

THE NUCLEUS

September 2013

Vol. XCII, No. 1



Monthly Meetings

*NESACS September Meeting Postponed
Central MA Meeting at Fitchburg State*

The Malta Conferences

By Morton Z. Hoffman

Chemists Celebrate Earth Day

By Jayashree Ranga

Education Night

*A list of Awardees with photos by Morton Z.
Hoffman*

The Malta Conferences: Science Research and Education as a Bridge to Peace in the Middle East

By Morton Z. Hoffman



Director-General of UNESCO, Irina Bokova, and HRH Prince Hassan of Jordan.

Instability and uncertainty in the Middle East, combined with water scarcity, global climate change, nuclear proliferation, and the lack of civil societies, create a growing threat to the world.

To address these challenges, the Malta Conferences Foundation organizes biennial conferences that bring scientists and science educators from 15 Middle Eastern countries (Bahrain, Egypt, Iraq, Iran, Israel, Jordan, Kuwait, Lebanon, Libya, Palestinian Authority, Qatar, Saudi Arabia, Syria, Turkey, and the United Arab Emirates) together with six Nobel laureates and U.S. and E.U. scientists for five days. Most of these Middle Eastern scientists cannot easily meet face-to-face to exchange information and discuss possible collaboration and cooperation because the governments of their countries are hostile to each other. The Malta Conferences are the only platform where scientists from these 15 countries can work together on solutions for regional problems.

Five of these conferences have been held since 2003, the last one in

December 2011 by invitation at the headquarters of UNESCO in Paris. Malta-V was opened by the Director-General of UNESCO, Irina Bokova, and HRH Prince Hassan of Jordan, the brother of King Hussain, who gave a talk on his vision of the new Middle East. The President of the Board of Directors of the Foundation, Dr. Zafra Lerman, was invited to talk about the Malta Conferences at the Nobel Peace Institute in Oslo, Norway, in September 2009.

The Malta Conferences consists of plenary lectures by the Nobel laureates and five workshops that involve all the participants: (1) Environment: Air and Water Quality, (2) Energy Sources, (3) Education at All Levels, (4) Nanotechnology and Material Science, and (5) Medicinal Chemistry and Natural Products.

Environment: Air and Water Quality




Pollution by leaching wastewater in Gaza.

The region's extremely poor air quality and severely insufficient high quality water can be successfully assessed and addressed by environmental science. However, the solutions have to be international because the badly polluted airsheds and watersheds are regional in nature and cross many national boundaries.

A working group on Regional Water Quality Assessment in Jordan, Palestinian Authority, and Israel was conceived at the Malta-III conference. During Malta- IV, this group defined and launched an ambitious research

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The Northeastern Section of the American Chemical Society, Inc.

Office: Anna Singer, 12 Corcoran Road,
Burlington, MA 01803
(Voice or FAX) 781-272-1966.
e-mail: secretary(at)nesacs.org
NESACS Homepage:
http://www.NESACS.org

Officers 2013

Chair

Liming Shao
158 South Great Road
Lincoln, MA 01773
limingshao(at)comcast.net
shao(at)fas.harvard.edu
781-518-0720

Chair-Elect

Catherine Costello
Boston University School of Medicine
670 Albany Street, room 511
Boston, MA 02118-2646
Cecmsms(at)bu.edu

Immediate Past Chair

Ruth Tanner
Olney Hall 415B
Lowell, MA 01854
University of Mass Lowell
Ruth_Tanner(at)uml.edu
978-934-3662

Secretary:

Michael Singer
Sigma-Aldrich
3 Strathmore Rd, Natick, MA 01360
774-290-1391, michael.singer(at)sial.com

Treasurer:

James Piper
19 Mill Rd, Harvard, MA 01451
978-456-3155, piper28(at)attglobal.net

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Cover: *Nihal Gowravaram (Acton-Boxborough High School), center; the Simmons College Award winner for placing first in the Avery A. Ashdown High School Examination Contest with Steve Lantos (High School Committee Chair), at left, and Michael Berger (Simmons College). (Photo by Morton Z. Hoffman).*

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Editor: Michael P. Filosa, Ph.D., ZINK Imaging, Inc., 16 Crosby Drive, Building 4G, Bedford, MA 01730 Email: Michael.filosa(at)zink.com; Tel: 508-843-9070

Associate Editors: Myron S. Simon, 20 Somerset Rd., W. Newton, MA 02465, Tel: 617-332-5273, Mindy Levine, 516-697-9688, mindy.levine(at)gmail.com

Board of Publications: Mary Mahaney (Chair), Mindy Levine, Vivian K. Walworth, James Phillips

