

THE NUCLEUS

May 2019

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Monthly Meeting

*Education Night at Nova
Biochemical in Waltham.
Jens Breffke to Speak.*

Report of the 2019 NESACS – GDCh Exchange Program

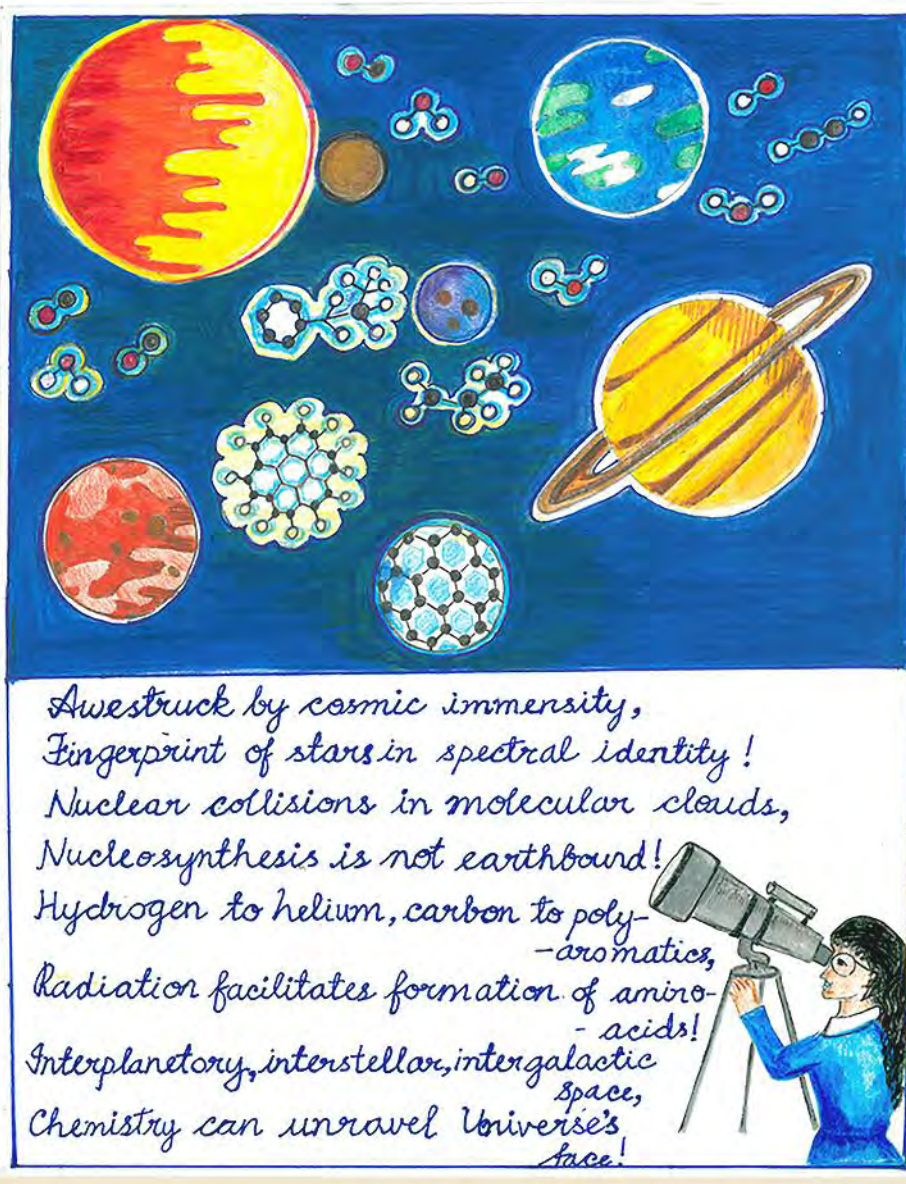
By Tom Gilbert

NESACS Election 2019

Candidate Statements

Changes in the Nucleus

*Hard copy printing and mailing
ends*



Buyer Beware: Secret Sales May Result in Subsequent Patent Invalidation

By Katherine Ann Rubino, NESACS Board of Publications, Patent Attorney, Caldwell Intellectual Property Law

Recently on January 22, 2019, the Supreme Court affirmed the Federal Circuit's judgment in *Helsinn Healthcare S.A. v. Teva Pharmaceuticals USA Inc.* The case centered around the "on sale" bar of the Leahy-Smith America Invents Act (AIA), effective as of March 16th, 2013. Under the AIA, 35 U.S.C. §102(a)(1) bars an inventor from a receiving a patent on an invention that was "in public use, on sale, or otherwise available to the public before the effective filing date of the claimed invention." The case posed the question of whether an inventor's sale of an invention to a third party that is obligated to keep the invention confidential qualifies as prior art for the purpose of determining patentability?

