

THE NUCLEUS

May 2013

Vol. XCI, No. 9



Monthly Meeting

Education Night at Tufts University

Professor Thomas Gilbert, Northeastern University to Speak

Esselen Award Address

By Michael H. Gelb and František Tureček

Cape Cod Science Café

By Jack Driscoll

2013 NESACS Election

Candidate Statements

Summary of the Esselen Award Address

The New Generation Chemistry for Newborn Screening

By Michael H. Gelb and František Tureček, Department of Chemistry, University of Washington, Seattle

Diseases caused by inborn errors of metabolism represent a diverse group of several thousand known syndromes (1). Some affect specific organs, some are systemic, and their effects range from mild that appear in adolescence or adulthood, to severe that, if untreated, result in an early death of affected children. Inborn errors of metabolism are rare on an individual basis, but their combined prevalence can be as high as one in a few thousand newborns. In the past decade, breakthrough progress has been made by U.S. pharmaceutical companies in developing sophisticated therapies, such as those based on enzyme replacement or erythropoietic stem cell transplantation, to treat metabolic diseases and save lives of affected children. The new therapies are expensive and carry inherent risks, which places extremely stringent criteria on diagnostic accuracy. Detection of inborn errors poses specific problems, as the

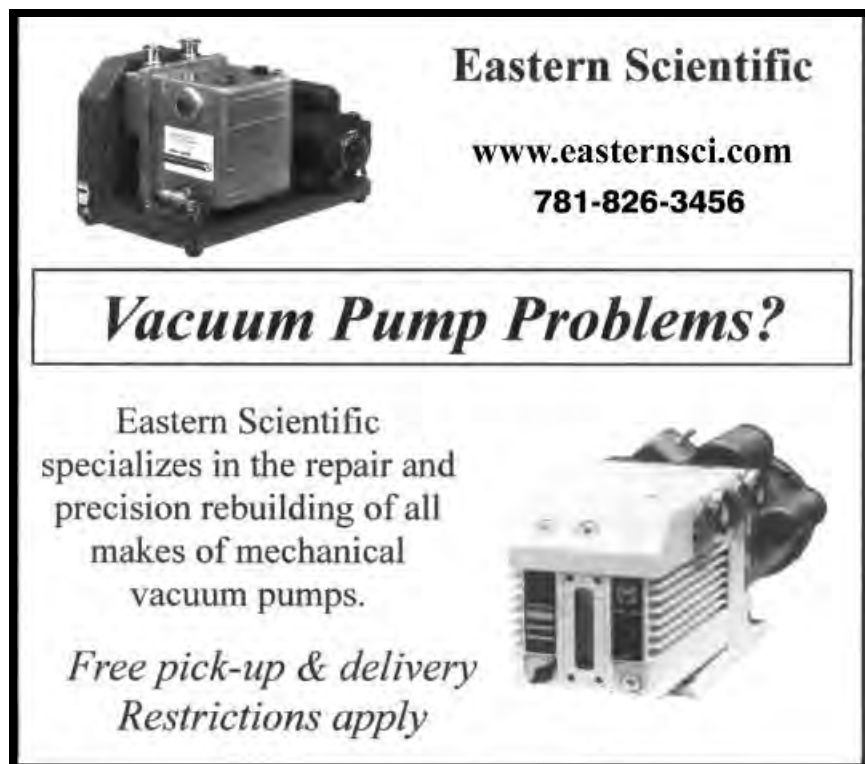
disorder phenotype may not be obvious in the early stages of the disease to apply the suitable therapy. Therefore, most disorders are detected by chemical or bioanalytical methods using blood samples from newborns. Even the use of bioanalytical methods is not without problems. For example, detection of specific low-level proteins in blood is made difficult by interferences from high-abundance blood proteins such as albumin. DNA analysis is hampered by the genetic variability of mutations leading to the disorder. Detection of disease-specific metabolites can be problematic because of their low levels in blood and interferences from other, chemically very similar, blood components. This leaves enzyme activity analysis as a powerful and very promising chemical approach in which specific enzymes are targeted, and the lack of their activity signals a metabolic error.

The principle of enzyme activity

measurements is quite simple. A biological sample from the patient is incubated in vitro with a synthetic substrate which is recognized and chemically modified by the target enzyme. The product of the enzyme-catalyzed reaction is then quantitatively analyzed and used to calculate the enzyme activity, which is compared to the mean activity measured for samples from many others, typically hundreds of individuals. If the activity is below a statistically determined cutoff value, the sample is flagged for follow up genotype analysis to determine the DNA mutation. The analytical procedure must have figures of merit showing good reproducibility, high specificity, and a very low rate of false positives. In addition, in order to be applied in a large scale format of newborn screening, the enzyme activity measurements must be fast and inexpensive. In our initial approach, we used a combination of mass spectrometry and affinity purification to develop chemical methods of enzyme activity measurements that satisfied the first three figures of merit. To improve speed and throughput, we turned to tandem mass spectrometry to develop new generation methods for newborn screening of inborn errors of metabolism.

The diseases we have focused on comprised lysosomal storage disorders (LSD), congenital disorders of glycosylation (CDG), and porphyrias. The first and most important group includes disorders affecting activities of ca. 50 hydrolytic enzymes that catalyze degradation of biopolymers in the lysosome. CDG types I-VII are a group of disorders affecting activities of enzymes catalyzing carbohydrate synthesis and protein N-glycosylation in the endoplasmic reticulum. Porphyrias are rare diseases caused by deficient enzymes in the eight-step long biosynthesis of the heme that proceeds in part in the cytosol and in part in mitochondria of liver and bone marrow cells.

continued on page 24




Eastern Scientific
www.easternsci.com
781-826-3456

Vacuum Pump Problems?

Eastern Scientific specializes in the repair and precision rebuilding of all makes of mechanical vacuum pumps.

*Free pick-up & delivery
Restrictions apply*



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

Auditor:

Anthony Rosner

Archivist

Tim Frigo

Trustees:

Peter C. Meltzer, Esther A. H. Hopkins,
Michael E. Strem

Directors-at-Large

David Harris, Stephen Lantos, James Phillips,
Ralph Scannell, Mary Burgess, John Burke

Councilors

Term Ends 12/31/2013

Alfred Viola	Mark Froimowitz
Michael Singer	Sophia R. Su
Robert Lichter	Kenneth C. Mattes
Mary Shultz	Tim Frigo
Leland L. Johnson, Jr.	Mukund Chorghade

Term Ends 12/31/2014

Katherine Lee	C. Jaworek-Lopes
Michael P. Filosa	Lawrence Scott
Doris Lewis	Andrew Scholte
Morton Z. Hoffman	Raj Rajur
Patrick Gordon	John Podobinski
Mary Burgess	Stuart Levy

Term Ends 12/31/2015

Catherine E. Costello	Marietta Schwartz
Ruth Tanner	Jerry Jasinski
Dorothy J. Phillips	Stephen Lantos
Michaeline Chen	Norton P. Peet
Jackie O'Neil	Wilton Virgo

All Chairs of standing Committees, the editor of THE NUCLEUS, and the Trustees of Section Funds are members of the Board of Directors. Any Councilor of the American Chemical Society residing within the section area is an ex officio member of the Board of Directors.



Contents

Summary of the Esselen Award Address _____ 2

By Michael H. Gelb and František Tureček

Cape Cod Science Café _____ 4

By Jack Driscoll, NESACS Public Relations Chair

Monthly Meeting _____ 5

Education Night at Tufts University, Professor Thomas Gilbert, Northeastern University, and ACS District 1 Councilor to speak

Announcements _____ 5,6,28

Truman Light 1922-2013, Nucleus to Reduce Mailing of Paper Copies, NESACS Archives Move

NEACT Central Division Meeting _____ 6

17th Annual Andrew H. Weinberg Symposium _____ 7

NERM 2013 _____ 7

NESACS Election 2013 _____ 8

Candidate Statements

NESACS at Fenway Park, May 10, 2013 _____ 12

Jerry Jasinski Receives Fulbright Grant _____ 23

Cover: *Michael C. V. Jensen, M.D. speaker at the prestigious 17th Annual Andrew H. Weinberg Symposium to be held at Dana-Farber Cancer Institute on Tuesday, May 7, 2013. Dr. Jensen is the Jim and Jan Sinegal Endowed Professor of Pediatrics at the University of Washington School of Medicine and Director, Ben Towne Center for Childhood Cancer Research, Seattle Children's Research Institute. (Photo courtesy of Dr. Jensen).*

Editorial Deadlines: Summer 2013 Issue: June 15, 2013
September 2013 Issue: July 15, 2013

THE NUCLEUS

The Nucleus is published monthly, except June and August, by the Northeastern Section of the American Chemical Society, Inc. Forms close for advertising on the 1st of the month of the preceding issue. Text must be received by the editor six weeks before the date of issue.

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, Sheila E Rodman, Email: serodman(at)hotmail.com, 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)mboservices.net; Tel: 781-837-0424

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

Calendar Coordinator: Sheila Rodman, email: serodman(at)hotmail.com

Photographers: Morton Z. Hoffman and James Phillips

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

Webmaster: Roy Hagen

Copyright 2013, Northeastern Section of the American Chemical Society, Inc.

Cape Cod Science Café

By Jack Driscoll,
NESACS Public Relations Chair

This was our sixth Science Café. We had several objectives: the first was to engage our NESACS members in the Southeastern Massachusetts portion of our territory and the second was to engage the public in interesting scientific topics.

We selected the Chemistry of Wine as the topic as a result of comments received following the successful Chemistry of Beer Science Café in October 2011. Not only did we have NESACS members from SE MA but we had several NESACS members from NH. The local public outreach was helped by articles in the Cape Cod Times <http://www.capecodonline.com/apps/pbcs.dll/article?AID=/20121101/NEWS/211010326>, the Barnstable Patriot and the BarnstableEnterprise.

We had 80 people (2 seatings) at the Centerville Historic Museum below, but we had to close the registration because of space limitations.

Shirley Corrigher, a food science expert, flew in from Atlanta to lecture on wine pairing. She was joined by wine expert Diane Slater from the Cape Cod Package Store. "To start, she handed out an apple wedge, a lemon slice and a dash of salt. Then, she invited participants to take a bite of their little treat, followed by a sip of wine."



Centerville Historic Museum

Sweet makes wine stronger. Lick the lemon and take a sip. It's milder. Sour makes wine milder. Lastly, have a little salt and the wine becomes much smoother. Salt is an amazing bitterness suppressor.

We had a number of questions

Corporate Patrons

\$2000 - or more

AstraZeneca Pharmaceuticals
Eisai Pharmaceuticals
EMD Serono
Genzyme Corp.
Johnson Matthey
Merck & Co.
Novartis
Pfizer Inc.
Schering Corp.
Strem Chemicals, Inc.
Vertex Pharmaceuticals

\$1000-\$1999

Boehringer Ingelheim
GlaxoSmithKline
Irix Pharmaceuticals
Lyophilization Services of NE
Sundia Meditech
Yes Bank

\$300-\$999

Cambridge Major Labs
Girindus
Merrimack Consultants
Organix
PCI Synthesis
Sigma Aldrich
Waters Corp.
Wilmington PharmaTech



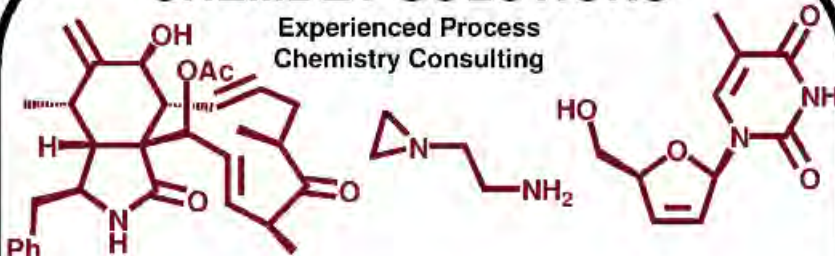
Jack Driscoll co-organizer & PR chair of NESACS- Opening the Science Café (photo by Morton Hoffman)

about wine making and wines from different parts of the world. Many people were asking when the next Science Café was and what the topic would be. One of our NESACS members, Stan Hutchins, makes beer and wine at home. This was his first NESACS meeting. He was a speaker on home brewing at the Science Café NH in March 2013 <http://sciencecafenh.org/index.php/2013/01/science-of-beer-and-brewing/>.

continued on page 24

CHEMDEV SOLUTIONS

Experienced Process
Chemistry Consulting



Wondering What to Budget for Your Project?

I have planned, estimated and executed hundreds of API projects at several different CROs. Please see my website for a complete bio and contact information -

www.ChemDevSolutions.com

Call today at 518-322-9402 for a free project plan and estimate for your project (first three callers only!)

Monthly Meeting

The 933rd Meeting of the Northeastern Section of the American Chemical Society

Education Night

Thursday, May 9, 2013

Tufts University

51 Winthrop Street, Medford, MA

4:00 pm NESACS Board Meeting

5:00 pm Reception

6:00 pm Dinner

7:00 pm **Award Meeting**, Dr. Liming Shao, NESACS Chair, presiding.

Lecture: Professor Thomas Gilbert, Northeastern University, ACS District 1 Councilor

Title: Engaging Students Using Contextualized Guided Inquiry

7:45 pm **Presentation of the Education Night Awards**

Salutes to Excellence Award

Philip L. Levins Memorial Prize

James Flack Norris/Theodore William Richards Awards for Excellence in Teaching at the Secondary School Level

Undergraduate Summer Research Fellowships

Undergraduate Grants-in-Aid

Undergraduate Research Symposium, Phyllis Brauner Book Award

Project SEED Students

Induction of New Members into Aula Laudis

Simmons College Prize

Avery A. Ashdown Chemistry Examination Awardees

Dinner reservations should be made no later than Wednesday, May 1. Use 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 6pm or e-mail at secretary@nesacs.org. Reservations not cancelled at least 24 hours in advance must be paid.

THE PUBLIC IS INVITED

Directions with Campus Map: http://www.tufts.edu/home/visiting_directions/medford_somerville/

VIA MBTA (See link above)

From the West/Massachusetts Turnpike (See link above)

Parking: Parking will be free after 4:00 PM in the Dowling Hall Parking Garage at 419 Boston Avenue (within one block of 51 Winthrop Street; the event site is on the corner of Winthrop Street and Boston Avenue) Push the visitor's button when entering the garage to open the gate.

Truman Light

1922-2013

The Nucleus is sad to announce long-time NESACS Board Member, 1978 NESACS Chair, and 1993 Henry A. Hill Award recipient, Truman S. Light passed away on March 26, 2013. A more complete remembrance will be published in an upcoming issue. Donations in his memory may be made to the American Chemical Society or to the Alzheimer's Association. ◇

Biography

Thomas R. Gilbert has a BS in chemistry from Clarkson and a PhD in analytical chemistry from MIT. After 10 years with the Research Department of the New England Aquarium in Boston, he joined the faculty of Northeastern University, where he is currently Associate Professor of Chemistry and Chemical Biology. While at Northeastern, he has also served as the Acting Dean of the School of Education and Academic Director of graduate programs in biotechnology. His research interests are in chemical and science

continued on page 25

Abstract

Engaging Students Using Contextualized Guided Inquiry

There is nothing like a good story to get peoples' attention. We humans have recognized this truth since preliterate times when ancient storytellers captivated audiences with their epic poems and tales of the feats of natural and supernatural heroes. Less grandiose but still compelling accounts have conveyed insight and wisdom especially to young audiences over the centuries from Aesop to Dr. Seuss.