Business Manager: Karen Piper, 19 Mill Rd., Harvard, MA 01451, Tel: 978-456-8622

Advertising Manager: Vincent J. Gale, P.O. Box 1150, Marshfield, MA 02050, Email: Manager-vincegale(at)mboervices.net; Tel: 781-837-0424

Contributing Editors: Morton Hoffman, Feature Editor; Dennis Sardella, Book Reviews

Calendar Coordinator: Michael P. Filosa, email: Michael.filosa(at)zink.com

Photographers: Morton Z. Hoffman and James Phillips

Proofreaders: Donald O. Rickter, Vivian K. Walworth, Mindy Levine

Webmaster: Roy Hagen

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The Northeastern Section - Chemists Celebrate Earth Day

by Jayashree Ranga, Salem State University

NESACS organized its annual Chemists Celebrate Earth Day event at the Museum of Science, Boston on Sunday, April 28, 2013. This event was originally scheduled on April 21, 2013. The event had to be postponed due to the Boston Marathon Bombings. In spite of this change in schedule, more than 50 volunteers from various organizations demonstrated hands-on green chemistry activities at the Museum. The Museum had 2,821 visitors that day, and at least 400 individuals participated in our CCED activities in the Museum's Suit-Cabot Lab. Special thanks to David Sittenfeld from MoS for rescheduling the event within a short duration.

The demonstrations and hands-on activities presented during this event included: biodiesel preparation, acidification of oceans, effects of acid rain and salinity on germination of radish seeds, building of dye sensitized solar



CCED volunteers at MoS on April 28, 2013. Photo by Dr. Doris Lewis

cell, measuring acidity of rain water using cabbage indicator, determining greenness of sunscreen lotions, investigating environmental impacts of cleaning agents on plants. These activities were developed by the presenting institutions.

The main focus of this event was to promote awareness regarding green chemistry. All the volunteers enthusiastically engaged young visitors in hands-on green chemistry activities and distributed handouts highlighting importance of adapting green methods in day-to-day activities.

Special thanks to volunteers from Beyond Benign, Emmanuel College, Fitchburg State University, Framingham State College, Gordon College, Kehillah Schechter Academy, Museum of Science, Northeastern University, Salem State University, Suffolk University, and David Sittenfeld.

Our Section also participated in the CCED-2013 Illustrated Poem contest. The winners of NESACS were:

- Erin Joyce - Grade K (K - 2nd Category)
- School/organization: Girls Club, Teacher/Mentor: Bridget Cahill
- Hailey Moon – Grade 5 (3rd-5th Category)
- School/organization: The Lane School, Bedford, Teacher: Sarah Dorer
- Anna McCarthy – Grade 6 (6th - 8th Category)
- School/organization: Girls Club, Teacher: Cadette troop – 80337

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Monthly Meeting

NESACS September Medicinal Chemistry Symposium is postponed to December.

September Board Meeting to be scheduled.
See www.NESACS.org for current information.

The NESACS website

Updated frequently · Late-breaking news · position postings

Back issues of the Nucleus archived · Career-related Links · Awards and Scholarships

WWW.NESACS.org

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 2014 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
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ACS Central MA Section Meeting

Date: Wednesday, September 25

Place: Fitchburg State University, Fitchburg, MA

6:00 – 7:00 Tour of the new Science Building and Social Hour - 3rd Floor Lobby (333 North St., Fitchburg, MA)

7:00 – 8:00 Dr. Mathangi Krishnamurthy, Assistant Professor of Chemistry, Fitchburg State University
Finding New Cures for Cancer – From “Pot” to Pill
Presidents Hall - Mazzaferro Center

More details: <http://central-mass.sites.acs.org/>; or contact: mgovindan@fitchburgstate.edu

Directions: <http://www.fitchburgstate.edu/about-us/directions/>.

Parking: Weston lots on North St - #8 & 9 on Campus Map. (<http://www.fitchburgstate.edu/uploads/files/Directions/ParkingLotMap.pdf>). Science Building is the new glass building across the street (333 North St.).



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A Plea for Local Section Dues

When you receive your dues bill from National ACS it will include an item for Northeastern LS Voluntary Dues of \$22. Every member of ACS who lives in New Hampshire or eastern Massachusetts is automatically a member of the Northeastern Section (NESACS). These dues are voluntary, and about half of our 6500 members choose not to pay them.

As Treasurer of NESACS, I would like to urge all members to pay these dues and support the Section activities, even if you do not regularly attend NESACS meetings. Dues constitute the major source of discretionary income to the Section. While most awards programs are supported by Trust funds, your dues and contributions fund activities such as those of the Education Committee, National Chemistry Week, Younger Chemists, and Project SEED, all of which benefit the general chemical community.