The case first developed when Helsinn Healthcare S.A. (Helsinn) started making a treatment for chemotherapy induced nausea and vomiting using the chemical palonosetron. Palonosetron is a 5-HT₃ antagonist, given either orally or intravenously prior to chemotherapy to prevent delayed nausea and vomiting. Palonosetron is a favorable product due to its long half-life (between 40-50 hours), enabling long periods of time between subsequent doses. While developing this product, in 2001, Helsinn entered into an agreement with another company granting that company the right to distribute, promote, market, and sell palonosetron in the 0.25mg dosage form. The agreement specified that the company would keep proprietary information secret.

Two years later in 2003, Helsinn filed a provisional patent application for the 0.25mg dosage form. Over the next ten years, Helsinn continued to file patent applications, including one filed in 2013, after enactment of the AIA. In 2011, Teva Pharmaceuticals USA Inc (Teva) sought approval to market a genetic 0.25mg palonosetron product. At this point, Helsinn sued Teva for patent infringement of its patents covering

palonosetron. Teva then countered that Helsinn's patent filed in 2013 was invalid under the "on sale" provision of the AIA. Teva claimed that the 0.25mg dose was on sale more than one year before Helsinn filed its original provisional patent application in 2003.



The District Court held that the AIA's on sale bar did not apply because the agreement between Helsinn and the other company, even if considered a public disclosure, did not disclose the 0.25mg dose. The Federal Circuit reversed, holding that the sale was publicly disclosed, regardless of whether the details of the invention were publicly disclosed in the terms of the sale agreements. The Supreme Court then heard the case, and in a 9-0 ruling, affirmed the decision of the Federal Circuit. The Supreme Court ruled that a commercial sale to a third party who is required to keep the invention confidential may place the invention "on sale" under §102(a). The Supreme Court reasoned that a sale or offer of sale need not make an invention available to the public to constitute invalidating prior art. The Supreme Court further reasoned that "secret sales" could indeed invalidate a patent.

This case is monumental, in that even though it did not eliminate secret prior art, it provides clarity as to the scope of the "on sale" bar, and allows inventors and lawyers alike to create custom patent strategies based on this

new information. Going forward, this case offers several key takeaways. First, this decision will be particularly impactful on small companies looking to partner with larger corporations to bring their novelty to market. This is especially true of biotech and pharma startups, that often collaborate with bigger corporations to offset costs needed for drug discovery and research and development. Secondly, inventions must now be evaluated early on to determine whether they should maintain a trade secret or be protected via patents. Further, inventions deemed patentable should be considered for early provisional patent applications filings before any anticipated disclosures or offers for sale. Lastly, confidentiality agreements such as non-disclosure agreements (NDA) should not be relied upon to prevent loss of patent rights based on offers for sale of the invention. ◇



Boston College Chemistry Department is soliciting resumes for temporary part-time positions teaching introductory chemistry lecture and lab courses for academic year 2019-20.

Ph.D. in chemistry or related discipline is required.

Applicants must submit a cover letter and CV in the form of a PDF file to:

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Cover: Pictured is the award winning National Chemistry Week Illustrated Poem (Grades 6-8) by Ashmita Prajapati. (Reprinted with permission).

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NESACS and the 2019 ACS National Awards

Members of NESACS and former recipients of NESACS awards were recognized as recipients of national awards at the General Meeting of the ACS on Tuesday, April 2, 2019, during the 257th National Meeting in Orlando, Florida. **Bonnie A. Charpentier**, ACS President, and **Luis A. Echegoyen**, President-Elect, presented the awards with the assistance of other distinguished ACS leaders. **Dorothy J. Phillips**, Chair, ACS Board Committee on Professional and Member Relations, presented welcoming remarks.

Kathryn C. Hach Award for Entrepreneurial Success, sponsored by the Kathryn C. Hach Award Fund, to **Jack N. Driscoll**, PID Analyzers, LLC: *“For pioneering the development and commercialization of the first portable photoionization detector (PID) for industrial hygiene and gas chromatography uses, analysis of volatile organic compounds, and deployment worldwide.”* Jennifer Maclachlan, PID Analyzers, LLC, assisted in presenting the award.