The capacity of a good story to engage one's listeners should not be lost on those of us engaged in teaching the wonders of chemistry. In particular, the use of a good story to engage our

continued on page 25

NEACT Central Division Meeting and Annual Meeting

Saturday, 4 May 2013

Presidents' Hall, Mazzaferro Center,
Fitchburg State University

*Workshop: Guided Inquiry Materials for a
Chemistry in Art Course*

Agenda:

- 9:30am Arrival, registration, light breakfast (coffee and muffins/doughnuts)
- 10–12pm Chemistry in Art - Presentation and workshop on guided inquiry materials for a course for non-science majors in college or an advanced high school course
Presenters: Dr. Cheryl Coolidge and Dr. Shari Litch Gray
- 12–1pm Light lunch (sponsored by Central Mass Section of the American Chemical Society)
- 1–2pm NEACT Annual Meeting

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

Parking: Ross Street Lot (#11 on Campus Map at the intersection of North St. and Ross St,

<http://www.fitchburgstate.edu/uploads/files/Directions/ParkingLotMap.pdf>

To get to Mazzaferro Center: From the parking lot, turn left on Ross St. , walk about 50 yards to Highland Ave. Turn right and you will soon see a pedestrian plaza and Mazzaferro Center (formerly Newman Center) is a small building on your left right after the gazebo.

All (including non-members) are invited.

Please visit www.neact.org for more details of the organization and how to become a member, if you like. Please RSVP: mgovindan@fitchburgstate.edu or Tel: 978-660-8831 (mobile) so that adequate food can be ordered. There will be door prizes for lucky winners! **For PDP/CEU information contact: Lorraine Kelly at lorrainek12@aol.com**

Nucleus to Reduce Circulation of Paper Copies

To close a budget gap both with the NESACS budget and *The Nucleus* budget, it was decided at the April Board Meeting that complimentary paper copies would no longer be sent to the Central Massachusetts Section of ACS. Furthermore, new members in the Northeastern Section would only receive an email subscription to the Nucleus.

IF A NEW MEMBER IN THE SECTION WANTS A PAPER COPY, they will have to contact Karen Piper, Nucleus Business Manager, with a request to be added to *The Nucleus* mailing list. All current NESACS members will continue to receive a paper copy of *The Nucleus* unless they send notification to remove their name from the mailing list and add their email address to the electronic distribution list. ◇

and Marshall College and now used by over 1000 high school and college faculty members to “to ensure that all students are fully engaged in the learning process. POGIL activities focus on core concepts and encourage a deep understanding of the course material while developing higher-order thinking skills. POGIL develops process skills such as critical thinking, problem solving, and communication through cooperation and reflection...” (www.pogil.org)

In addition to the benefits of the POGIL model, which helps students to develop their own understanding of concepts while working as a member of a learning team, our activities place chemical concepts within a context that is appealing and interesting to students outside of the classical science disciplines. We imagine that this

continued on page 25

Chemistry and Art Workshop Description:

We have developed a collection of guided inquiry activities designed for use in a Chemistry-in-Art course for non-science majors at the college level,

although these would also be appropriate for use with motivated high school students. The inspiration for these activities was the Chemistry and Art workshop offered by the NSF sponsored cCWCS and begun by Dr. Patricia Hill of Millersville University.

The activities are based on the POGIL (Process Oriented Guided Inquiry Learning) model, first introduced by faculty members at Franklin

The 17th Annual Andrew H. Weinberg Symposium

Michael C. V. Jensen, MD

Jim and Jan Sinegal Endowed Professor of Pediatrics,
University of Washington School of Medicine
Director, Ben Towne Center for Childhood Cancer Research,
Seattle Children's Research Institute

*Enhancing the IQ of Chimeric Antigen Receptor
Redirected T cells for Cancer Immunotherapy*

Tuesday, May 7, 2013

4:00 pm – 5:00 pm

Yawkey 306

Dana-Farber Cancer Institute,

35 Binney St, Boston, MA, 02115

Contact: Sarah Hagan,

Sarah_Hagan@DFCI.Harvard.edu, Tel: 617-632-4580

NERM 2013

October 23-26, 2013

The 2013 Northeast Regional Meeting (NERM) will be held on October 23-26, 2013, at the Omni Hotel in New Haven, Connecticut. The meeting website is now active at <http://nerm2013.sites.acs.org/>, and shows the preliminary program with a call for abstracts for oral and poster presentations in technical sessions (Analytical Chemistry, Inorganic Chemistry, Medicinal Chemistry, Organic Chemistry, Physical Chemistry, and Undergraduate Research), as well as for specialized symposia across the spectrum of chemistry and chemical education, and in nanoscience, intellectual property, entrepreneurship, art conservation, and alternative fuels. In addition, Northeast Region awards for volunteer service, advancing diversity, research achievements, excellence in high school teaching, and industrial

innovation will be presented.

NERM 2013 will also be the occasion for a visit to Boston and New Haven by a delegation of twelve German graduate students and three accompanying persons (Dr. Elisabeth Kapatsina, Coordinator of Education, German Chemical Society; Anna Hofmann, University of Konstanz, Chair, *Jungchemikerforum*; Prof. Alfred Flint, University of Rostock) as part of the NESACS German Exchange. After four days in Boston, during which time the group will be hosted by the Northeastern Section Younger Chemists Committee (NSYCC) for academic and industrial laboratory visits, cultural events, and good, old-fashioned New England *gemütlichkeit*, they will travel to New Haven for NERM, at which they will make oral and poster presentations about their research, and experience all that a regional ACS meeting has to offer.

At NERM, the three accompanying persons in the German delegation

Biography

Michael Jensen, MD, is a renowned pediatric cancer researcher. He joined Seattle Children's in 2010 after spending 13 years at City of Hope, where he was director of the Pediatric Cancer Program and co-leader of the Cancer Immunotherapeutics and Tumor Immunology department. Jensen has written more than 50 research papers, won two Young Investigator Awards, and received more than \$2 million in research funding from the National Institutes of Health. At City of Hope, he conducted the first FDA authorized trial of T-cell therapies for children with recurrent neuroblastoma. He was trained at the University of Pennsylvania School of Medicine and completed a fellowship in pediatric hematology-oncology at the University of Washington and the Fred Hutchinson Cancer Research Center. He received his B.S. degree in biology from Tufts University. ◇

and members of the NESACS German Exchange Steering Committee will be joined by ACS President Marinda Wu as speakers in a NESACS-sponsored symposium, "International Chemistry Connections," that has been organized by Morton Hoffman and Heidi Teng, members of the Steering Committee. The symposium will showcase the Exchange, and will chronicle its history since its origins with the first German visit in April 2001. Topics to be discussed, among others, will include the global initiatives of the ACS, research opportunities and chemistry education at all levels in Germany, development of American small chemical business abroad, international and domestic NSYCC activities, and the impact of the Exchange Program on the evolution of participants' careers.

Be sure to put NERM 2013 on your calendar, bookmark its website, consider submitting an abstract, and definitely attend. See you in New Haven! ◇

NESACS Election 2013

Chair-Elect

Katherine L. Lee



Education: B. S. Chemistry, *summa cum laude*, with Distinction in Chemistry, 1991, Yale University; Ph. D. in Organic Chemistry, 1996, Massachusetts Institute of Technology (R.L. Danheiser); Postdoctoral Fellow, 1996-1998, University of Texas at Austin (S.F. Martin).

Professional Experience: Medicinal Chemist: Mitotix Inc. (now Agennix), 1998-2000; Wyeth Research, 2000-2009; Pfizer Inc., 2009-present. Current position: Associate Research Fellow, Worldwide Medicinal Chemistry, Pfizer Inc., Cambridge, MA.

Honors/Professional Activity: Department of Defense, Office of Naval Research Predoctoral Fellowship, 1991-1994; MIT Department of Chemistry Teaching Award, 1995; Wyeth Team of the Year Award (to project team), 2001; Wyeth-MIT Lecture Committee, 2003-2006; Pfizer BioTherapeutics Chemistry Team of the Year Award (to project team), 2011; Mentor in Healthcare Businesswomen's Association, Boston Chapter, 2009-2010.

ACS Service: Member of Organic and Medicinal Chemistry Divisions of the ACS; Chair, Northeastern Section Host Local Section Committee, 2009-2010; Member of Northeastern Section Symposium Committee, 2009, 2010; Councilor, Northeastern Section, 2012-present; Member-at-Large, Division of Organic Chemistry Executive Committee, 2011-present.

Position Statement: It would be an honor to serve as Chair-Elect to NESACS. If elected, I would bring my expertise as a scientist, leader, and well-

connected collaborator to the leadership of our section.

• Scientific Impact

I have had the pleasure to work with members of our local section to organize the 2010 Advances in Chemical Sciences Symposium, focusing on medicinal chemistry and organic synthesis; and the 2009 and 2010 Advances in Chemical Sciences: From Bench to Pilot Plant Symposia, focusing on synthetic methodology and process chemistry. The symposia featured speakers from industry, academia, and government, and brought chemists together to share hot science, check out new technology and services from vendors, and provided scientists the opportunity to network. My contributions included helping to build the scientific agenda, fund-raising, publicity, and inviting and hosting speakers.

Since 2012, I have been serving as a Councilor for the Northeastern Section, and have helped to shape the scientific agenda for our section's activities by recommending speakers for NESACS symposia, and, by joining forces with members of NESACS and my colleagues in the BioTherapeutics Chemistry group at Pfizer, hosting Nobel Laureate Professor Osamu Shimomura at the January 2012 NESACS meeting at our Pfizer site in Cambridge, MA.

Moving forward, as Chair-Elect, I would advocate for NESACS to continue to promote cutting-edge science through our selection of speakers for monthly meetings and in designing the symposia we sponsor.

• Leadership

In 2010, I chaired the Host Local Section Committee. The mission of our band of NESACS volunteers was to provide information and hospitality to visitors at the 2010 Fall National ACS Meeting in Boston. We penned articles for *The Nucleus* on getting around Boston and recommending "hidden gem" restaurants, and more; distributed thousands of copies of *The Nucleus* at the meeting; recruited students to assist ACS staff; and manned

a NESACS booth and helped answer all sorts of questions posed to us by meeting attendees.

Indeed, if I became Chair-Elect, I would parlay my experience leading this committee in 2010 to making the 2015 ACS National Meeting in Boston another success in terms of the contributions of NESACS. More broadly, I would work hard to recruit new volunteers to join the dedicated leaders in NESACS, to become active members of NESACS and get involved in our diverse NESACS initiatives.

• Collaboration

Having worked in the biotech and pharma industry for close to 15 years in a team-based environment, and more recently, through my work as a volunteer both in this section and in the ACS Division of Organic Chemistry, for which I serve as a Member-at-Large of the Executive Committee, I recognize the value of networking and collaboration. Recently, I helped to recruit distinguished scientists for the Esselen Award Canvassing Committee by calling upon people with whom I had worked in the past. As the co-chair of the DOC Summer Undergraduate Research Fellowship and the DOC Technical Achievements in Organic Chemistry committees, I worked with volunteer committee members from across the country to raise funds and administer these programs.

If elected, I would foster this spirit in the work of NESACS, for example, to help our members navigate career changes; to encourage NESACS members to build their networks by attending NESACS-sponsored events such as Science Cafés, Younger Chemist Committee programs and Medicinal Chemistry symposia; and for budding scientists, to bring greater engagement in programs such as STEM in which NESACS can help promote K-12 education in science, technology, engineering and mathematics.

Thank you for your consideration.

James Phillips



Education: I received my M.S. degree in Inorganic Chemistry from University of Cincinnati and B.S. degree from Tennessee State University in Nashville, Tennessee.

Professional Experience: My career path includes the following companies and positions: Research Chemist at Sheppard Chemical Company in Norwood, Ohio; Technical Service Engineer at the Dow Chemical Company in Midland, Michigan; Chemical Supervisor at Corning Medical in Medfield, MA; Laboratory Supervisor at Muro Pharmaceutical Company in Tewksbury, MA. Currently I am a Technical Service Engineer with Waters Corporation in Milford, MA.

Position Statement: I am honored to be a candidate for Chair-Elect of our great and renowned Northeastern Section (NESACS). If elected, I will do my best to help make the section even stronger. I am a member of the Board of Publications and working with my fellow members to enhance its operations. I have been the Photographer for many of the Section meetings.

If I am elected to the position of Chair-Elect I would like to focus on increasing the involvement of young chemists in NESACS activities. In addition, I would strive to develop NESACS programs that attract more speakers and attendees from industry and the general public while maintaining the involvement of scientists from academia. I would appreciate your vote for Chair-Elect of NESACS.

Councilor/Alternate

Michael Singer

Education: B.S., State University of New York at Stony Brook (1986); M.S., Brandeis University (1988); Ph.D., Brandeis University (1993)

Professional Experience: Post-Doctoral Research Associate, Organix Inc. 1991-1994; Senior Scientist, ArQule Inc. 1994-1996; Group Leader, Automated Combinatorial Synthesis, ArQule Inc. 1996-2001; Group Leader, Drug Discovery Research and Development, Sigma-Aldrich, Natick, 2001-2007; R&D Manager, Sigma Aldrich, Natick. 2008-Present

NESACS Service: Councilor-NESACS 1996-2001, 2005-present; Alternate Councilor – NESACS 2002-2004; Board of Directors NESACS 1993-present; Secretary-NESACS 1998-present; Medicinal Chemistry Group (MCG) 1991-2002; MCG Treasurer (1992-1993), Program Chair (1994) Chair (1995-1996)

ACS Service: ACS Joint Board-Council Committee on Chemical Abstracts Service; Associate member 2004; Member 2005-2007. Local Section Activities Committee; Associate Member 2007; Member 2008 - present

Professional Recognition: Henry Hill Award – 2008

Position Statement: The Northeastern Section of the American Chemical Society has over 7000 members. Our collective voice needs to be heard. During my tenure as Councilor and Alternate Councilor for the NESACS I have had the opportunity to bring that voice directly to the attention of the national officers of the American Chemical Society. Maintaining open communication between the local and national officers of the ACS is critical to the growth of our professional organization.

For the past 6 years I have been a member of the Local Section Activities Committee. I have learned a great deal about how our very large local section fits into the world of the American Chemical Society and actively working with ACS resources to identify how to enrich the member experience here in the Northeastern section.