Non-payment of Local Section dues has no effect on the individual member. ACS does not permit us to discriminate between members who pay dues and those who do not, so, for example, the Nucleus is sent to all members by mail or electronically. Members for whom dues are non-deductible might prefer to send a contribution to NESACS, since contributions to the Section are tax deductible. Checks payable to NESACS can be sent to the Treasurer at 19 Mill Rd., Harvard, MA 01451 or to the administrative secretary.

Your support of the Section is greatly appreciated, and the Board of Directors conscientiously strives to see that all Section activities advance the chemical enterprise.

-Jim Piper, NESACS Treasurer ◇

Subsection Task Force Formed

At the Board of Directors meeting on January 10, 2013, it was voted to create a task force that would explore the feasibility of establishing subsections within NESACS to help connect and engage members in areas that are remote from our Boston/Cambridge/environs core in which almost all the Section's activities take place, specifically, Southeastern Massachusetts (SE-MA) and New Hampshire (NH).

The Subsection Task Force (STF) consists initially of the following representatives from the core area: Morton Hoffman (Boston University), Ruth Tanner (University of Massachusetts Lowell), Robert Lichter (Merrimack Consultants); from SE-MA: Jack Driscoll (PID Analyzers), Robert Howard (Weeset Advisors); from NH: Jerry Jasinski (Keene State College), Gary Weisman (University of New Hampshire).

Approximately 1,000 NESACS members live or work in SE-MA (defined as Barnstable, Bristol, Dukes, Nantucket, and Plymouth counties) and NH; they are effectively isolated from each other and other members within the core area due to the distances and driving times involved to attend the activities of the Section. In order to reach out, STF will facilitate the organization of meetings and events within SE-MA and NH, which could range from informal Science Cafés with the general public to more formal meetings, involving speakers and activities appropriate to the venue and the interests of the potential participants. Inasmuch as NESACS is contiguous with four other local sections (Rhode Island, Central Massachusetts, Green Mountain, Maine), members from those sections will be invited to participate in events close to their borders.

The first event will take place on Thursday, October 3, at the University of Massachusetts Dartmouth.

NERM 2013 Abstract Deadline

The deadline for the submission of abstracts to the Northeastern Regional Meeting (NERM), which will take place at the Omni Hotel in New Haven, CT, October 23-26, 2013, is Friday, September 13. Abstracts can be submitted at <abstracts.acs.org>; details about the symposium topics, meeting program, and accommodations are at <<http://nERM2013.sites.acs.org/>>.

NERM 2013 will be the occasion of a NESACS-organized symposium, "International Chemistry Connections," in honor of the 13th annual German Exchange, which will feature talks by ACS President Marinda Wu, the three accompanying persons of the German delegation, and several members of NESACS Steering Committee. ◇

Madeleine Jacobs, Executive Director and CEO of the ACS, will be the speaker; she will draw on her many years of experience within the Society to provide a brief overview of its activities. She will also solicit views of attendees about what they would like from the ACS. The plan is to start the meeting at 5:30 p.m. with light refreshments and conclude by 8 p.m. More details will be forthcoming.

NESACS has received an innovative project grant from the ACS Local Sections Activities Committee with modest funds to support the program over the next year, after which STF will bring a recommendation to the NESACS Board as to whether to proceed toward the establishment of subsections. The factors that will be important in that decision will be the number of participants from NESACS and the general public attending the events, the range of activities provided, and the degree to which the members in the two areas express interest to become engaged with the Section as local volunteers. ◇

Call for Applications

NSYCC/NESACS–JCF/GDCh
Exchange to Germany

March 22–30, 2014

The Younger Chemists Committee (NSYCC) of the Northeastern Section and the NESACS Education Committee invite applications from undergraduate and graduate students of chemistry, biochemistry, and chemical engineering (including materials science) at colleges and universities within the Northeastern Section who are currently engaged in research to spend a week in Germany as the guests of the *Jungchemikerforum* (Young Chemists Committee; JCF) of the *Gesellschaft Deutscher Chemiker* (German Chemical Society; GDCh). The exchange group will consist of up to 12 students and a number of faculty and industrial representatives.

The trip to Germany will start with an overnight flight from Boston on Saturday, March 22; return to Boston will be on Sunday, March 30. The highlight of the visit will be the JCF student chemistry research conference (*Frühjahrssymposium*) in Jena on Wednesday–Saturday, March 26–29, which will provide the opportunity for the participants to engage in extensive networking with German and other European students, and to take part in discussions focused on research, careers, education, and international opportunities. The activities for the first part of the week will include excursions to industrial, academic, scientific, and cultural institutions in eastern Germany. Each student representative from NESACS will be expected to make a poster or oral presentation on his/her research at the

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- Naming the American Chemical Society as a beneficiary of a life insurance policy.
- Creating a life income gift that will ultimately benefit the American Chemical Society.
- Naming American Chemical Society as a beneficiary of an IRA or other retirement plan.