Nobel Laureate Signature Award for Graduate Education in Chemistry, sponsored by AvantorTM Performance Materials, Inc., to **Bryan Michael Hunter**, Rowland Institute at Harvard University: *“For his outstanding doctoral thesis [at the California Institute of Technology under the direction of Prof. Harry B. Gray] on the mechanism of iron-nickel catalysis of water oxidation.”* Nandu Deorkar, Avantor, assisted in presenting the award.



Arthur C. Cope Scholars Awards, sponsored by the Arthur C. Cope Fund, to **Jeremiah A. Johnson**, M.I.T.: *“For the development of methods for precision polymer synthesis that have generated macromolecules with novel functions and new insights into polymer network structure and mechanics.”* The Cope Scholars Awards will be



presented at the Arthur C. Cope Annual Symposium in conjunction with the 258th National Meeting in San Diego, CA, in August 2019.

ACS Award in Polymer Chemistry, sponsored by the ExxonMobil Chemical Company, to **Timothy M. Swager**, M.I.T.: *“For the design, synthesis, and study of polymers with innovative molecular designs to create materials with superior sensory, electronic, optoelectronic, and mechanical properties.”* Jay Dias, ExxonMobil Chemical Company, assisted in presenting the award.



Roger Adams Award in Organic Chemistry, sponsored by *Organic Reactions, Inc.* and *Organic Syntheses, Inc.*, to **Stephen L. Buchwald**, M.I.T.: *“For breakthroughs in catalysis and ligand design that have had a profound impact on the synthesis of medicines, novel materials, agricultural agents, and natural products.”* Rick Danheiser, M.I.T., assisted in presenting the award.



The winner of the **Priestley Medal**, sponsored by the ACS, was **K. Barry Sharpless**, The Scripps Research Institute, who was a member of the faculty at M.I.T. in 1970-77 and 1980-90: *“For inventing catalytic, asymmetric oxidation methods and click chemistry; for recognizing ligand accel-*



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NESACS Sponsors 2017

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Monthly Meeting

The 988th Meeting of the Northeastern Section of the American Chemical Society-Education Night

Thursday – May 9, 2019

Nova Biomedical

200 Prospect Street, Waltham, MA 02454

4:00 pm NESACS Board Meeting

5:00 pm Social Hour

6:00 pm Dinner

7:00pm Evening program: Andrew Scholte, NESACS Chair, Presiding
Presentation of the Education Night Awards (Cafeteria)

Speaker: Dr. Jens Breffke, Chair, International Activities Committee, American Chemical Society; Application Specialist, Boston Electronics Corporation.

Title: *Scientists worldwide celebrating the International Year of the Periodic Table 2019 (IYPT).*

**YOU MUST REGISTER IN ADVANCE TO ATTEND THE MEETING;
THERE IS NO REGISTRATION FEE TO ATTEND THE MEETING;
DINNER RESERVATIONS ARE REQUIRED.
THE PUBLIC IS INVITED**

- For those who would like to join us for dinner, register by noon, Thursday, May 2, at https://education_night_2019.eventbrite.com. Cost: Members, \$30; Non-members, \$35; Retirees, \$20; Students, \$10. Dinner reservations not cancelled at least 24 hours in advance will not be refunded. For additional information, contact the Administrative Coordinator, Anna Singer, via e-mail at secretary@nesacs.org.
- If you wish to join us for this meeting and not eat dinner, please register by noon, Thursday, May 2, at https://education_night_2019.eventbrite.com. Select “Seminar only”.
- Directions to Nova from I-95: 1. From Route 95 take exit 26 to merge onto US 20 (0.1 m) 2. Slight right onto Vernon St (0.3 m). 3. Turn right onto Prospect St (0.4 m) 4. Turn left into driveway (75 ft) 5. Turn left again and continue to Nova Biomedical; park in lot
- From east (Boston): 1. Take I-90 to exit 17 toward Newton 2. Continue on Washington St (0.6 m) 3. Turn right onto Crafts St (1.3 m); turns into Waltham St (0.3 m); turns into High St (0.6 m); turns into Maple St (0.3 m); turns into Prospect St (0.1 m) 4. Turn right into driveway (75 ft) 5. Turn left and continue to Nova Biomedical; park in lot