As your local elected representative to the National ACS Council I would

NESACS Election

Election of Candidates

In the interest of providing maximum information and expression of opinion by the candidates for election in 2010, the Nominating Committee has prepared this section of the NUCLEUS for mailing concurrently with the ballots. All candidates were asked to submit biographical material and, with the exception of committee member nominees, position statements. To attain uniformity of format, the biographical data have been rearranged, and, where the text exceeded the allotted space, abbreviated. The statements have been reproduced without change. An official ballot, along with a ballot envelope and return envelope have been provided. The election and balloting are being carried out in conformance with Article VIII of the Constitution of the Northeastern Section. The order of candidates for each office on the ballot will be determined by lot. Comments regarding the election may be addressed to the Nominating Committee Chair, Ruth Tanner (address on p. 3).

The ballot must be received by May 31, 2013 ◇

hope that you would contact me with any concerns and issues (Michael.singer@sial.com) so I may direct them to the appropriate offices of the ACS. With your support and vote I pledge to continue to work as a voice for the local membership.

Leland L. Johnson, Jr.

Education: Virginia Tech, B.S., 1993; Virginia Commonwealth University, M.S. 2003; Boston University, M.A. 2008

Professional Experience: Conditas Biotechnology Group, LLC, Founder and Principal, 2010-present; CreaGen Biosciences, Business Development Manager, 2009-2010; Novartis Institutes for Biomedical Research, Scientific Associate II, GDC-Ophthalmology,

2008-2009; Adenosine Therapeutics, LLC, Senior Research Associate, A₂A Program, 2002-2003; Insmad Pharmaceuticals, Research Associate, Discovery and Development, Diabetes, 1999-2002.

Honors/Awards: Member, Alpha Chi Sigma-Gamma Iota (1990); Chemluminary Award to NSYCC, Outstanding or Creative Local Section Younger Chemists Committee Event 2007; Member, German Exchange, 2006, to Konstanz; Top Ten Poster, JCF-Fruehjahrssymposium, Konstanz, Germany 2006.

Service in NESACS/NSYCC offices: Councilor, 2011-Present, Fundraising Committee Member, 2013-Present, Public Relations Chair, 2009-2011; YCC Chair, 2008-2009; YCC Career Chair, 2007-2008; Organized Novartis/NESACS Town Hall Forum, FEB-2010, Organized Schlumberger/NESACS /Henry A. Hill Award Meeting, OCT-2011.

Position Statement: It has been an honor to work within the ACS framework as Councilor from *and for* NESACS. The Council functions as a sort of "House of Representatives" for certain issues before the ACS. Traveling to National Meetings for Council and

for international scientific exchange as well as networking has been, and continues to be, an excellent way to engage chemists from across the nation and throughout the world.

For the past ten years, I have had the privilege of building my chemistry career and business career within our section. The Boston area has some of the most intelligent, creative and entrepreneurial chemists, scientists and business professionals that I have ever met. If re-elected as Councilor, I will continue to connect with our members at monthly meetings and many other events in order to understand the concerns and needs of our colleagues across the many fields of chemistry. I take the responsibility of representing NESACS and your interests very seriously.

One focus that I will have if re-elected as Councilor is to follow the great examples of leadership within our section. These leaders have developed activities for the next generation of chemists, the younger chemists, from grade school to graduate school and into their careers. Volunteers have initiated and supported programs like the German Exchange, the Younger Chemists Committee, and ACS Scholars in order

to help younger chemists integrate into our profession more smoothly with competitive advantages and realistic expectations.

Looking back, I had the distinct honor of selection to the Boston-based group travelling to Konstanz, Germany in spring 2006 for the NESACS-GDCh Exchange Program. Following my participation in the exchange program, I began my formal service to our section. As YCC Career Chair in 2007, I worked with students from BU, UMass Boston and Tufts to execute the Northeast Student Chemistry Career Fair (2007) that received national recognition from the ACS in the form of a Chemluminary award. This was a real initiation into the way corporations, academia, and individuals can work together to advance the careers of younger chemists.

Since then, I have worked within NESACS as Public Relations Chair, continuing a mission of outreach for the chemists in the section and beyond, sometimes using social media outlets. As you may already know, NESACS has a fast growing and informative LinkedIn page. Working with a previous section chair, the current secretary, and the expanding professional networks of our current PR Committee, we created the NESACS LinkedIn page that now reaches thousands of chemists directly. Additionally, personal involvement in organizing successful, corporate-sponsored monthly NESACS meetings has increased public and corporate awareness of our section.

I will continually strive to promote projects and programs that have a broad and positive impact for our section and our members. I look forward to speaking with you at the next monthly meeting, NESACS event, or other networking opportunity about comments and concerns you have, and the issues you face.

Mary Jane Shultz

Education: B.S. with Honors, University of Wisconsin; Kansas State University; Ph.D. in Theoretical Physical Chemistry, Massachusetts Institute of Technology.

Professional Experience: Professor, Tufts University, (1999-to date); Chair, Department of Chemistry, Tufts University (2000-2006); Research Scientist,

The Chromatography Solutions Experts



Chiral Purifications by SFC

Rilas Technologies is your partner for all your chiral separations needs, from analysis to purification. Our services are fast, flexible and highly affordable.

We Offer:

- * Chiral Analysis, enantiomeric excess determination within 1-3 days
- * Purifications of enantiomers from milligram to gram scale within 3-5 days
- * Free sample pick up and delivery within Boston Metro area

The Advantage of Working with Rilas:

- * We offer over 25 years of experience
- * There is no need to disclose structural information
- * Simple pricing with no lengthy quoting and negotiating process

For more information:
www.rilastech.com
info@rilastech.com
857-231-2078



Laser Spectroscopy Laboratory, M.I.T., (1985-89); Associate Professor, Tufts University (1985-1999); Visiting Professor, M.I.T. (1985-87); Assistant Professor, Tufts University (1979-85); Research Fellow, Brandeis University (1979-80); Assistant Professor, University of Massachusetts, Boston (1978-79); Research Associate/Lecturer, Boston College (1977-78); Radcliffe Fellow, Radcliffe College (1976-1977); Research Fellow, Harvard University (1976-77); Post-Doctoral Research Associate, University of California, Berkeley (1975-76).

NESACS Service: Councilor, Northeastern Section American Chemical Society; James Flack Norris Award Committee (12 years, Chair three times); Local coordinator for Education Night; Northeastern Section ACS Programming Committee.

National ACS member since 1972; Women Chemists Committee; Chair Rising Star Award Committee; Councilor, Alternate Councilor, Physical Chemistry Division; Representative of the Physical Chemistry Division at the Multidisciplinary Program Planning Group; Physical Chemistry Poster Session Judge (three times).

Membership/Honors: AAAS Fellow; One of six US representatives to the International Congress: Chemical Sciences and Society, Kloster Seeon, Germany; Outstanding Faculty Award, Tufts University (Chemistry); National Science Foundation Visiting Professorship; Mellon Grant Faculty Development Award; Brandeis University Research Fellow; Research Fellow, Division of Engineering and Applied Physics, Harvard University; Radcliffe Fellow, Radcliffe Institute; Greenlaw Fellow, M.I.T.; Honors Graduate, U. of Wisconsin. Memberships: American Chemical Society; Divisions Physical Chemistry, Colloid and Surface, Chemical Education, Environmental Chemistry; American Association for the Advancement of Science; American Physical Society; Sigma Xi; Iota Sigma Pi (ISP)

Position Statement: The American Chemical Society is facing an interesting time; a time when increasing globalization brings opportunities along with challenges. Additionally, the economic times demand technical solutions. I am honored to have represented the North-

eastern section's interests as a Councilor, during the dialog concerning greater inclusion of International members as well as members of sister societies in our meetings. The global reach of chemistry and chemical education is reflected in selection of international winners of the James Flack Norris Award for Outstanding Achievement in the Teaching of Chemistry. Promotion of educational activities is one of my major interests; chairing the Norris Award Committee three times. On the national level, I have co-chaired several symposia as well as serving as a judge of the excellent graduate student posters presented at the meeting.

Throughout my career, I have continuously been impressed at the greater richness that results from greater inclusion. To promote inclusion, I am delighted to have been appointed by President Shakhshiri to the national Women Chemists Committee. As part of that committee, I have been actively involved in development of the Rising Star Award for mid-career women. The award is unique in that it specifically recognizes women in industry and government positions as well as those in academic institutions large and small.

As a Councilor, I am also a member of the NESACS Board. The Northeastern Section is one of the largest in the society; we host the annual meeting periodically and have an active and accomplished membership. I am honored to be selected to run for councilor; vote for me and I will continue to represent our interests both at the local and National levels.

Robert L. Lichter

Northeastern Section, Merrimack Consultants, LLC, Great Barrington, MA.

Academic Record: Harvard University, A.B. cum laude, 1962; University of Wisconsin, Ph.D., 1967.

Honors: Recipient, ACS Award for Encouraging Disadvantaged Students into Careers in the Chemical Sciences, 2010; Fellow, American Chemical Society, 2009; Fellow, American Association for the Advancement of Science, 1995; Fellow, Association for Women in Science, 2004; American Council on Education Leadership Training Fellowship, 1983; National Science Foundation Science Faculty Professional Development Award, 1981; National Research Coun-

vacuubrand Experts in Vacuum for Science

No More Oil Changes!

New oil-free vacuum pumps for kilo labs & pilot plants

- Low service costs & downtime
- Programmable control options
- Chemical-resistant flow path

Download our whitepaper!



VACUUBRAND, INC.
Tel (888) 882-6730

www.vacuubrand.com
info@vacuubrand.net

cil Travel Awards, 1975, 1977; National Institutes of Health Postdoctoral Fellowship, 1967-68; National Institutes of Health Predoctoral Fellowships, 1962-66.

Professional Positions (for past ten years): Principal and Co-founder, Merrimack Consultants, LLC, 2002 to date; Executive Director, The Camille and Henry Dreyfus Foundation, Inc., 1989-02.

Service in ACS National Offices: Committee on Science, 1997-02, Committee Associate, 1996, Consultant, 2003; Committee on Minority Affairs, 1999-06, Committee Associate, 1997-98, ACS Scholars Program Subcommittee, 1998-2008; Committee on Budget and Finance, 2006-present, Committee Associate, 2005, Vice Chair 2009, Subcommittee on Program Funding Requests, 2006-present, Chair, 2008-present, B&F Advisory Committee, 2005-2006, 2008-present; Advisory Board, *Chemical & Engineering News*, 1998-06; Chair, ACS Board of Directors *ad hoc* Implementation Project on Minorities in Academia, 2003-06; ACS Development Advisory Board, 2008-present; Canvassing Committee, ACS Award for Research in an Undergraduate Institution, 1997-99, Chair, 1999; Graduate Education Advisory Board, 2002-2006; ACS Board Task Force on Percy Julian, 2006-present

Service in ACS Offices: Member ACS since 1962. *Northeastern Section:* Chair, NESACS Planning Committee for Fall 2007 National ACS Meeting, 2006-

2007; Chair, NESACS ACS Scholars Committee; Councilor, NESACS, 2008-2013; *Georgia Section:* Chair-Elect, 2004; Chair, 2005. *North Jersey Section:* Analytical NMR Topical Group, Chair, 1982-83. **Member:** American Association for the Advancement of Science; Association for Women in Science, *ACS Divisions:* Organic Chemistry; Chemical Education.

Related Activities: American Association for the Advancement of Science, Section on Chemistry: Chair-Elect, 2000-01, Chair, 2001-02, Retiring Chair, 2002-03, Secretary, 2004-09; Association for Women in Science: member, AWIS Fellows Selection Committee, 2006-2007, Chair, 2007; Sigma Xi: Public Understanding of Science Committee, 2004-2005; New York Academy of Sciences: Committee on Science Education, 1991-95, Vice Chair, 1993-94, Chair, 1994-95; National Conferences on Undergraduate Research: Board of Governors, 1992-98, Chair, 1994-96; Gordon Research Conference on Innovations in College Chemistry Teaching (now called Chemical Education Research and Practice): Vice Chair, June 1999, Chair, January 2001; National Research Council Chemical Sciences Roundtable: 1996-2000, Steering Committee, 1996-99; NSF Committee on Equal Opportunities in Science and Engineering: member, 2003-08, Vice Chair, 2004, Chair, 2005; NSF Advisory Committee on Environmental Research and Education: member, 2003-06; NSF Advisory Committee on GPRA

Performance Assessment: member, 2006-2008; NSF Committee of Visitors, National STEM Digital Library, 2005; NSF Senior Scientist Consultant, 2009; Chair, Board of Governors, Massachusetts Academy of Sciences, 2009; New York Hall of Science: member, Board of Trustees Advisory Council, 1994-96, 1998-2002; member or chair of >15 external advisory or visiting committees on behalf of academic institutions, the National Science Foundation, and other organizations; member of >20 review panels for NSF, National Institutes of Health, National Research Council; *Magnetic Resonance in Chemistry*, editorial board, 1983-87; *Concepts in Magnetic Resonance*, Editor, 1989-94; State University of New York at Stony Brook, Vice Provost for Research and Graduate Studies, 1986-89; Research Corporation, Program Officer, 1983-86; Sandoz Pharmaceutical, Exxon Research and Engineering Co., Visiting Scientist, 1981-82; Experimental NMR Conferences, Inc., Executive Committee, 1979-85, Treasurer, 1981-85; Hunter College of the City University of New York, Chemistry Department, Assistant Professor, Associate Professor, Professor, 1970-83, Department Chair, 1977-82; California Institute of Technology, Research Associate, 1968-70; Technische Hochschule Braunschweig, Germany, NIH Postdoctoral Fellow, 1967-68; Research publications: 38 research articles, three books, one book chapter; Other publications: many articles and book chapters on education and policy.

Position Statement: I am honored to be nominated for reelection to a third term as a NESACS ACS Councilor. One of the oldest and now the largest of the Local Sections, in a location whose intellectual and professional strength is exceeded by none, NESACS deserves a continuing leadership role in ACS. As an active ACS member for 51 years, your Councilor for six, and a participant in numerous ACS committees and other national activities detailed on my biographical sketch, I understand very well how ACS functions.

As your Councilor, I continued to serve as a Councilor on the Society Committee on Budget and Finance (B&F), including two terms as Vice Chair, a member of both the B&F Advi-

ACS Northeastern Section at Fenway Park!

Red Sox Game 7:10pm, Friday, May 10th

In the return of a popular NESACS tradition, NESACS members, and friends of NESACS are invited to Fenway Park on Friday, May 10th to watch the Red Sox play the Toronto Blue Jays. Our right field grandstand seats are priced at \$35 and include handling charges.

These tickets will go fast!

Reserve your seats by mailing your check (payable to NESACS) to Anna Singer, 12 Corcoran Road, Burlington, MA 01803.

Questions (but not reservations) may be sent to secretary@nesacs.org. ◇

sory Subcommittee and the Program Review Advisory Group (PRAG), and Chair of the Program Funding Request (PFR) subcommittee. ACS has survived the economic recession, in large part because B&F, PRAG, and PFR approached its responsibilities with the ultimate in serious reflection to establish effective cost-saving measures without compromising ACS's mission and goals. Most recently, in my role as PFR Subcommittee Chair, I am collaborating with a Board Working Group that is developing approaches to shaping and assessing the impact of ACS's portfolio of programs. As your Councilor, I am privileged to be part of those processes. I also serve on the ACS Development Advisory Board, which advises the ACS Development Office on fundraising strategies; and continue to be involved with the ACS Scholars Program.