As a Legacy Leader you will receive a distinctive lapel pin and invitations to the American Chemical Society's special events. With your permission, you

will be recognized as a Legacy Leader and named in the American Chemical Society Legacy Leader membership roster. In addition, complimentary and confidential assistance will be provided from the ACS Development Office to your estate planning services.

Among the many ACS Legacy Leaders across the country is Don Rickter of the NESACS. Don has included Project SEED in his will and is grateful for the opportunity to support such a worthwhile program. He recommends visiting the website www.acs.org/legacy and contacting Mary Beth Dobson <M_Dobson@acs.org> in the ACS Development Office.

Read additional donor stories of ACS Legacy Leaders <http://www.gftpln.org/Article.do?orgId=5393&articleId=13870> to learn what inspired them to help the next generation of chemical scientists. ◇

Frühjahrssymposium, and upon return at the Northeast Student Chemistry Research Conference (NSCRC) in late-April/early-May. Air tickets will be provided by NESACS; accommodations in Germany will be covered by GDCh. A working knowledge of German, while useful, will not be specifically required; the language of the *Frühjahrssymposium* and the other events will be English.

Application forms are available on the YCC <<http://www.nsycc.org>> and NESACS <<http://www.nesacs.org>> websites. The following material must be submitted electronically with the application form: 1) the abstract of the presentation to be made at the *Frühjahrssymposium* and the NSCRC; 2) an essay on the relevance of the exchange to the student's professional goals; 3) a letter of recommendation from the student's research supervisor; 4) approval from the supervisor and the chair of

the department for the student's absence from classes, the research laboratory, and other responsibilities. In addition, finalists will be interviewed by members of the German Exchange Steering Committee.

Prospective applicants should note that the Spring ACS national meeting in Dallas will take place on March 16–20, 2014, and that the geographical area of NESACS comprises all of New Hampshire and the following counties in eastern Massachusetts: Barnstable, Bristol, Dukes, Essex, Middlesex, Nantucket, Norfolk, Plymouth, Suffolk.

For more information, contact Dr. Michael Strem, Chair of the German Exchange Steering Committee, at <mstrem@strem.com>.

Deadline for electronic receipt of applications: Friday, November 1, 2013, at 5:00 p.m. ◇

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National Chemistry Week Events*

Celebrating

Energy: Now and Forever!

*(National Chemistry Week is Officially held Oct.20 -26)

October 27, 2013 – 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 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 23, 2013. Tickets will be available for pick-up in the lobby of the museum at the ACS table.

- *Hands-on Activities related to energy*

Taking place from 1:00 pm - 5:00 pm on October 27, 2013 throughout the Museum.

November 9, 2013 – Boston Children's Museum

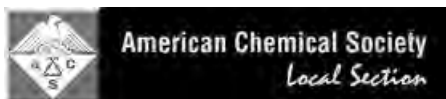
From 11 am – 4 pm, NCW volunteers will be on-hand throughout the museum to perform demonstrations and assist in hands-on activities related to the yearly theme.

September 1 – October 5, 2013

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=58ef8ea1-4479-48ac-91dd-6d2467fe63bc for more information (after July 15, 2013).

July 1 – September 20, 2013

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



Education Night Awards – May 10, 2013

THE COLLEGE & UNIVERSITY AWARDS

2013 UNDERGRADUATE RESEARCH SCHOLARS

JAMES FLACK NORRIS and THEODORE WILLIAM RICHARDS SCHOLARS

Stonehill College

Sean Dwyer Deno Del Sesto, Advisor

“Adsorption, Ordering and Interaction of Thioethers on a Au(111) Surface Studied with Scanning Tunneling Microscopy”

Harvard University

Claire Harmange Andrew G. Myers, Advisor

“Synthesis of Novel Tetracycline Analogs Against Bacterial Resistance”

Bridgewater State University

Kyle Murphy Edward Brush, Advisor

“Green Chemistry Principles in Electrophilic Bromination. Evaluating amides and amidines as Lewis Base catalysts for the regioselective bromination of indole-3-acetic acid”

University of Massachusetts - Dartmouth

Amanda Stubbs David Manke, Advisor

“Carbon Dioxide Capture with 4-Aminopyridine Derivatized MOFs”

NESACS UNDERGRADUATE GRANTS-IN-AID

Emmanuel College

Lauren Gagnon Prof. Faina Ryvkin

“Size Controlled Synthesis of Quantum Dots for Biological and Chemical Detection”

Stonehill College

Stephanie Murray Prof. Leon Tilley

“Preparation of 4-acetylamine-2,2,6,6-tetramethylpiperidine-1-oxoammonium tetrafluoroborate and Exploration of Use for Dehydrogenation of Ketones”

Boston College

Casey Brodsky Prof. Frank Tsung

“Pd@Rh Core-Shell Nanostructures for Electrochemical Energy Storage”

Gordon College

Bria Pelletier Prof. Joel Boyd

“The Determination of the Optimal Crosslink Density for the Durability of Acrylic-Titania Composite Photocatalytic Support Materials”

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Tom Gilbert (ACS District I Director), at right, with Liming Shao (NESACS Chair).