If you have any questions or require additional information, contact the Administrative Coordinator, Anna Singer, via email at secretary@nesacs.org. ◇

Biography



Dr. Jens Breffke serves as the chair of the ACS International Activities Committee since 2018. Prior to this role he served for many years on the national Younger Chemists Committee, working as the work group leader for International Presence. During that time he was involved in the development of the idea and led to the foundation of the International Younger Chemists Network (IYCN) and the establishment of the ongoing exchange program Younger Chemists Crossing Borders (YCCB). Dr. Breffke got the vision for this exchange program from NESACS's German Exchange (GEX) program since he was a participant himself at the 2007 ACS National Meeting & Exposition in Boston. ◇

Abstract

About IYPT 2019: The Periodic Table of Chemical Elements is one of the most significant achievements in science, capturing the essence not only of chemistry, but also of physics and biology. It is a unique tool, enabling scientists to predict the appearance and properties of matter on the Earth and in the rest of the Universe. 2019 is the 150th anniversary since Dmitry Mendeleev discovered the Periodic System and has been proclaimed the “International Year of the Periodic Table of Chemical Elements” (IYPT2019).

The initiative for IYPT2019 is supported by IUPAC in partnership with the International Union of Pure and Applied Physics (IUPAP), European Chemical Society (EuChemS), the International

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The NESACS website

Updated frequently · Late-breaking news · position postings
Back issues of the Nucleus archived · Career-related Links · Awards and Scholarships

WWW.NESACS.ORG

Report of the 2019 NESACS – GDCh Student Exchange Program

By Thomas Gilbert, Northeastern University, Chair, NESACS-GDCh Exchange

In the 19th year of the German Exchange program, twelve chemistry students from nine colleges and universities within NESACS, accompanied by three members of the NESACS German Exchange Committee, traveled to Bremen, Germany, on March 16- 24, 2019. The journey to Bremen began with an overnight flight to Munich, connecting with a flight to Hamburg. The group's bonding process, which had begun with a self-introduction and orientation session two weeks earlier, was in full swing by the time the first of many group photos was taken at Munich airport (Figure 1).

The group was met at Hamburg Airport by Elisabeth Kapatsina, Education Department Manager of the German Chemical Society (GDCh), who was to be our guide, adviser, and close companion for the week. A charter bus brought the group to its hotel in downtown Bremen. After a rapid check-in, the group was off on a walking tour of the old city. One of the first sights (Figure 2) reminded us that Bremen is not far from Holland.

The walking tour of Bremen provided views of many historic sites including St. Peter's Cathedral, the 600-year-old town hall, the famous statue of the Bremen Town Musicians (Figure 3) and the many shops and restaurants between our hotel and the Weser Riverfront. That evening the delegates were welcomed by their *JungChemikerForum* (JCF) hosts at a dinner featuring classic German food and beer.

On Monday we traveled to the North Sea port city of Hamburg where we toured the new *Elbphilharmonie* concert hall (Figure 4). A tour of the harbor followed, which included views of Hamburg's massive container port. Our last stop in Hamburg was *Miniatur Wunderland*, an amazing collection of animated cityscapes and natural vistas from around the world – all reproduced with dramatic lighting and remarkable detail in miniature. The exhibits also included some other worldly features, such as the take-off and landing of a miniature Millennium Falcon.

Tuesday began with our first visit to Bremen University. What appeared to be a rocket ship from a distance proved to be the 146-meter drop tower of the Center of Applied Space Technology and Microgravity, aka, ZARM (Figure 5); one of three microgravity drop towers in the world. ZARM scientists study the effects of microgravity on chemical and biological systems. That afternoon, the group visited the Airbus facility near Bremen Airport where the wings for all the Airbus commercial jets are built. As one of our delegates noted, "From now on, I won't look at a plane without thinking of its endless number of flaps".

On Wednesday, the group returned to Bremen University for a tour of the chemistry department and graduate laboratories. We also learned about the German education system and new approaches to preparing public school chemistry teachers

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Figure 1. The NESACS delegation at Munich airport



Figure 2. Bremen's downtown windmill



Figure 3. Delegates visit the sculpture of the "Bremen Town Musicians." It's good luck to rub the donkey's nose.