For the future, I continue to be convinced that developing the next generation of chemists is of paramount importance to all of us. My own experience, that of others, and some research evidence reinforces the notion that student participation in actual research at the earliest possible stages is one of the most effective ways to attract new people into the chemical sciences. I continue to work toward having ACS create or at least facilitate these opportunities for pre-college students, undergraduates in two- and four-year colleges, and middle and high school teachers. Through the PFR responsibilities, I have helped shape the ACS GREET program, which affords research opportunities abroad to undergraduates and their research advisors.

Finally, although the chemical workforce and its leadership comprise people at all degree levels, advanced degrees are still required for many positions. Because graduate (especially doctoral) education is more than research training, graduate students need to learn a variety of skills, including those in management, communication, and business, if they are going to exploit the array of career opportunities open to them in a changing and global economy, and eventually move into leadership positions. ACS has a leadership role to play in this arena; the ACS Leadership Development program continues to show great promise in fulfilling that role. For all

these reasons, and more, I look forward to continuing to serve you as a Councilor, and welcome your support.

Sophia R. Su

Education: The Ohio State University, Ph.D. in Organometallic Chemistry.

Professional Experience:

- Optical – Enterprise, INC., Marlboro, Ma., Senior Scientist, 2006-2008
- Polaroid Corporation, Norwood, Ma., Senior Scientist, 1993-2005
- GTE Laboratories, Waltham, Ma., Principal Member of Technical Staff, 1976-1992
- Chemistry Department, Harvard University, Cambridge, Ma., Research Associate 1975-1976
- Brooklyn College, Brooklyn, N.Y., Adjunct Assistant Professor/ Research Associate 1973-1975
- California State University at Fullerton, Lecturer and Research Associate 1972-1973

Achievements: Hold 19 U.S. patents, 1 Polaroid trade secret in the fields of superconductor processing, Sol-Gel coating processing, hydro-metallurgical extraction process, CVD coating process and sun-glasses fabrication.

Published 35 papers in the fields of organometallic chemistry, surface chemistry, graphite- intercalation, synthesis of polymer-precursors for silicon-nitride and silicon- carbide.

Membership: Member of ACS for 45 years; Alternate Councilor of NESACS for three terms

Statements:

- Promoting inter-disciplinary interactions among material scientists, chemists, biologists by organizing frequent discussion groups.
- Promoting interactions among local young chemists, small business entrepreneurs to foster their career path.
- Acting as a mentor in science fairs for local schools and as a volunteer to tutor local students for their science courses.
- Organizing summer outings or activities to promote science to local high schools or community college students.
- Organizing volunteers to demonstrate scientific subjects to students from elementary to high schools in science or children museums during school vacation weeks and chemistry week.

Position Statement: I do believe that we should cultivate students' scientific

STOP WASTING \$\$\$ on vacuum pumps!!

Rebuilding is smart.

A new pump costs **four times** what rebuilding costs.

Rebuilding is easy.

Just call 978 667 2393 for service second-to-none.

Mass-Vac does the job right.

- Factory trained technicians.
- Rebuilt and new pumps in stock.
- No-hassle parts and labor guarantee.
- Complete line of filtration and trap systems.

Because a really old, really healthy vacuum pump is a beautiful thing!



Mass-Vac, Inc.

247 Rangeway Road • PO Box 359 • North Billerica, MA 01862
978 667 2393 Fax 978 671 0014 sales@massvac.com www.massvac.com

interests and enhance their scientific curriculum to be leaders in the 21st century. With my academic and industrial experience, I am the best person to serve this community. If I am elected, I will devote my energy and time to accomplish these goals.

Kenneth C. Mattes

Education: University of Wisconsin School of Pharmacy, Madison, WI, 1974-75

- Postdoctoral work with Dr. C.R. Hutchinson
- Synthesis of indole alkaloids, iridoids, and antitumor agents. Determined the biomimetic mechanism of Camptothecin biosynthesis.

Iowa State University, Ames, IA, 1972-1974, Ph.D. in Organic Chemistry with Dr. Orville Chapman

Iowa State University, Ames, IA, 1969-1972, MS in Organic Chemistry with Dr. Glenn Russell. University of Illinois at Chicago, Chicago, IL, 1965-1969; BA in Chemistry.

Professional Experience:

- ASTRA-ZENECA, Waltham, MA 02451 (2000-Present)
- ASTRA-ZENECA, Worcester, MA 01605 (1999-2000)
- ASTRA-ARCUS USA, Worcester, MA 01605 (1998-1999)
- EASTMAN KODAK COMPANY, Rochester, NY 14650 (1976-1998)

ACS Service: Northeastern Section, Alternate Councilor, 2010 to 2013. National ACS, Local Section Activities Committee, 1996-1998. Rochester Section Councilor, 1995-1998. Rochester Section: Creator and Chairman, Science Saturdays at RMSC (1994-1998). Rochester Section, Past-chairman 1994. Rochester Section, Chairman 1993. Rochester Section, Chairman-elect 1992. Rochester Section, ROCi/ACS Golf Tournament Chairman, 1993-1998

Rochester Section Committees:

National Chemistry Week, 1990-1998; Publicity, 1990-91; Long Range Planning, 1992-94; Nominations and Elections, 1993; Harrison Howe, 1993; Professional Relations, 1993-94; Finance, 1994, Minority Affairs, 1997;

Rochester Section, Member-at-large (1990-91) Medicinal Chemistry Section Organic Chemistry Section Agrochemical Section

ACS Speaker Service: Inside Story of Color Photography (1977-1998), over 100 invited lectures. AICHE Speaker Service: Inside Story of Color Photography (1980-1998), over 20 invited lectures.

Relevant Memberships:

- Boston Area Group for Informatics and Modeling
- American Chemical Society
- American Association for the Advancement of Science
- International QSAR and Molecular Modeling Society

Honors: Massachusetts State Referee Committee, Soccer Referee Instructor of the Year, 2008. Rochester Section Award Recipient, 1995. Phoenix Award Winner, ROCi/ACS National Chemistry Week, Malls Chairman, 1990-91

Position Statement: If elected to the position of councilor for NESACS, I would strive to represent at the national level those issues of most importance to NESACS. I would also strive to support the changes and challenges faced by the American Chemical Society to raise the image of chemistry and stress the importance of chemistry to solve the problems of the future.

Specific goals would be to support the Local Section Activities Committee programs, recommend a program to address the information management issues associated with Local Sections Archive materials using the capabilities of History of Chemistry, Computers in Chemistry and CINF divisions, and contribute to the National Chemistry Week program. As scientific and professional problem solvers, members of the ACS need to help improve the educational and professional opportunities afforded by one of the largest professional societies.

Mary A. Mahaney

Education: B.A. Emmanuel College (1971); M.S. Northeastern University (1973); Dr. rer. nat. University of Constance, Germany (1977); M.B.A. Worcester Polytechnic Institute (1996)

Professional Experience: Haartz Corporation (1999 – present); Polaroid Corporation (1982 - 1998); University of Zurich, Switzerland (1979 - 1981); University of Constance, Germany (1977 - 1979)

NESACS Service: Member since 1977. Continuing Education Committee (1998 - 2008); Richards Medal Committee (2000 – 2004); Alternate Councilor (2005-2007); Board of Publications (2004 – present)

Position Statement: I would appreciate the opportunity to support our section as a councilor. In this capacity, I will consistently keep the interests of our NESACS members before the National Council.

Raj Rajur

Education: Ph.D. in Organic/Medicinal Chemistry, Karnataka University, Dharwad, India (1988); Postdoctoral Fellow, University of Texas Southwestern Medical Center, Dallas (1988-1990); Group Leader, Boston College, Chestnut Hill, MA (1990-1992); Instructor, Center for Engineering in Medicine, Massachusetts General Hospital, Harvard Medical School (1992-1996).

Professional Experience: Instructor, Shriner's Burns Institute, Boston; Instructor, Massachusetts General Hospital, Harvard Medical School; Adjunct Assistant Professor, Northeastern University, Boston; Group Leader, Millipore Corporation, Bedford, MA; Project Leader, ArQule, Inc., Woburn, MA. Reviewer, Journal of Pharmaceutical Sciences (ACS Journal); Recipient of research grants from University of Texas Southwestern Medical Center, Dallas. Presently, Founder (2002), Chairman and CEO of CreaGen Biosciences, Inc., Woburn, MA.

ACS/NESACS Service: Alternate Councilor, NESACS (2005-present); Program Chair, Medicinal Chemistry Division, NESACS (2003-present); NESACS Nominating Committee (2008); Organizing Committee, NESACS, IUPAC and RSC-US-Sponsored Advances in Chemical Sciences Symposium Series (2007-present).

Memberships/Honors: ACS Organic Chemistry Division, ACS Medicinal Chemistry Division AAAS, and Indian Chemical Society. Listed in American Men and Women of Science and Who's Who in Science and Engineering. Involved in many Indian cultural and community organizations on advisory boards. Invited speaker at several international conferences.

Position Statement: In my tenure as program coordinator and program chair for the NESACS Medicinal Chemistry Division, my mission has been to bring quality drug discovery science to our May, September and December annual symposia. Some of the recent topics on which we have focused are Kinase Targets, New Targets for Type-2 Diabetes Parts I and II, New Trends in Oncology Parts I and II, Signal Transduction Targets and Drug Discovery, New Developments in Ant-Infective Research, Lead Optimization Strategies, New Technologies for Drug Discovery, and Emerging Opportunities for Drug Discovery in Asia. The purpose of bringing good pharmaceutical science to our very active local section audiences is multi-purpose. Our territory now houses the biotech hub of the world, and has become a location where every multinational pharmaceutical company wants to partner, headquarter or establish a Center of Excellence. We, as a section, need to be exposed to a cross section of the science that is ongoing in the industry. Our meetings are venues for the exchange of ideas between industrial and academic participants. And, very importantly, our meetings are places where students from our many prestigious colleges and universities can network with professionals and learn from the symposia topics featuring cutting edge science.

As an Alternate Councilor, I have regularly attended the NESACS monthly meetings and contributed several new ideas and inputs. I have regularly represented NESACS at national ACS meetings and participated in governance meetings.

If elected as a Councilor, I will continue to support and encourage NESACS meetings that bring topnotch science to our audiences of academic and industrial professionals and students. I also plan on initiating the establishment of Medicinal chemistry prize and exchange program with Indian universities similar to German Exchange program. I ask for your vote and thank you for your support.

Andrew Scholte

Education: B. Sc. (Biochemistry; 1st Class Honors) Simon Fraser University, 2000; Ph.D. (Chemistry) University of

Alberta, 2006;

Professional Experience: Genzyme, a Sanofi Company, Medicinal Chemistry Department, Staff Scientist II, 2012-present; Genzyme, a Sanofi Company, Medicinal Chemistry Department, Staff Scientist I, 2008-2012; Boston College, Chemistry Department, NSERC Postdoctoral fellow with Prof. Marc Snapper, 2006-2008.

Honors/Awards: ACS Leadership Development Award (2010); Natural Sciences and Engineering Research Council of Canada (NSERC) PDF (2006-2008); Outstanding Oral Presentation-Canadian Society for Chemistry (2005); Canada Graduate Scholarship (2003-2005); NSERC Postgraduate Scholarship A (2001-2003); Alberta Heritage Studentship (2000-2005); Faculty of Science Graduate Entrance Scholarship (2000); Department of Chemistry Entrance Scholarship (2000); Walter H. John Scholarship (2001-2005); Mary Louise Imrie Graduate Student Award (2004); Alfred Bader Scholarship-Canadian Society for Chemistry (2000).

Service to the Chemistry Community (USA and Canada): Member of the ACS since 2006; Alternate Councilor (Jan. 2012-present), Vice Chair of the NSYCC (2010-2011). Member on the NESACS committee for the 2010 ACS meeting in Boston, MA (Katherine Lee-Chair); President of the 1st Banff Symposium on Organic Chemistry Organizing Committee; Member of the Canadian Institute of Chemistry since 2000.

Position Statement: I am honored to be nominated for election as a NESACS councilor. For the past 15 years I have been actively involved with serving the scientific community in the United States and Canada. During my undergraduate studies at Simon Fraser University, I was the President of the Biochemistry and Chemistry Undergraduate Student Union. As president I initiated a career symposium program where students could learn more about potential career opportunities in both academic and industrial fields.

During my graduate school training at the University of Alberta I established a new conference for graduate students in Chemistry. The Banff Symposium on Organic Chemistry is held every two years in Banff, Alberta and aims to

highlight graduate student's research while providing an opportunity to discuss their work with industrial, post-doctoral, and faculty researchers.

For the past few years I have been involved with NESACS. In the winter of 2010 I was a member of the NESACS committee for the 2010 ACS meeting in Boston. On this committee I was responsible for recruiting student volunteers working during the national meeting. More recently, I was elected as vice chair of the Younger Chemists Committee within NESACS (NSYCC) for year of 2011. Within this role I was involved in planning of events hosted by the NSYCC and acted as a moderator and scientific judge for the annual graduate research conference (2011). Last year I was fortunate enough to be elected as an alternate councilor for the NESACS (2012-2014) and I am running again to be elected as a councilor on the NESACS board.

I am looking forward to build upon my experiences with NESACS and to take on a more active role within the local section here in the Northeast. If elected as a councilor, I will continue to my work with the younger chemists. Younger chemists can learn from the experiences of our members and bring fresh and new ideas to the section. It is imperative for the future of NESACS and the ACS that we actively engage the younger chemists of our society. I ask for your vote and thank you in advance for your support.

Marietta Schwartz

Education: 1983-1988: University of Wisconsin - Madison. Ph.D. Degree in Organic Chemistry was conferred in August, 1988. 1979-1983: College of St. Benedict, St. Joseph, Minnesota. B.A. in Chemistry was conferred in May, 1983.

Professional Experience: September 2011-Present: Associate Dean, College of Science and Mathematics, UMass Boston; January 2004-September 2007: University Director of Undergraduate Studies, University of Massachusetts Boston; 1994-Present: Associate Professor of Chemistry, UMass Boston; 1988-1994: Assistant Professor of Chemistry, UMass Boston; 1983-1988: Research Assistant/Teach-

ing Assistant, University of Wisconsin Madison; 1982-1983: Undergraduate research, Department of Chemistry, College of St. Benedict, St. Joseph, Minnesota

ACS Service: Member of ACS since 1980 (Student Affiliate, then Member). Hospitality Volunteer, 1989 National ACS Meeting, Boston.

NESACS Service: Volunteered for the Education Committee for a number of years. Sole coordinator in charge of recruiting and assigning student workers for the ACS National Meeting in Boston, August 1998 and again in August 2002. Secretary, Board of Publications, October 1999 - December 2000; calendar year 2002. Chair, Board of Publications, calendar year 2001 and 2003. Chair of the Norris Award Committee, 2006. NESACS Chair-Elect/Program Chair, 2007. NESACS Chair, 2008. Chair, Nominating Committee, 2009. Currently serving as Chair of the Education Committee and Alternate Councilor.