Tom Gilbert giving his talk, “Engaging Students Using Contextualized Guided Inquiry.”



Alissa Daniels (Boston Children’s Museum), at right, receiving the ACS Salute to Excellence Award for her contributions to National Chemistry Week programming from Christine Jaworek-Lopes (NESACS NCW Committee Chair), center, and Marietta Schwartz (NESACS Education Committee Chair).



Marietta Schwartz (NESACS Education Committee Chair), at far left, with the 2013 James Flack Norris and Theodore William Richards undergraduate research scholars: (l-r) Sean Dwyer (Stonehill College), Kyle Murphy (Bridgewater State University), Amanda Stubbs (University of Massachusetts Dartmouth).



NESACS Undergraduate Grants-in-Aid Awardees: Lauren Gagnon (Emmanuel College), at left, and Stephanie Murray (Stonehill College).

Education Awards

Continued from page 9

PHILIP L. LEVINS MEMORIAL PRIZE

Tufts University

Shuai Nie

David Walt, Advisor

The Philip L. Levins Memorial Prize

Dr. Philip L. Levins was Vice-President in charge of Chemical and Good Sciences at Arthur D. Little, Inc. having been associated with the company for 22 years. He joined Arthur D. Little Inc. to carry on research in kinetics and mechanisms of organic reactions.

He assumed responsibility for the Company's nuclear magnetic resonance and chromatography activities, which led to continuing involvement with analytical and environmental research for government and industrial clients. He was a pioneer in the application of high resolution mass spectroscopy to the solution of a variety of challenging problems, including finding the chemical answers to the question of diesel exhaust odor.

His research in chemical-sensory correlation studies continued through the merger of Arthur D. Little, Inc.'s chemistry and food service divisions until 1982. Among the technical staff were many young people from the Northeastern University cooperative program. Dr. Levins made certain that their time with his group was exceptionally rewarding. This exemplified his commitment to the personal and professional growth of the people who worked in the Chemical Sciences.

Mrs. Merilee Levins made an endowment to The Northeastern Section of the American Chemical Society in 1986 to be used to fund an annual award, The Philip L. Levins Memorial Prize, to be awarded each year to a graduate student engaged in a research project involving some aspect of organic analytical chemistry. The Levins family hopes that this will help to keep alive the memory of Dr. Levins.



Shuai Nie (Tufts University), winner of the Philip L. Levins Memorial Prize, at right, with Dorothy Phillips (NESACS Award Committee Chair).

NORTHEAST STUDENT CHEMISTRY RESEARCH CONFERENCE (NSCRC)

Due to the events in Boston on April 15th, the NSCRC did not take place. Information on this event will be announced at a later date.

DR. PHYLLIS A BRAUNER MEMORIAL BOOK AWARD

Due to the events in Boston on April 15th, the NSCRC did not take place. Information on this event will be announced at a later date.

THE HIGH SCHOOL AWARDS

AULA LAUDIS SOCIETY

Dr. Ann Wolf	Plymouth South HS
Richard Boucher	King Philip Reg. HS
Dr. Alan Crosby	Newton South HS
Dr. David Welty	Fairhaven HS

THEODORE WILLIAM RICHARDS AWARD FOR EXCELLENCE

IN TEACHING SECONDARY SCHOOL CHEMISTRY

Ann Lambert	King Philip Regional HS
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NEWELL GRANTS (NEACT)

Rick Linden	RHAM High School
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Project SEED

SEED I

Ladan Adan	Brockton High School
Christina Ball	Wareham High School
Joseph Maglio	Oliver Ames High School
Joseph Sirois	Oliver Ames High Schhol

