The Nucleus Calendar of Seminars should be sent to:

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