Memberships/Honors: American Chemical Society (Organic Division, Division of Chemical Education, Northeastern Section), Iota Sigma Pi national honor society (Member-At-Large), Association for Women in Science

Position Statement: The role of the councilors is an important one to the section, as they represent the section to the larger society and communicate national decisions back to the local section. Policy and communication are two areas that I deal with on a daily basis in my administrative position and continue to use in my departmental work, and I would be honored to have the opportunity to utilize those skills to serve NESACS.

Heidi Teng

Education: PhD Organic Chemistry, Northeastern University, 2011; BS Chemistry, University of Connecticut, 2005; BS Biophysics, University of Connecticut, 2005

Professional Experience: Scientist, Sigma-Aldrich Fine Chemicals Hitech (2011-present); Chemistry Intern, Boehringer Ingelheim Pharmaceuticals Inc (2001-2005)

Service in ACS: Chair, Northeastern Section Younger Chemist Committee,

2011-present

Co-chair, NESACS-YCC/GDCh-JCF exchange program, 2011-present; Secretary, Northeastern Section Younger Chemist Committee, 2010-2011

Position Statement: It is an honor to be nominated for the position of councilor for NESACS. I have been an active member of the American Chemical Society throughout my Chemistry career. Currently in my second term as the Chair of the Younger Chemist Committee I have been working diligently to promote careers in chemistry and aid young chemist in their professional goals. In this role I have enjoyed and been successful in organizing events, communicating effectively and promoting concepts. I would bring these skills to the position of councilor. In addition, as Co-chair of the NESACS-YCC/GDCh-JCF exchange I have had the opportunity to represent the ACS, learning to work well in a multicultural group. My personal interests are in bridging the gap between young and experienced chemists (domestically and internationally), chemical education and everyday chemistry fun.

Your vote would allow me to continue serving the section in new roles and to help drive our chemistry community.

Sonja Strah-Pleynet

Education: Ph.D. Organic Chemistry (1996); M.S. Organic Chemistry (1993); B.S. Chemistry (1990), University of Ljubljana, Slovenia; Postdoctoral Fellow, University of Florida (1997-1998); Postdoctoral Fellow, University of California, San Diego, School of Medicine (1998-1999).

Professional Experience: Consultant (2011-Present); National Science Foundation, Reviewer (2012); Thermedical, Inc. (2012); Arena Pharmaceuticals (1999-2009); Senior Scientist, Medicinal Chemistry (2006-2009); Scientist II (2005-2006); Research Scientist (1999-2005).

Awards and Honors: ChemLuminary Award - ACS President's Award for Local Section Government Affairs (2010); American Chemical Society Certificate of Achievement, ACS San Diego Section (2008); Arena Pharmaceuticals - Outstanding Medicinal Chemistry Team Award (2007); Post-

doctoral Fellowship from Ministry of Science and Technology, Slovenia (1997); First Prize Winner at 26th KRKA Pharmaceuticals Research Awards (1996); Graduate Research Scholarship of Ministry of Science and Technology, Slovenia (1991-1996).

Service in ACS National Offices: ACS Council (2004-2012); Presidential Task Force "Vision 2025", Member (2012-Present); ACS National Award Selection Committee, Member (2011-Present); Committee on Chemistry and Public Affairs, Associate (2013), Committee on Economic and Professional Affairs (CEPA), Associate (2005-2006), Member (2007-2012), Subcommittee on Public Policy; CEPA Liaison to Committee on Minority Affairs (2008-2012); CEPA Liaison to Committee on International Activities (2011-2012); ACS Industry Member Programs - Small/Medium Business Advisory Panel, Member (2009-Present); ACS Legislative Action Network, Member (2006-Present); ACS LS Legislative Summit on Capitol Hill (2006); CEPA Task Force on Globalization (2008-2009).

Service in ACS: Member since 1998; ACS Divisions: Organic and Medicinal Chemistry, Member (1998-Present); Business Development and Management (2012-Present); Northeastern Section: Government Affairs Committee, Member (2010-Present), STEM Task Force Coordinator (2012-Present); NESACS Website - STEM News Section Editor (2012-Present); STEM Outreach - Science Café and Science Fairs (2011-Present); San Diego Section: Executive Board Member (2000-2012), Councilor (2004-2012), Alternate Councilor (2000-2003); Government Affairs Committee, Chair (2007-2010); ACS California Government and Legislative Affairs Committee (2008-2010); Western Regional Meeting: Invited speaker at the Women Chemist Symposium (2006); Host Section Volunteer (2007).

Related Activities: Co-inventor on 13 US patent applications and numerous international patents; Co-author of over 30 publications and presentations; Advisory Board member, Industrial Alliance to Southwestern College Pharmaceutical and Laboratory Science (2008-2010); Association for Women in Science, Member (1999-2006); BIOCUM,

Southern California Life Science Trade Organization, Education Committee Member (2008-2010); San Diego Science Festival Volunteer (2009); Proctored local screening exams for the International Chemistry Olympiad; Co-authored a winning ACS Local Section Innovative Project Grant proposal (2009); Advisory Board member, Sneakers to Beakers STEM afterschool program (2012-Present).

Statement: I am honored to be nominated to the position of Councilor for the Northeastern Section of the American Chemical Society (NESACS). I bring 15 years of ACS volunteer and leadership experience on local and national level, combined with 10 years of professional experience in biopharmaceutical industry. I held positions with increased responsibilities at Arena Pharmaceuticals in San Diego, prior to moving to Boston in 2010. I contributed to several multidisciplinary research programs in discovery and development of novel therapeutics for CNS, cardiovascular, inflammatory and metabolic diseases, including two clinical candidates. I served on the Executive Board of the ACS San Diego Section for twelve years. As a Councilor, I represented the section on the National Council for nine years. Under my leadership, San Diego Section received national ACS recognition and won ChemLuminary Award - ACS President's Award for Local Section Government Affairs, presented at the 2010 ACS National Meeting in Boston. As the Chair of the Government Affairs Committee for four years, I organized and led federal legislative district office and Capitol Hill visits to engage legislators and advocate on issues important to ACS members, such as science research funding, STEM education, innovation, green chemistry and sustainability. In this role, I initiated and developed strategic partnerships and collaborations between industry, academia and government, ACS and other scientific organizations. I participated in numerous ACS local section activities and committees: Education, National Chemistry Week, Younger Chemists, Women Chemists, Nominations and Western Regional Meeting. At the national level, I served on the Committee on Economic and Professional Affairs and was its liaison to the Com-

mittee on Minority Affairs and International Relations.

I have been involved in NESACS activities for the past two years. I attended several Board meetings and participated in STEM outreach programs. I am currently a member of the Government Affairs Committee that recently sponsored NESACS Small Chemical Business Symposium. I also serve as a STEM task force coordinator and STEM News editor for the NESACS website. This new website feature was created to help publicize, coordinate and encourage various STEM activities while providing resources and opportunities for increased member involvement. I have been a passionate advocate for STEM education and often shared my experience with students, teachers and younger chemists, through classroom visits, science fairs or career development symposia. I currently serve on the Presidential Task Force 'Vision 2025' which was appointed by the ACS 2012 President-Elect, Dr. Marinda Li Wu, to address challenges that globalization of chemistry enterprise has posed for ACS members. The task force provided several recommendations for ACS leaders, volunteers and staff, to help ACS members find jobs and thrive in the global chemistry enterprise.

I welcome this opportunity to take on a new role as NESACS Councilor and build on my previous experience. I will continue to foster communication and collaboration between industry, academia and government, our local section and national ACS, in order to bring solutions to complex issues confronting our members, ACS and chemistry enterprise. I appreciate your vote for a Councilor and thank you for your support!

Wilton Virgo

Education: Ph.D. in Chemistry, Arizona State University (2005). A.B. in Chemistry, Princeton University (2000).

Professional Experience: Walsh Assistant Professor of Chemistry, Wellesley College (2008-Present). Research Affiliate, Department of Chemistry, MIT (Present). Visiting Scientist, Department of Chemistry, MIT (2008-2009). Postdoctoral Fellow and MLK Scholar, MIT (2006-2008). Post-

doctoral Associate, MIT (2006). Educational Consultant (2000-Present). Professional Associate, Brookhaven National Laboratory (2000-2001). Deloitte & Touche consulting summer internship (1999). Leadership Alliance Early Identification Program chemistry internship (1998). Freelance Proposal Writer (1997).

ACS Service: Research presentation at 239th ACS National Meeting, Boston, MA (2010). Research presentation at 234th ACS National Meeting, San Francisco, CA (2007).

NESACS Service: NESACS Alternate Councilor (2013-2015). Invited seminar speaker for the NESACS Monthly Meeting at Simmons College (2009). Panelist at the Overcoming Barriers Conference sponsored by NSYCC (2009).

Relevant Memberships: American Chemical Society (ACS) member (2008-Present). Council on Undergraduate Research (CUR) member (2009). President of MIT NOBCChE Chapter (2008).

Honors: Eastman Kodak Dr. Theophilus Sorrell Fellowship Award (2005). Minority Graduate Education @ Mountain States Alliance Scholar (2002-2005). Outstanding Graduate Research Assistant Award at ASU (2003). Rao Prize at OSU 2002 International Symposium on Molecular Spectroscopy (2002). Princeton University Chemistry Outreach Program Certificate (2000). Princeton University Chemistry Tutor (1997-2000).

Position Statement: My goal as a candidate for the NESACS Councilor position is to leverage the Northeastern Section's strength as the largest ACS Section to enhance both the Boston area and global scientific network, and provide an environment for collaboration across academia and industry.

As a Councilor, I will diligently attend the NESACS Board meetings in order to uphold the vision of the ACS to improve lives through the transforming power of chemistry and the mission to advance the broader chemistry enterprise and its practitioners for the benefit of Earth and its people. I will be available to the community at the ACS National Meetings so that I can represent the interests of the NESACS members when I serve on NESACS

committees.

From 2009-2011, I organized the Department of Chemistry Seminar Series at Wellesley College. In 2010, I co-organized the Junior Faculty Research Seminars across all Departments at Wellesley College. My role at Wellesley included selecting and inviting speakers, organizing the seminar schedule, delegating responsibility for hosting and organizing lunches and dinners with seminar speakers, and publicizing the seminars. I will bring my passion for chemistry and enthusiasm for committee teamwork to the Councilor position.

Trustee

Charles E. Kolb

Academic Record: Massachusetts Institute of Technology, S.B., Chemistry, 1967; Princeton University, M.S., 1968, Ph.D., Physical Chemistry, 1971.

Honors: National Academy of Engineering, 2013; ACS Fellow, 2009; ACS Northeastern Section Henry A. Hill Memorial Award, 2005; ACS Creative Advances in Environmental Science and Technology Award, 1997; American Association for the Advancement of Science Fellow 2001; American Geophysical Union Fellow, 2000; American Physical Society Fellow, 1997; Optical Society of America Fellow, 1988; National Associate, National Academies, 2003; Conceptual Foundations of Chemistry Lecturer, Arizona State University, 1998; Harris Lecturer, Texas A&M University, 2001; Hottel Lecturer, Massachusetts Institute of Technology, 2003; McElvain Lecturer, U. Wisconsin-Madison, 2011.

Professional Position: Aerodyne Research, Inc., President and CEO, 1984 to date.

Service in ACS National Offices: Committee on Environmental Improvement, Associate, 2001-02, Member 2003-12, Vice-Chair, 2005, Chair, 2006-2008; Presidential Task Force on Enhancing Innovation and Competitiveness, 2007-08; Editorial Advisory Board, *Environmental Science & Technology*, 2011 to date. Sundry ACS National Award and Journal Editor Selection Committees.

Service in NES/ACS Offices: North-

eastern Section: Chair-elect, 1990; Chair, 1991; Trustee, 1994-96; Richards Medal Committee, Member 1998-06, Chair 2005-06; Esselen Award Committee, Member 2007-11, Chair, 2009-10.

Memberships: American Association for the Advancement of Science; American Physical Society; Optical Society of America; American Geophysical Union; Combustion Institute; Union of Concerned Scientists. Member ACS since 1969, ACS Divisions: Environmental Chemistry and Physical Chemistry.

Position Statement: The Northeastern Section is fortunate to have a significant endowment and its members elect Trustees with financial and managerial experience to protect, enhance and distribute income from those funds. As the chief executive officer of my company for the past 28 years, a member of several foundation and academic management and advisory boards, and a former NES/ACS Chair and Trustee, I believe I have the experience to perform the duties of NES/ACS Trustee well. I pledge to do so if elected.

Dorothy Phillips

Education: Vanderbilt University, B.A., 1967; University of Cincinnati, Ph.D., 1974

Experience: Retired (March 31, 2013); Waters Corporation, 1984 to 2013; Life Sciences, Strategic Marketing

Honors-2010 and 2011: The American Chemical Society Fellow, Class of 2010; International Year of Chemistry Events: Invited Speaker at North Carolina A&T State University Department of Chemistry Fourth Bi-annual Chemical Sciences Symposium; International Conference on Chemistry for Mankind, Nagpur, India; 15th Indian Society of Chemists & Biologists International Conference, Rajkot (Gujarat), India. Honored as the 2011 Distinguished Chemist by The New England Institute of Chemists (NEIC), Division of the American Institute of Chemists; Invited speaker at PepCon in Beijing, China in 2010.

Service in ACS National Offices (<10 years): Council Policy Committee, 2008-2013; Division of Analytical Chemistry, Chair, 2009-10,

Program Chair, 2008-09, Chair-elect, 2007-08; Committee on Committees, 2001-06; Committee on Divisional Activities, 2007-08.

Service in NESACS Offices: Councilor, 1995-2015; Chair, 1993; Chair-Elect and Program Chair, 1992; Awards Committee, Chair, 2009-13; Fundraising Committee, Chair, 2004-08; Project SEED Committee, Chair, 1994-95; Nominating Committee, Chair, 1994; Centennial Celebration, Co-chair, 1998

Memberships: American Association of Pharmaceutical Scientists, National Organization for the Professional Advancement of Black Chemists and Chemical Engineers (NOBCChE).

Position Statement: During my 38 years industrial career I gained skills and expertise in financial management. Being a director at Waters Corporation for almost 15 years gave ample opportunities for working with financial analysts and controllers to manage the budgets, review profit and losses (P&L) statements, and track trends in sales (CAGR). In addition, I made decisions based on these statements and graphs. Combining the expertise gained in industry with my knowledge of NESACS I feel qualified to be a Trustee of the Section. If elected, I promise to work actively with the Board, the other Trustees and the Treasurer to manage NESACS funds in line with the Section's goals.

Director-at-Large

Gary Weisman

Education: Primary and secondary education in public schools, Mason, Ohio; B.S. in Chemistry With Distinction, University of Kentucky, 1971; Ph.D. Organic Chemistry, University of Wisconsin-Madison, 1976.