SEED II

Ladan Adan	Brockton High School
Joseph Maglio	Oliver Ames High School

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

Student	School	Teacher
FIRST PLACE - THE SIMMONS COLLEGE AWARD		
Nihal Gowravaram	Acton-BoxboroughHS	David Baumritter
SECOND PLACE		
Trevor L. Chistolini	Dover-Sherborn HS	Chris Levasseur
THIRD PLACE-TIED		
Jake A. Heinlein	Dover-Sherborn HS	Chris Levasseur
Roy Li	Acton-Boxborough HS	David Baumritter
Tyler Paul	Masconomet HS	Carol Lund
Honorable Mention - First Year		
Chris Russo	Phillips Academy	Kevin Cardozo
Celina Hsieh	Lexington HS	Kari Darling
Aditya Datye	Westford Academy	Matthew Howard-Donlin
Jessica Zhu	Lexington HS	Parul Kumar
Terry G. Ni	Boston Latin School	Kathleen Bateman
Nate Gruver	Boston University Academy	Rosemary White
Honorable Mention - Second Year		
Chayakorn Pongsiri	Phillips Academy	Brian Faulk
Jonathon Che	Acton-Boxborough HS	David Baumritter
Joy Chen	Acton-Boxborough HS	David Baumritter
George Liu-Krason	Boston Latin School	Scott Balicki
Kelly Xia	Phillips Academy	Brian Faulk
Rebecca M. Black	Wayland High School	Jay Chandler
Amelia Fattore	Dover-Sherborn HS	Chris Levasseur

The Board of Directors of NESACS would like to thank Tufts University for the opportunity to hold our Education Night Event at Tufts University again this year.

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Three NESACS Members Named ACS Fellows

The selection of the 2013 class of ACS Fellows, which includes three NESACS members among the 96 named, was announced in the July 29, 2013, issue of *C&EN*. The new ACS Fellows, who represent 28 National Committees, 30 Divisions, and 49 Local Sections, will receive their lapel pins and certificates at the National Meeting in Indianapolis at a ceremony on Monday, September 9, hosted by ACS Immediate Past-President Basam Shakhshiri in recognition of their outstanding contributions to science, the profession, and the ACS community.

Mary Jane Shultz (Tufts University)
Contribution to the science/profession: Made seminal contributions to new model for aqueous solution interfaces

and identification of hydrogen-bond resonances. Seeding recognition of the importance of minority catalyst faces. Contribution to the ACS: Recognized for encouragement and recognition of outstanding contributions to visualizations at the atomic-molecular level and to science education. Noted for encouragement and recognition of women in science.

Timothy Swager (M.I.T.)
Contribution to the science/profession: Recognized for the development of science and technologies in liquid crystals and electronic polymers. Contribution to the ACS: Initiated diversity-enhancing efforts that include the Future Faculty Workshop, which assists disadvantaged students in competing for academic positions.

Gerald Wogan (M.I.T.)
Contribution to the science/profession: Developed and applied mechanism-based molecular biomarkers that identified aflatoxin exposure, which act synergistically with hepatitis B virus infection, as a major risk factor for human liver cancer in Asia and Africa. Contribution to the ACS: Taught short courses in chemical carcinogenesis and served as Chair of the Division of Chemical Toxicology. Established a graduate program in chemical toxicology at MIT, of which its graduates have become leaders in academia, government, and industry.

These new Fellows join those from NESACS 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 (Thing 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), Arthur Coury (Coury Consulting Services), 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 Neumeier (Harvard Medical School), Barry Snider (Brandeis University), Steven Tannenbaum (M.I.T.), John Warner (Warner Babcock Institute for Green Chemistry).

2012: Ramanathan Nagarajan (U.S. Army Natick Soldier Research, Development, and Engineering Center), Lawrence Scott (Boston College), Jeffrey Steinfeld (M.I.T.).

Nominations for the 2014 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>. ◇

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

For late breaking news, job postings and the latest meeting and event information please visit us at

WWW.NESACS.ORG

What's Yours?

Many local employers post positions on the NESACS job board.

Find yours at
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Your one-stop source to career-related links in the Chemical Sciences

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Malta Conferences

Continued from page 2

program, involving hydrologists and environmental chemists from Jordan, Palestinian Authority, Israel, Egypt, and Kuwait (with advisors from the U.S. and EU). The working group plans to expand its activities to include Syria and Lebanon as soon as additional funding can be obtained.

There is no clean drinking water in Gaza. As a result of the Malta Conferences, a collaboration is underway between scientists from Al-Azhar University in Gaza and scientists from the Technion-Israel Institute of Technology for the analysis of heavy metals (ICP analysis) in water samples brought from Gaza and analyzed at the Technion.

Energy Sources



A solar panel collaboration between Israelis, Jordanians, and Palestinians.

These workshops focus on establishing collaborations toward the development of renewable energy sources. The future action group has already furthered the concept that strong regional activity on solar, wind, wave, and other renewable resources would reduce the attractiveness of nuclear energy with its inherent proliferation potential and political destabilization effects.