Professional Experience: Post-doctoral, University of California, Los Angeles, 1976-77; Faculty member of the Department of Chemistry, University of New Hampshire since 1977, Professor of Chemistry since 1994; Visiting Associate Professor, University of Wisconsin, 1986; Visiting Fellow, University of Bristol, England, 1987 and 1998; Visiting Professor, Australian National University, 2005; Visiting Professor, University of Melbourne, Australia,

2005.

Research Interests and Areas of Expertise: Physical organic chemistry; Synthetic organic chemistry; Synthesis, reactions, special properties and coordination chemistry of amines and polyamines and derivatives; Ligand design and synthesis; Biomedical applications of coordination complexes; Supramolecular chemistry; Conformational analysis; Use of NMR in structural and conformational analysis of organic and metallo-organic compounds.

ACS Service: Co-Program Chair of NERM 2001, the 30th Northeast Regional Meeting of the American Chemical Society, Durham, NH; Symposium Organizer, "Symposium in Honor of Robert E. Lyle", 30th Northeast Regional Meeting of the American Chemical Society (NERM 2001), University of New Hampshire, Durham, NH, June 24-27, 2001; Organizer and Presider, James Flack Norris Award in Physical Organic Chemistry; Symposium to Honor Hans J. Reich, 243rd National Meeting of the American Chemical Society, San Diego, CA, March 25, 2012.

NESACS Service: Director—at Large, 2002-2009 (2 terms); Member, Richards Medal Award Committee, 2004-2005; Chair, Richards Medal Award Committee, 2006-2007; Alternate Councilor, 2010-2012.

Relevant Memberships, Etc.: ACS Member since 1970; Sigma Xi - The Scientific Research Society of North America; International Society of Heterocyclic Chemistry; Reviews Editor, *Journal of Physical Organic Chemistry*, 2006-present.

Honors: 1976-present; Excellence in Teaching Award, College of Engineering and Physical Sciences, UNH, 1995; Wilsmore Fellow, University of Melbourne, Australia, 2002; Elected Vice-Chair (2003) and Chair (2005), Gordon Research Conference on Physical Organic Chemistry; Gloria G. and Robert E. Lyle Professorship, Department of Chemistry, UNH, 2005-2009; Excellence in Teaching Award, College of Engineering and Physical Sciences, UNH, 2009.

Position Statement: I would be pleased to serve as Director-at-Large of the NESACS if the members choose

that I do so. I would do my best to represent the views of the members of the more northern reaches of NESACS and to participate in an informed manner in the Section's business.

John L. Neumeyer

Education: BS Columbia University, 1952; PhD in Medicinal Chemistry, University of Wisconsin in 1961.

Professional Experience Research Chemist, Ethicon (Division of J& J) 1952-1957; FMC Corp., Senior Research Chemist 1961-1963; Arthur D. Little Inc, Staff Scientist 1963-69; Professor of Medicinal Chemistry and Chemistry, Northeastern University 1969-1991; Visiting Professor University of Konstanz, Germany 1975-76; Scientific Director and Chairman, Research Biochemicals Int'l (RBI) 1980-96; Visiting Professor University of Groningen, Holland 1997; Director, Medicinal Chemistry Program, McLean Hospital, Harvard Medical School 1996-present.

Honors: ACS Fellow, 2011; Elected to Hall of Fame, ACS Division of Med. Chem., 2008; Henry Hill Award for Outstanding Service to NESACS, 1998; AAAS Fellow, 1984; Fulbright Fellowship, 1975-76; AAPS Fellow, 1986, Outstanding Educator Award, 2012; Northeastern University Matthews Distinguished Professor, 1980.

ACS Service: Division of Medicinal Chemistry, Councilor, Executive Comm., 1971-1981; Vice Chairman, 1981; Chairman, 1982; Councilor, 1983-1987; Board of Editors, *J. Med. Chem.*, 1974-1995; ACS Board of Publications, 1990-93.

NESACS Service: Founder and Chair, Medicinal Chemistry Group, 1974-1975; Councilor, 1988-1995; Trustee 1989-1993; Alt. Councilor, 1995-98; Publication Comm. *The Nucleus*, 1976-78, 1985-87 and Chair, 1986 and 1997.

Position Statement: Having served the ACS in a variety of positions both nationally and locally over the past 45 years, I am very much aware of the concerns and problems of its members. If elected, I shall continue to devote my time, energy and experience in both industry and academia to further the objectives of the ACS and its members. In particular, I shall work towards

recruiting young and energetic new members to actively participate in the governance of the Northeastern Section.

David J. Harris

Education: B.S., Chemistry, Boston College, 1976; Ph.D. Organic Chemistry, Brandeis University, 1982

Professional Experience: Post-doctoral Research Associate, Massachusetts Institute of Technology, (1982-1984); Principle Scientist Chemical Process Research (highest position), Schering-Plough Corporation, (1984-1990); Group Leader (1990-1992), Senior Scientist (1992-1994), Associate Director Chemistry (1994-1997), Senior Director Chemistry (2001-2004), Vice President of Chemical Process Development (2004-2008), Group Vice President Pharmaceutical Development Sciences (2008-2011) Genzyme Corporation; Group Vice President and Acting Head of Drug & Biomaterial R&D (2011-2012), Head of Pre-Development Sciences LGCR Boston & Waltham Site Head (2012 –present) Genzyme a Sanofi Company

NESACS Service: Director at Large 2011 to present; Member German Exchange Organizing Committee 2012 to present

Memberships: American Chemical Society (Organic and Medicinal Chemistry Divisions), American Association for the Advancement of Science, American Association of Pharmaceutical Sciences

Position Statement: It is both an honor and a privilege to be nominated for the position of Director-at-Large for the Northeast Section. My chemistry experiences are diverse. I am a co-inventor of three technologically distinct clinical candidates. They are an enzyme inhibitor for Gaucher disease (Eliglustat in Phase III trials), a polymeric phosphate binder for renal disease, and a cationic lipid gene transfer agent for cystic fibrosis. In my current role at Sanofi/Genzyme I lead the Synthesis Development, Formulation Development, and Analytical R&D organizations, as well as lead the Waltham Site. Major functions of NESACS include representing the interests of its members and providing opportunities for members to interact, network, and disseminate

nate information. Through the Boston College and Brandeis University alumni network, I often share my broad experiences in the biopharmaceutical industry with young scientists as they examine potential careers. I believe my extensive experiences in chemistry, my interest in assisting young chemists, and my leadership position at a major pharmaceutical company will provide me with an excellent background to be an effective Director-at-Large. With the help of your vote I will strive to increase industrial participation at NESACS events (for example by hosting events at our Waltham site as done in 2012) and to support the health and growth of the NESACS.

Mukund S. Chorghade

Education: B.Sc. 1971; M. Sc. 1973 (1st Class Honors) University of Poona, India; Ph.D. (Organic Chemistry), 1982, Georgetown University

Professional Experience: Research Fellow, National Chemical Laboratory (1973-74); Instructor, Georgetown University (1981-82); Postdoctoral Research Assoc., University of Virginia (1982-84); Postdoctoral Research Fellow, Harvard University (1984-85); Senior Research Chemist (1985-89); Project Leader (1989-90), Dow Chemical Co.; Research Scientist/Assistant Director, College de France, Paris and Universite Louis Pasteur (1990-91); Project Manager, Abbott Laboratories, Pharmaceutical Research (1991-95); Senior Director, Chemical Sciences Research & Development, CytoMed, Inc. (1997-98); President, CP Consulting, Chorghade Enterprises (1995 to present); Visiting Scholar, University of British Columbia, University of Chicago, Northwestern University, Caltech, Cambridge University; Vice President, Pharmaceutical Development Sciences, Geltex Pharmaceuticals / Genzyme, (2000 to 2003); President and Chief Scientific Officer, Pharmaceutical Sciences Division, D & O Pharmachem (2003-present), CSO & CTO, THINQ Pharma (2006-), Founder and CTO, Ascent Therapeutics (2006-), Director, MS Program in Drug Discovery and Development, Mass. College Of Pharmacy (2006-), Adjunct Research Professor, Northeastern University (2009-),

CSO, E#MPIRIKO (2011-present)

ACS Service: Member since 1982. Chair, Brazosport Section (1990); Organic Division, member; Chairman, Symposium on Industrial Chem., Great Lakes Meeting, May, 1997; Visiting Speakers Program (1999 to present); Department of Career Services Consultant (2000 to present); Member, International Activities Committee (2003-present), Chair and Immediate Past Chair, SCHB (2010-), Chair, Awards Subcommittee, ComSci (2010-)

NESACS Service: Board of Directors (1997-present), Public Services Committee, Chair; Professional Services Committee, member and chair (2005-); Public Affairs Committee; Public Relations Committee, Interim Editor, The Nucleus (2004), NESACS Chair-elect (2006), Chair (2007-2008), Director (2008-)

Memberships, Honors: Maharashtra Academy of Sciences (Elected Fellow); Andhra Pradesh Academy of Sciences (Elected Fellow) IUPAC; Royal Society of Chemistry (Elected Fellow); New York Academy of Sciences; American Institute of Chemists (Elected Fellow); AAAS; Sigma Xi; Indian Society of Bio-Organic Chemists; IUPAC Commission on Biotechnology, Medicinal Chemistry, New Technologies and Special Topics, Titular member, Division of Chemistry and Human Health; 20th IUPAC Conference on the Chemistry of Natural Products, Chicago, 1996; Chair, Scientific Programs Comm., on Advisory Board for *Organic Process Research and Development, Chimica Oggi*; Member, Committees on Advanced Professional Thinking, International Activities and Technology, American Institute of Chemists. Awarded "Diamond Jubilee Fellowship", Univ. Dept. of Chemical Technology, Mumbai, India- Awarded "B.D. Tilak Distinguished Visiting Fellowship", University of Bombay, India. Awarded "Bharat Gourav" Award, Government of India. "Alkyl Amines Padma Bhushan Prof. B.D. Tilak Chemcon 2002 Distinguished Speaker Award". Listed in American Men and Women of Science, Who's Who in Science and Engineering Invited speaker at numerous international conferences

Position Statement: It is a singular honor and privilege to have been nomi-

nated to the position of Director for the Northeastern Section.

It will be my endeavor to effectively represent the Northeastern Section effectively at the Local and National level. The issues confronting the Chemical Enterprise in the USA and the ACS are complex and demand creative solutions. I will spare no effort in ensuring that the voice of our electorate is heard and that the council determines effective policies for all our members. My extensive experience in NESACS, most recently as Chair, Director and National ACS governance has given me the necessary background to effectively represent the section.

Nominating Committee

Sophia R. Su

(For all information on this candidate see Councilor/Alternate Councilor statement on Page 13)

Heidi Teng

(For information on education, honor, and experience see Councilor/Alternate Councilor statement on page 16)

Position Statement: It is a great honor and privilege to be asked to run for a position on the Nominating committee. I have always been active in the ACS, but in the last 2 years I have increased my involvement as Chair of the Younger Chemist Committee. I have seen first hand how important it is to recognize and promote chemists in our community. As a member of the nominating committee I will be able to do so. I believe my experience in academia, pharma and Hitech industries gives me the breadth of knowledge to serve the section well in this role.

I would appreciate your vote for the nominating committee so I may continue to serve NESACS in exciting roles.

Marietta Schwartz

(For all information on this candidate see Councilor/Alternate Councilor statement on Page 15)

Raj Rajur

(For information on education, honors, and experience see Councilor/Alternate Councilor statement on page 14)

Position Statement: The nominating committee is a critical function of the local section. I strongly believe it is a major way to involve new people in governance of NESACS and its awards and programs. I have had the privilege of inviting and interacting with several topnotch scientists from many academic institutes and pharmaceutical and biotech companies during my tenure as Program Chair for the Medicinal Chemistry Division and would consider it an honor to serve on this committee. I have been a member of NESACS and Program Chair of the Medicinal Chemistry Division for the past several years. If elected to the Nominating Committee I will help to broaden the selection of candidates for future elections. Thank you for considering my candidacy.

Esselen Award Committee

Jeffrey Steinfeld

Professor Emeritus of Chemistry, Massachusetts Institute of Technology, Cambridge, Mass. 02139. B.S. in Chemistry (M.I.T. 1962), Ph.D. in physical chemistry (Harvard University, 1965). N.S.F. Postdoctoral Fellow with the late Lord George Porter at the University of Sheffield (U.K. 1965-66). M.I.T. Chemistry Department since 1966.

Research on molecular spectroscopy, molecular energy transfer, and laser applications to chemistry, including optical methods for remote sensing and atmospheric monitoring. Author of textbooks on molecular spectroscopy [*Molecules and Radiation*, 2nd ed., M.I.T. Press, 1985; Chinese translation, 1983; Dover Publications Reprint Edition, 2004] and chemical kinetics [*Chemical Kinetics and Dynamics*, with J.S. Francisco and W.L. Hase, Prentice-Hall, 1989; 2nd ed., 1999; Japanese translation, 1995]. Co-editor of *Spectrochimica Acta, Part A*, 1983-1998.

Visiting appointments at the University of California, Berkeley and University of Leiden, Netherlands [J.S.

Guggenheim Memorial Fellowship, 1972 - 73], University of Southern California [1981], Joint Institute of Laboratory Astrophysics, Boulder, Colo. [1983], Université de Bourgogne, Dijon, France [1991], University of Sydney, Australia [1999], University of Tokyo Graduate School of Frontier Sciences [2008]. Co-chair, *Symposium on Future Trends in Spectroscopy* (Vatican City, 1989). Member, American Physical Society [Fellow, Division of Chemical Physics], American Chemical Society [Fellow], American Association for the Advancement of Science [Fellow], Phi Lambda Upsilon, Sigma Xi, Federation of American Scientists, and Union of Concerned Scientists.

The present focus is on introducing concepts of sustainability and environmental stewardship across the curriculum. Member [1997 - 2004] and Chair [1999 - 2002], American Chemical Society's *Committee on Environmental Improvement*. Richard Awards Committee member, NESACS, 2008 - 2012. Received 1999 ACS Director's Award for Advancing ACS Public Policy in Environment, for work to encourage the use of sound science in global climate change policy, and 2004 "Prophetic Voice for Sustainability Award" from Massachusetts Interfaith Power & Light.

Eric Jacobsen

(No Statement Submitted)

Vinod Patel

Education: B.Sc. (First Class Honours) Leicester Polytechnic, UK (1984); Ph.D. Industrial Trainee, Kodak Ltd., UK (1983), Nottingham University, UK (1987), Industrial Trainee, May & Baker, UK (1986)

Professional Experience: Post-Doctoral Fellow, University of Rochester, USA (1988-1989); Eli Lilly & Co (1990-1999); Kinetix Pharmaceuticals (1999); Amgen (1999-2011); Sanofi (2011 to Present)

NEACS and ACS Service: ACS member since 1989; Co-chair, ACS ProSpectives (2009); Speaker, NEACS (Medicinal Chemistry (2007), Speaker, ACS ProSpectives (2006)

Position Statement: I have been an ACS member since 1989. During the

past 23 years of my career, I have been fortunate to collaborate with fellow scientists in industry as well as in academia. I believe my experience through these interactions would be beneficial to further the aspirations of our local NEACS. Toward this end, I would be delighted to serve as a committee member for the Esselen Award.

Karl Hansen

Education: B. Sc. University of Delaware (1993), A.M. Harvard University (1995), Ph.D. Harvard University (1998)

Honors: Phi Beta Kappa, ACS Division of Organic Chemistry Pre-Graduate Fellow 1996, Eli Lilly Predoctoral Fellow (1996), Presidential Green Chemistry Award Contributor (Emend[®], 2005), ICheme AstraZeneca[®] Green Chemistry and Chemical Engineering Award Contributor (Emend[®], 2005), Merck Chairman's Award for Sustainability Contributor (2006), Presidential Green Chemistry Award Contributor (Januvia[®], 2006)

Professional Experience: Merck Process Research and Development, Sr. Research Chemist, Research Fellow, Associate Director (1998-2006); Amgen Small Molecule Process and Product Development, Scientific Director (2006-present)

Service: University of Delaware ACS student affiliate president (1992), ACS member (1993-Present), Chairman of the 60th Gordon Research Conference on Natural Products (2011)

Position Statement: I would be honored to serve on the Esselen Award Nominating Committee. I have been able to enjoy the benefits of ACS membership for nearly twenty years and would be thrilled to have an opportunity to serve on this committee.

Richards Award Committee

Jerry Jasinski

Education and Honors: B.A., M.S.T., University of New Hampshire (1964, 1968); M.N.S., Worcester Polytechnic Institute (1968); Ph.D.; NATO Summer Research Fellow, University of Copenhagen, Chim Lab-IV (1972); Associated Western Universities (AWU)

NESACS Election

continued from page 21

Pre-Doctoral Fellow at the Los Alamos Scientific Laboratory (1973); University of Wyoming (1974); Post Doctoral Fellow at the University of Virginia (1975); Vermont Sigma Heroes Award (1995); 1st Recipient of the Keene State College Award for Faculty Distinction in Research and Scholarship (2001); Marquis Who's Who in America, the World, Science & Engineering (2010-2013); Presidential Who's Who (Chemistry Professor of the Year) and Hall of Fame (2011, 2012); Cambridge Who's Who (Professional of the Year in Scientific Research & Education) (2010-11); Towle High School Athletic Hall of Fame (2011).

Professional Experience: Keene State College: Assistant Professor (1978-83), Associate Professor (1983-89), Professor (1989-), Chair, Department of Chemistry, (1999-2005). University of Virginia: Post Doctoral Research Associate (1974-75). Los Alamos Scientific Laboratory: AWU Pre-Doctoral Research Associate (1973-74), High School Chemistry/Physics Teacher (1964-70, 1975-78). American Institute of Chemists (AIC-Board of Directors 1999-01, 2007-2009, President 2009-2011, Chair of the Board 2011-): (New England Institute of Chemists, NEIC, Treasurer, 1988-). Coeditor of *Acta Crystallographica*, Section E (2009-). Editorial Board for the *Journal of Crystallography* (2012-). Coauthor of over 400 refereed papers in peer-reviewed chemical research journals.

Research and Interests: Physical-Bioinorganic Chemistry; Synthesis and X-ray crystallography of pharmaceutically active molecules, laser dye molecules and transition metal thiosemicarbazones. Co-developer of a web-based tutorial for crystallography entitled "Symmetry and Space Groups". Introduction of Process Oriented Guided Inquiry Learning (POGIL) techniques into the chemistry curriculum.

ACS Service: Member since 1970. Member of INOR division. NESACS: Nominating Committee (2000-01, 2007-08); Alternate Councilor (2007-09; 2010-12; 2013-2015); Chair of the Norris Committee (2009-2012, 2012).

Memberships: American Chemical Society (ACS), New England Section of the American Chemical Society (NESACS), American Crystallography Association (ACA), New England Institute of Chemists (NEIC), Council for Undergraduate Research (CUR), New England Association of Chemistry Teachers (NEACT).

Position Statement: I consider it an honor and privilege to continue to serve and represent all of you in the NESACS. Serving on these various committees over the past several years has allowed me to give back in a most constructive manner. I value the opportunities for service given to me in this regard. I have served on the Norris Award Committee and greatly enjoyed this opportunity. As an active scientist and chemical educator with an expanding portfolio in the crystallographic community, I would very much like to have the opportunity to serve on the Richards Medal Committee. This will only be possible with your support and therefore, I ask for your vote. Thanks!

Howard R. Mayne

Professor, Department of Chemistry, University of New Hampshire, Durham, NH 03824

Education: B.Sc. ('74), M.Sc. ('75), Ph. D. ('77), University of Manchester, UK

Employment: Postdoctoral, Max-Planck-Institut für Strömungsforschung, Göttingen, Germany ('77-'79); Research Associate, University of Toronto ('79-'83); Assistant Professor, Eastern Michigan University ('83-'85); Assistant Prof; UNH ('85-'90); Assoc. Prof. ('90-'94); Professor ('94-date); Chair ('98-'04).

Visiting Positions: UC Santa Barbara; Northwestern U.

Research: Physical Chemistry, Chemical Physics. Atmospheric Chemistry. Gas phase reaction dynamics; gas-surface interactions; nanotechnology; Over eighty papers in peer-reviewed journals.

Honors: UNH Outstanding Faculty Award (1990); Outstanding Teacher Award, UNH College of Engineering and Physical Sciences (1990); Ronald T. Pflaum Outstanding Chapter Advisor Award, Alpha Chi Sigma (2008).

Memberships: ACS, American Physical Society, Alpha Chi Sigma

Previous ACS Service: Co-chair, Local Committee, ACS National Historic Chemical Landmark, UNH (1999); General Chair, Northeast Regional Meeting (NERM 2001); Chair, NERM Steering Committee (2001-2003); NESACS National Meeting Committee (2002), NESACS Alternate Councilor (2002-2006); Norris Award Committee (2003-2006, Chair 2005), Esselen Award Committee (2009-2013, Chair 2012)

Morton Z. Hoffman

Education: Hunter College, A.B., 1955; University of Michigan, M.S., 1957; University of Michigan, Ph.D., 1960.

Professional Experience: Sheffield (England) University: Postdoctoral Research Associate, 1960-61; *Boston University*: Assistant Professor, 1961-67; Associate Professor, 1967-71; Professor, 1971-2005; Professor Emeritus, 2005-present.

ACS Service: SOCED Task Force on Undergraduate Programming at National Meetings, 1991-2002; College Chemistry Consultants Service, 1995-2009; Editorial Advisory Board, ACS General Chemistry Textbook Project, 1999-2004; SOCED, 2002-11; International Activities Committee, 2012; Senior Chemist Task Force, 2008-12; Member, Senior Chemists Committee, 2013-14. *Division of Chemical Education*: Program Committee, 1992-2004; International Activities Committee, 1993-present; Regional Meetings Committee, 2000-2009; Chair-Elect, Chair, Immediate Past Chair, 2004-06.

NESACS Service: Board of Directors, 1993-present; Education Committee, 1993-present; German Exchange Steering Committee, 2001-present; Councilor, 1994-present; Chair-Elect, Chair, Immediate Past Chair, 2001-03; Feature Editor, Photographer for *The NUCLEUS*, 2005-present; Norris Award Committee 2007-2010; NERM Committee, 2007-present; IYC Committee, 2011-12.

Relevant Memberships: AAAS; NEACT; IUPAC. *ACS Divisions:* Inorganic Chemistry; Physical Chemistry;

continued on page 23

NESACS Election

continued from page 22

Chemical Education.

Honors: Fellow, AAAS, 1992; Metcalf Cup and Prize, Boston University, 1994; Hill Award, NESACS, 1999; Catalyst Award, American Chemistry Council, 2002; Timm Award, NEACT, 2003; U.S. National Representative to the Committee on Chemistry Education of IUPAC, 2004-present; Norris Award, NESACS, 2005; Professional Achievement Award, Hunter College Alumni Association, 2006; ACS Award for Volunteer Service, 2007; Visiting Scientist Award, Western Connecticut Section, ACS, 2007; ACS Fellow, 2009.

Research Area and Interests: Physical-Inorganic Chemistry: Photochemistry and photophysics of transition metal coordination compounds; photochemical conversion and storage of solar energy; use of radiation in the study of free radical reactions and the chemistry of unusual oxidation states; fast kinetics techniques. *Chemical Education:* New pedagogical strategies in general chemistry; use of technology to enhance classroom communication.

James P. Morken

Born in Concord, CA in 1967, he obtained his B.S. in chemistry in 1989 from UC Santa Barbara working with Prof. Bruce Rickborn, and a Ph.D. from Boston College in 1995 with Prof. Amir Hoveyda. He was an NSF Postdoctoral Fellow with Stuart Schreiber at Harvard University and, in 1997, joined the University of North Carolina at Chapel Hill as an Assistant Professor.

James was promoted to Associate Professor in 2002 and in 2006 joined the faculty of Boston College as a Professor of Chemistry. His research focuses on the development of transition-metal-catalyzed asymmetric processes and their use in complex molecule synthesis. He has been a member of the American Chemical Society since 1988. ◇

Jerry Jasinski Receives Fulbright Grant

Jerry P. Jasinski, Professor of Chemistry at Keene State College in Keene, NH, has been awarded a Fulbright Scholar grant to lecture and do research at The University of Mysore, Mysore, India, during the 2013-2014 academic year.

Through this exchange, Dr. Jasinski will advance the knowledge base of students and faculty at the University of Mysore and affiliated institutions in the use of single-crystal X-ray crystallography as a modern state-of-the-art tool in the determination of molecular structure.

Recently, in collaboration with his many regional, national and international scientific colleagues, he achieved a milestone by co-authoring over 400 research papers in major refereed scientific journals related to his work, which more recently has focused on the X-ray crystallography of biologically and pharmaceutically significant molecules.

His recent award of \$290,000 from the National Science Foundation for the purchase of a new state-of-the-art CCD single-crystal X-ray diffractometer system has allowed him to extend his research activities to include KSC undergraduate students as well as faculty and students from several New England Colleges (Dartmouth, Middlebury, Williams, St. Anselm's, Clark University, UMASS-Boston, Fairfield University, and the University of New Hampshire). As a coeditor of *Acta Crystallographica-Section E* (a major online international research journal), his international reputation has resulted in significant collaborations with faculty and students at the University of Mysore, the University of Mangalore,

JIWADI University, Guru Nanak Dev University, Manipur University, and the University of Bombay in India, as well as with faculty and students at the University of the West Indies-Cave Hill, Erciyes University, Turkey, University of Mashhad, Iran, Faculté des Sciences et Techniques University, Senegal, Allama Iqbal Open University, Pakistan, and the Nelson Mandela Metropolitan University, Port Elizabeth South Africa.

He states, "Working in a team-oriented format and bringing together ideas and frontier research problems involving crystallography with undergraduate, graduate, and post-graduate students, as well as faculty from around the globe, is not only stimulating to me, but also to our KSC undergraduates who have gained and will continue to gain unprecedented exposure and interaction in such an environment, often leading to selective entrance of these undergraduates to quality graduate schools or positions in science related industry or as science teachers in a most competitive world. We continue to push back the frontiers of science in the solid state and embrace an interaction of cooperation, collaboration and mutual respect with all levels of individuals and gender who have the desire and work ethic to succeed by giving them the chance to experience a hands-on approach to 21st century in science." Over the past 4 years, Prof. Jasinski has co-authored over 40 papers a year, a phenomenal pace at any institution, and particularly at Keene State College.

Dr. Jasinski is one of approximately 1,100 U.S. faculty and professionals who will travel abroad through the Fulbright U.S. Scholar Program in 2013-2014.

The Fulbright Program is the flagship international educational exchange program sponsored by the U.S. government, and is designed to increase mutual understanding between the people of the United States and the people of other countries. The primary source of funding for the Fulbright Program is an annual appropriation made by the U.S. Congress to the U.S. Department

continued on page 24

BOOST OUR RAVINGS

When you tell our advertisers that you saw their ads here they have more confidence in our newsletter's viability as an advertising medium. They advertise more. This supports our many activities.

Esselen Award

continued from page 2

The synthetic enzyme substrates were designed and made to include a structure moiety recognized by the enzyme. Most of the LSD substrates include carbohydrate moieties (glucose, galactose, N-acetyl galactosamine, α -L-iduronic acid, etc.) with a or b glycosidic linkages. Several LSD enzymes are sulfatases that recognize O- or N-sulfate groups in particular positions of the sugar molecules. For example, mucopolysaccharidosis III types A and D (also known as Sanfilippo syndromes) are caused by deficiency of enzymes degrading the glycosaminoglycan heparan sulfate by selectively stripping sulfate groups from glucosamine-N-sulfate and N-acetylglucosamine-6-O-sulfate units that are linked by α -glycosidic bonds to glucuronic acid. The synthetic substrates must encompass these structure features to be recognized by the enzymes. Another example concerns the two most common forms of CDG caused by deficient enzymes phosphomannoisomerase (PMI) and phosphomannomutase isozyme 2 (PMM2). PMI works on converting fructose-6-phosphate to its isomer mannose-6-phosphate to be converted by PMM2 to another isomer, mannose-1-phosphate, which is then used to build glycan antennas in glycoproteins. Distinguishing these isomeric molecules by mass spectrometry was quite challenging and required a special strategy of coupled enzyme assays to succeed.

Quantitative analysis of enzyme activities by mass spectrometry relies on the simultaneous determination of enzyme products and internal standards. The latter are synthetic compounds that are chemically very similar to or identical with the enzyme products but are distinguished by molecular mass owing to the presence of stable heavy isotopes or homologous groups. The chemical similarity of products and internal standards ensures that the response of the mass spectrometer to these compounds is also very similar which simplifies analysis.

Enzyme assays are carried out in

biological samples that are very complex mixtures of many compound types (DNA, proteins, lipids, saccharides) and include exogenous components such as buffer salts, detergents, inhibitors, and other additives. This mandates that after incubation the assay sample be purified to exclude components that would interfere with ionization and mass spectrometric analysis. In our initial approach, we used affinity purification based on the highly specific and reversible non-covalent biotin-streptavidin interaction (2). Substrates and internal standards were synthesized that contained a covalently linked biotin moiety that served as an affinity handle for affinity purification. This approach, in combination with stable isotope labeling, was extended by collaborators to protein analysis using *in vitro* derivatization, proteolysis, and bottom-up peptide quantification. This method, called Isotope-Coded Affinity Tags (ICAT for short), was introduced in 1999 and pioneered quantitative protein analysis in the then burgeoning field of proteomics (3).

Affinity purification with streptavidin immobilized on polymer beads, followed by mass spectrometry analysis, was suitable for applications in clinical diagnostics and was semi-automated using a lab-on-valve apparatus for bead injection that was coupled to the mass spectrometer.

Enzyme assay development involved a thorough analysis of enzyme kinetics and optimization of experimental conditions. Lysosomal enzymes work in an acidic environment of pH 4.0-4.5 and so the pH dependence of their *in vitro* activity for the synthetic substrates had to be established. The substrate conversion was purposefully limited to a few percent to maintain pseudo first order kinetics and linear time dependence of product formation. Linear dependence on the substrate and enzyme concentration was also tested. Interfering enzymes present in the biological sample were suppressed by specific inhibitors.