It is a fact that the amount of solar energy received by the surface of the Earth in one hour is approximately equal to the current total energy consumption of the entire planet in one year; the Middle East is blessed with abundant sunshine with its obvious potential for meeting growing energy requirements in the region. Collaboration is occurring between countries on issues of solar energy. As a result of Iran's push to develop nuclear capabilities, countries throughout the region feel pressured to acquire nuclear technology of their own. The workshop encourages the participants to concen-

trate on renewable sources of energy – solar in particular – instead of the direction many of them (Jordan, Egypt, Saudi Arabia, United Arab Emirates, etc.) are taking in moving toward nuclear technology.

Education in All Levels



Global climate change, insufficient potable water and food, chemical warfare, and the proliferation of nuclear technology are problems that span the region. In order to build civil societies, these problems must be addressed; they can only be solved by scientists within the region using cross-border collaboration and cooperation. But in order to have scientists who are capable of solving these problems, we need to develop science education at all levels.

The demographics of most Middle Eastern countries make education a pressing challenge for the entire region. Since science is inherently international, we formed multinational working groups within the Malta Conferences to devise more effective science curricula and low-cost laboratory materials for all levels of education. Green chemistry and chemistry safety and security are integral parts of the workshops on education. The working group has designed different methods of teaching, learning, and assessing students, and a website is being designed for the exchange of ideas.

The common language of science helps to overcome chasms of distrust by building tolerance and understanding, improving the relationship among Arabs, Iranians, and Israelis, and serving as a bridge to peace in the Middle East.

More information can be found at the Foundation's website: www.maltaconferencesfoundation.org. ◇

Earth Day

Continued from page 4



Hailey Moon, NESACS CCED-2013 Illustrated Poem contest winner (Grade 3rd – 5th category)

Thank you CCED volunteers!*

Beyond Benign: Kate Anderson, Chelsea Hogan

Emmanuel College: Dr. Christine Jaworek-Lopes

Fitchburg State University: Dr. Mathangi Krishnamurthy, Kristin Van Molle, Yanarilitsa Rosario, Wonder Yang, Marissa Duval, Kaitlyn Roemer

Framingham State College: Dr. Patrick M. Gordon

Gordon College: Dr. Joel Boyd, Lee Andrews, Justin Andrews, Daniel Dufoe, Ellen Merrill, Ruth Chadwick, Bria Pelletier, Stephanie Robinson

Kehillah Schechter Academy: Dr. - Shimon Thumim, Sarah Thumim, Judith Aaronson, Lena Katz, Jill Katz, Joseph Katz, Max Loew, Warren Loew, Elizabeth Loew, Ahava Basya Winter

Northeastern University: Elise Miner, Victoria Ronga, Peter Edwards, Anastasia Maydanov, Charlie Hoyt, Becky Lewis, Erin Askounis, Rebecca Timson, Stephen Ejik, Colleen Shea, Chrissy Hartigan

Salem State University: Dr. Jayashree Ranga, Krystal Gmyrek, Kim Clapp, Ashleigh Randolph, Cassandre Prophete, Linda Nuth, Rodney Banyoya, Anita Nzenwa, Paul Dieujuste, Melissa A Porto, John Nicholas Porto, Justin Troisi, Sarah Willey, Anthony Huynh

Suffolk University: Dr. Doris Lewis

*I apologize if your name is not on this list.

The 2014 theme for CCED is Water. ◇

SEARCHING FOR THAT SPECIAL JOB?

There are many companies and organizations searching for chemical and biochemical personnel to fill important jobs in their organizations.

- Companies for laboratory and management positions
- Universities & Colleges for teaching positions and laboratory personnel
- Hospitals for technical and research personnel

There are several web sites that may help you search for these open positions.

- www.mboservices.net
- www.nesacs.org

Your one-stop source to career-related links in the Chemical Sciences
www.nesacs.org/careers

Education Awards

Continued from page 10



Richard Boucher (King Philip Regional High School), at right, receiving membership in the Aula Laudis Society from Harvey Gendreau (Aula Laudis Committee Chair), center, and Steve Lantos (High School Education Chair).



Trevor Chistolini (Dover-Sherborn High School), center, Second Place winner in the Avery A. Ashdown High School Examination Contest with Steve Lantos (High School Committee Chair), at left, and Peter Nassiff (Ashdown Examination Chair).



Alan Crosby (Newton South High School), at right, receiving membership in the Aula Laudis Society from Harvey Gendreau (Aula Laudis Committee Chair), center, and Steve Lantos (High School Education Chair).



Ann Lambert (King Philip Regional High School), at right, winner of the Theodore William Richards Award for Excellence in Teaching Secondary School Chemistry, with Steve Lantos (High School Education Chair).