In 2001, the late Nestor Chamoles reported that lysosomal enzymes retain latent activity in dried blood spots and

Science Cafe

continued from page 4

This was a very successful science café since we met some new NESACS members and many members of the public audience (75% of the attendees) have a new appreciation for science. \diamond

Jerry Jasinski

continued from page 23

of State, Bureau of Educational and Cultural Affairs. Participating governments and host institutions, corporations and foundations in foreign countries and in the United States also provide direct and indirect support. Recipients of Fulbright grants are selected on the basis of academic or professional achievement, as well as demonstrated leadership potential in their fields. The Program operates in over 155 countries worldwide. \diamond

can be assayed after rehydration in a suitable buffer (4). This discovery caused a major change in the direction of our research of LSD that ever since has focused on dried blood spots (DBS)(5). Since DBS are used as a common biological sample in newborn screening, our efforts were focused on retooling our chemistry of substrates and internal standards, bioanalytical work up procedures, and mass spectrometric analysis. Particular emphasis has been placed on multiplexing all these steps so that multiple enzyme activities could be determined simultaneously in one or two parallel DBS incubations. Our new generation substrates were designed to comprise three major parts: (i) a structure moiety that is recognized by the enzyme, (ii) a group allowing facile introduction of stable isotope label, and (iii) a functional group directing the ion fragmentation in the mass spectrometer into one dominant channel producing the reporter ion. At the same time, the compounds were designed such that the enzyme reaction products were readily separated from the incubation medium by a single step procedure, e.g., extraction or ultrafast chromatog-

continued on page 25

Gilbert Biography

continued from page 5

education. Tom teaches general chemistry and science education courses and conducts professional development workshops for K–12 teachers. He has won Northeastern's Excellence in Teaching Award and the Outstanding Teacher of First-Year Engineering Students Award (twice). He is a Fellow of the American Chemical Society and in 2012 was elected to the A.C.S. Board of Directors. In 2010 he received the Henry A. Hill Memorial Award from the A.C.S. Northeastern Section. ◇

Gilbert Abstract

continued from page 5

students, followed by an activity in which they explore the "greater truth" within the story through guided inquiry can be an effective teaching tool.

This presentation will be largely a demonstration of how contextualized guided inquiry can engage chemistry students. We will start with a sunny summer day in 1983 and a bunch of kids racing go-karts on the runway of an abandoned air base in western Manitoba. All of a sudden they look up and see an Air Canada 767 about to land on the same runway. The pilot had no choice: his plane was out of fuel. How could that happen? I'd tell you, but why ruin a good story? ◇

Esselen Award

continued from page 24

raphy. As of now, we have developed substrates and procedures for 15 lysosomal enzymes, galactocerebroside b-galactosidase (GALC), acid sphingomyelinase (ASM), acid b-glucocerebroside (ABG), acid a-galactosidase (GLA), acid a-glucosidase (GAA), a-L-iduronidase (IDUA), iduronate-2-sulfatase (IdS), N-acetylgalactosamine-4-sulfatase (aryl sulfatase B, ASB), N-acetylgalactosamine-6-sulfate sulfatase (GALNS), heparan N-sulfatase (sulfamidase), α -N-acetylglucosaminidase, acetyl-CoA: α -glucosaminide acetyltransferase, N-

Chemistry Workshop

continued from page 6

course might encourage students who would never voluntarily take a course in chemistry to enroll in this course as a science elective.

During our presentation, we will discuss the list of activities that we have developed, including, but not limited to:

1. What is light?
2. Why are objects colored?
3. What is the difference between organic and inorganic chemicals, and what are they used for?
4. What are pigments? What is the history of pigment use?
5. What are dyes?
6. How are paints made?
7. What is the difference between additive and subtractive color mixing?
8. How is redox chemistry used by artists?
9. How is acid base chemistry used by artists?
10. What are glass and ceramics made of?
11. How does classical photography work?

There will be an opportunity to work through one or two activities as a member of a learning team, to model its use in a classroom. ◇

acetylglucosamine-6-sulfatase, palmitoyl protein thioesterase (PPT), and tripeptidyl peptidase 1 (TPP1). The first six of these enzymes have been included in a six-plex procedure that is being tested in a pilot program of newborn screening in Illinois. A pilot study of a triplex assay (GLA, GAA and IDUA) has been successfully carried out with >100,000 samples in Washington state (6). A diagnostic newborn screening of GALC deficiency (Krabbe disease) has been running in New York state that has so far included over 1,000,000 samples. Further technological advances pursued in our laboratory include ultra-fast high performance liquid chromatography

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

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

WWW.NESACS.ORG/CAREERS

for sample purification after incubation (7) and design of new substrates.

References

- (1) *The Metabolic and Molecular Bases of Inherited Disease*; Scriver, C., Beaudet, A., Sly, W., Eds.; McGraw Hill: New York, 2001.
- (2) Gerber, S. A. et al. *J. Am. Chem. Soc.* **1999**, *121*, 1102-1104.
- (3) Gygi, S. P. et al. *Nature Biotechnol.* **1999**, *17*, 994-999.
- (4) Chamoles, N. A. et al. *Clin. Chim. Acta* **2001**, *308*, 195-196.
- (5) Li, Y. et al. *Clin. Chem.* **2004**, *50*, 1785-1796.
- (6) Scott, C. R. et al. *J. Pediatrics* **2013**, *162*, in press.
- (7) Spacil Z. et al. *Clin. Chem.* **2013**, *59*, in press. ◇

BUSINESS DIRECTORY

SERVICES



AsisChem, Inc.

Advancing Your Science through Synthesis

We Serve Biotech/Pharmaceutical companies and Academic labs in:

- **Medicinal Chemistry** (Discovery, hit-to-lead optimization & Selection of preclinical candidates)
- **Scale up and process development,**
- **Solving your difficult syntheses,**
- **Simulation/Modeling of target-ligand interactions.**

AsisChem, Inc. 738 Main St.
205, Waltham, MA, 02451
Phone: 866.609.8657 x 720
Fax: 617.837.2114

E-mail: support@asischem.com

www.asischem.com

SERVICES

TELL OUR ADVERTISERS

Membership surveys show that you want more articles in our newsletter. If you tell our advertisers that you saw their ad here, they will provide more financial support and this will allow us to add more articles.

NMRService 500MHz

*Mass

*Elemental Analysis

NuMega Resonance Labs

numegalabs.com P- 858-793-6057

WANT MORE ARTICLES

When you tell our advertisers that you saw their ads here they have more confidence in our newsletter's viability as an advertising medium. They advertise more. This supports our many activities.

SERVICES

Front Run OrganX, inc.

Custom Synthesis & Process Chemistry

WHEN QUALITY MATTERS

High Purity, Scalable Solutions to Challenging Organic Synthesis

Starting Materials to Pre-clinical
Single to Multi-Step mg to Kg

98% min. purity

Phone 978-356-7133 Fax 978-356-7449

Email Fronrun@Sprynet.com
www.FrontRunOrg.com

NMR Sample Tubes

Sampling Supplies / Accessories

Quality and Value

See our full catalog/pricing at
www.newera-spectro.com

CAGE Code: 44ME9 DUNS: 556785657



New Era Enterprises, Inc.
1-800-821-4667
cs@newera-spectro.com

ORGANIX INC.

Your Partner in
Organic & Medicinal Chemistry
Providing Services Since 1986

Services:

- Custom Synthesis
- Hit-to-Lead Programs
- Structure Activity Programs
- 1H NMR and 13C NMR
- LC/MS Services

Strengths:

- Outstanding Communications
- Reliable Time Management
- Experienced Ph.D. Scientists



On Target - On Time - On Budget

Massachusetts, USA
Phone: (781) 932-4142
Fax: (781) 933-6695
Email: organix@organixinc.com

www.organixinc.com



Micron Analytical Services

COMPLETE MATERIALS CHARACTERIZATION
MORPHOLOGY CHEMISTRY STRUCTURE

SEM/EDXA • EPA/WDXA • XRD XRF • ESCA • AUGER • FTIR • DSC/TGA

Registered with FDA • DEA GMP/GLP Compliant

3815 Lancaster Pike Wilmington DE. 19805

Voice 302-998-1184, Fax 302-998-1836

E-Mail micronanalytical@compuserve.com

Web Page: www.micronanalytical.com



Robertson Microlit Laboratories

Where speed and accuracy are elemental

Elemental CHN, S, X, Analysis (same day service)

Metals by ICP-OES, ICP-MS, A/A

FTIR, UV/VIS Spectroscopy

Ion Chromatography

Bioavailability

Polarimetry

DSC, TGA, melting point

KF Aquametry, Titrimetry

1705 U.S. Highway 46 • Suite 1D • Ledgewood, NJ 07852 • 973.966.0668 • F 973.966.0136

www.robertson-microlit.com • email: results@robertson-microlit.com

Rapid Results • Quality • Accuracy • Competitive Pricing

BUSINESS DIRECTORY

SERVICES



PolyOrg, Inc.
Chemical Solutions for
the Life Science Industry

- Custom Organic Synthesis
- Process Development
- Contract R & D
- Pharmaceutical Intermediates
- Medicinal Chemistry Support
- Biotechnology Specialty Reagents
- Solid Support Reactions
- Process Validation
- Gram to Multi-Kilogram Synthesis



PolyOrg Inc.

10 Powers Street, Leominster, MA 01453
Phone: 978-466-7978 1-866-Poly-002
Fax: 978-466-8084 info@polyorginc.com
www.polyorginc.com

SERVICES



PCI Synthesis Inc. is a custom chemical manufacturer of new chemical entities (NCE's), and other specialty chemical products.

- Process Research
- Process Development
- Analytical Development
- Process Validation
- Regulatory Support
- FDA filing



PCI Synthesis

9 Opportunity Way, Newburyport, MA 01950

978.462.5555

www.pcisynthesis.com

CAREER SERVICES

WOULD YOU BELIEVE?

- Our Section (NESACS) is the largest in the ACS.
- We have more volunteers than any other Section.
- We have more activities than any other Section.
- The Nucleus has been voted at several ACS National meetings to be the best Section newsletter.
- We are expanding Nucleus and NESACS web site coverage of activities.

The Following positions are open

1. *Photo Journalists*
2. *Book Reviewers*
3. *Corporate and Local news reporters*
4. *Copy Editors*
5. *Volunteer Coordinator*

*If you would like to be active in this vibrant organization, please contact Board of Publications member Vivian Walworth
vwalworth@comcast.net*

*No experience needed
Just a willingness to participate
and a sense of humor*

AcquityTMUPC²

Separate, analyze,
and understand
compounds that
have challenged
traditional LC and
GC techniques with
UltraPerformance
Convergence
ChromatographyTM
(UPC²TM).

Learn more at
www.waters.com/UPC2



Waters

THE SCIENCE OF WHAT'S POSSIBLE.TM

RECRUITING WEB SITE LISTING DIRECT TO YOUR SITE

There are two important ways to recruit through our services. One is to place a print ad in the Nucleus. The other is to place a web site ad reaching out to 40,000 ACS members. We recommend using both low cost methods.

You can view both of these opportunities by going to the link below.
Who uses these options?

- Companies for lab, management and sales personnel
- University & College teaching positions
- Hospitals for technical and research personnel

We provide more qualified resumes because of the highly targeted technical audience.

info -- www.mboservices.net

Index of Advertisers

AsisChem, Inc.	26
ChemDev Solutions	4
Eastern Scientific Co.	2
Front Run OrganX, Inc.	26
Huffman Laboratories, Inc. .	14
Mass-Vac, Inc.	13
MIT Professional Education.	28
Micron Inc.	26
New Era Enterprises, Inc.	26
NuMega Resonance Labs.	26
Organix, Inc.	26
PCI Synthesis	27
PolyOrg, Inc.	27
Rilas Technologies, Inc.	10
Robertson Microlit Labs.	26
VACCUBRAND	11
Waters Corporation	27

19 Mill Road
Harvard, MA 01451

THE NUCLEUS

NONPROFIT ORG.
U.S. POSTAGE PAID
NORTHEASTERN
SECTION
AMERICAN CHEMICAL
SOCIETY



PROFESSIONAL EDUCATION



Spend 2-5 days at MIT this Summer in Short Programs for Professionals

- Formulation / Biotherapeutics
- Controlled Release Technology
- Downstream Processing
- Fermentation Technology
- Flow Chemistry
- Cybersecurity
- Data Management
- Game Development
- Innovation
- Manufacturing
- Radar / Robotics

Learn more: shortprograms.mit.edu/chem

Calendar

Check the NESACS home page
for late Calendar additions:
<http://www.NESACS.org>

Note also the Chemistry Department web
pages for travel directions and updates.

These include:

<http://www.bc.edu/schools/cas/chemistry/seminars.html>

<http://www.bu.edu/chemistry/seminars/>

<http://www.brandeis.edu/departments/chemistry/events/index.html>

<http://www.chem.harvard.edu/courses/seminars.php>

<http://chemcalendar.mit.edu/index.php>

<http://chem.tufts.edu/seminars.html>

<http://engineering.tufts.edu/chbe/newsEvents/seminarSeries/index.asp>

<http://www.chem.umb.edu>

<http://www.umassd.edu/cas/chemistry/>

<http://www.uml.edu/Sciences/chemistry/Seminars-and-Colloquia.aspx>

<http://www.unh.edu/chemistry/events>

May 01

Prof. Timothy Warren (Georgetown University)
Harvard, Pfizer Lecture Hall
4:15pm to 5:15pm

May 02

Buchi Lectures in Organic Chemistry
Prof. Carolyn Bertozzi (U.C.-Berkeley)
MIT, 6-120
4:00 pm

May 03

Buchi Lectures in Organic Chemistry
Prof. Carolyn Bertozzi (U.C.-Berkeley)
MIT, 6-120
4:00 pm

May 06

Novartis Symposium
Prof. Elizabeth Jarvo (U. C.-Irvine)
TBA (Novartis Research Scientist)
Harvard, Pfizer Lecture Hall
4:15pm

May 08

Prof. Pingyun Feng (U.C.-Riverside)
MIT, 6-120
4:15 pm

May 09

Boehringer-Ingelheim Lecture in Organic Chemistry:
Prof. Dean Toste (U.C.-Berkeley)
Dr. Jeff Song (Bristol-Myers Squibb)
MIT, 6-120
4:00 pm

May 14

Prof. Daniel Lidar (Univ. Southern California)
MIT, 6-120
4:30 pm

May 20

Boehringer-Ingelheim Symposium
Prof. Sarah Reisman (Cal. Tech.)
Dr. Christopher Senanayake (Boehringer-Ingelheim, Inc)
Harvard, Pfizer Lecture Hall
4:15 pm

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

Sheila E Rodman, email:
[serodman\(at\)hotmail.com](mailto:serodman(at)hotmail.com)

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. ◇



Join NESACS
on facebook

www.facebook.com/nescacs