Recipients of Honorable Mention in the Avery A. Ashdown High School Examination Contest with Steve Lantos (High School Committee Chair), far left, and Peter Nassiff (Ashdown Examination Chair), far right: (l-r) Celina Hsieh (Lexington High School), Aditya Datye (Westford Academy), Jessica Zhu (Lexington High School), George Liu-Krason (Boston Latin School), Rebecca Black (Wayland High School), Amelia Fattore (Dover-Sherborn High School).



Recipients of Third Place in the Avery A. Ashdown High School Examination Contest with Steve Lantos (High School Committee Chair), far left, and Peter Nassiff (Ashdown Examination Chair), far right: (l-r) Jake Heinlein (Dover-Sherborn High School), Roy Li (Acton-Boxborough High School), Tyler Paul (Masconomet High School).

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- Our Section (NESACS) is the largest in the ACS.
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- We have more activities than any other Section.
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- We are expanding Nucleus and NESACS web site coverage of activities.

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Call for Nominations

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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, 2013 to chorghade@comcast.net with cc to piper281@verizon.net. Award recipients will be notified by February 1, 2014.

Inquiries may be directed to the above or to Dr. Mukund Chorghade, Tel. (508) 651-7809 or Karen Piper, Tel. (978) 456-8622. Address: 19 Mill Rd., Harvard, MA 01451. ◇

NESACS Archives Move

The NESACS Archives were moved from their location of many years in the basement of the Regis College Library to a new temporary location at Sigma-Aldrich Corporation in Natick, MA. **A more permanent long-term storage location is desired.**

NESACS expresses great appreciation to Regis College for allowing NESACS to store its archives in its library. NESACS is further appreciative of Michael Singer and Sigma-Aldrich for making storage space available while a more permanent solution is sought. ◇

New Members

Invitation to attend a meeting

You are cordially invited to attend one of our upcoming Section meetings as a guest of the Section at the social hour and dinner preceding the meeting.

Please call Anna Singer at 781-272-1966 between 9am-6pm, or email: [secretary\(at\)nesacs.org](mailto:secretary(at)nesacs.org) by noon of the first Thursday of the month, letting her know that you are a new member. ◇

Calendar

Sep 05

Merck-Pfister Lectures - Organic
Professor Makoto Fujita (University of Tokyo)
MIT 6-120
4:15 pm

Prof. Lai-Sheng Wang (Brown University)
"Nanoclusters of Boron and Gold"
Univ. New Hampshire, Room N104 (L103)
11:10 am

Sep 06

Merck-Pfister Lectures - Organic
Professor Makoto Fujita (University of Tokyo)
MIT 6-120
4:00 pm

Sep 12

Prof. Renyi Zhang (Texas A & M Univ.)
"Formation, Transformation, and Climate Impacts of Atmospheric Aerosols"
Univ. New Hampshire, Room N104 (L103)
11:10 am

Sep 17

Professor Hien Nguyen (U. of Iowa)
Boston College, Merkert 130 4:00 pm
Professor Jeff Aube (University of Kansas)
Northeastern U., 129 Hurtig Hall
12 pm
Dr. Ryan Davison (American Chemical Society)
"Federal Policy and Chemistry"
Harvard University, Pfizer Lecture Hall
4:15 - 6:30 pm

Sep 18

Professor Matthew Bush (University of Washington)
"Ion Mobility Mass Spectrometry: From Small Molecules to Intact Protein Complexes"
Northeastern U., 129 Hurtig Hall 12 pm

Sep 19

Professor Garegin A. Papoian (University of Maryland)
Boston College, Merkert 130 4:00 pm

Sep 24

Professor Joshua A. Kritzer, Tufts University
Boston College, Merkert 130 4:00 pm

Sep 25

Inorganic Harvard/MIT Seminar
Professor Polly Arnold (University of Edinburgh)
MIT 6-120 4:15 pm

Dr. Doug Johnson (Pfizer-Cambridge, MA)
"Application of clickable probes to characterize the selectivity of covalent fatty acid amide hydrolase (FAAH) inhibitors and the mechanism of γ -secretase modulators (GSMs)"
Northeastern U., 129 Hurtig Hall
12 pm

Sep 26

Prof. Alexander Pines (U. of California-Berkeley)
Harvard University, Pfizer Lecture Hall
4:15 pm

Prof. Daniel A. Savin (U. of Southern Mississippi)
Univ. New Hampshire, Room N104 (L103)
11:10 am

Sep 30

Prof. Theodore Betley (Harvard University)
"Chemistry of the open-shell: applications to catalysis and small molecule activation."
Harvard University, Pfizer Lecture Hall
4:15 pm

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

Michael Filosa, email:
[Michael.filosa\(at\)zink.com](mailto:Michael.filosa(at)zink.com) ◇

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