NESACS – GDCh Exchange

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Figure 4. Delegates on a dock near the Hamburg Elbphilharmonie concert hall



Figure 5. Two views of ZARM
 (a) We are joined by our ZARM tour guide, Julia Tielke (seated first on the left).
 (b) The microgravity drop tower

with the goal of their better preparing their own students for higher education and professional careers in science.

In the afternoon, we traveled to one of several BASF plants in Nienburg, Germany (Figure 6). There, we observed how they make catalytic converters for diesel engines: a process involving submerging porous ceramic cylinders in suspensions of ruthenium, palladium and platinum compounds followed by heating the cylinders to bond the metals to the ceramic substrate. That evening we returned to Bremen for the opening reception of the JCF spring symposium, or *Frühjahrssymposium*, where students from around the world introduced themselves to each other and discussed chemistry while sampling local food and beer.

The symposium took place over three days and featured plenary lectures from well-known chemists from across Europe and oral and poster presentations from most of the 300 young chemists attending the conference. Two of our dele-

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Figure 6. Relaxing with our guides after tours of the BASF plant in Nienburg: (from left-to-right, standing): our two guides, Paula Ortet, Laura Cramer, Jingjia Chen, Maurice Windley, Anne Kokel, Tom Gilbert, Meredith Pomfret, Elisabeth Kapatsina (GDCh), Mariam Ismail, Nicholas Belloch, Edwin Alfonzo, and Andrew Scholte; (seated): Yonghwa Kwon, Melanie Walther (JCF, Bremen), Kathleen Sicinski, Nicole Berry, and Brady Greene.



Figure 7. NESACS delegates and their JCF hosts at the Bremen Ratskeller for their farewell dinner

The R&D Tax Credit – Catalyzing Innovation in the Chemicals Industry

By Yair Holtzman, CPA, MBA, MS, CGMA,
R&D Tax Credits & Incentives Practice Leader, Anchin Accountants and Advisors

Has your company designed, developed or produced new or improved products by experimenting with new formulations, materials or ingredients? Has your company experienced failed batch trials or experimented with scale-up processes for existing products? Has your company attempted to develop new production processes, techniques or methods to increase yields, reduce waste or otherwise improve manufacturing efficiency?

If the answer to any of these questions is yes, then there is a strong chance that your company will benefit from a Research and Development (“R&D”) tax credit study. Increasingly, business management teams are recognizing the importance of taking advantage of the R&D tax credit as a powerful incentive for remaining competitive and refueling critical innovation efforts.

The Chemicals Industry and the R&D Tax Credit Opportunity

The federal R&D tax credit is available to taxpayers who incur expenses for qualified research activities (QRAs) conducted within the US. The credit is comprised primarily of the following types of qualified research expenses (QREs): Wages paid to employees who attempt to develop or support new or improved products or processes, supplies used for new product development or experimentation, and outside contractors who perform QRAs on behalf of the taxpayer. The purpose of the R&D credit is to offset some financial burden that companies assume by undertaking high risk, high reward development projects. Many states offer similar research credits which may be claimed additionally once the federal credit has been calculated.

The chemicals industry is an essential component of the U.S. economy, driving innovation for every other sector. The industry’s approximately 10,000 firms produce more than 70,000 products, accounting for more than \$800

billion in revenue and touching 96 percent of all manufactured products.

Companies within the chemical industry frequently encounter technical issues related to new product development, compliance with safety and regulatory standards, product yield, product purity and scalability. Technical issues can also arise when companies attempt to improve their product development efficiency by incorporating new Agile methodology. Supply chain management has become increasingly important for chemical companies as they struggle to remain competitive. Research to adopt and integrate lean manufacturing, just-in-time inventory, Six Sigma and Kaizen principles to optimize manufacturing processes and methods are employee activities that may qualify for the R&D tax credit.

Examples of Qualifying Initiatives and Activities for Chemical Companies

- Designing and developing new products – particularly products that are safer, more effective, have increased functionality, better performance or longer shelf life
- Researching and testing to identify new applications for existing chemical products
- Experimenting to gain compliance with new domestic or foreign regulatory requirements
- Design and development of new testing methods or protocols
- Product modifications to increase yield or decrease reaction times
- Improving manufacturing technologies, processes or techniques Experimenting with new software or technologies for product or process improve, Anchinments
- Research and process developments for ISO Certifications

Actual Examples from Anchin’s R&D Practice

New Product Development

One of our chemical industry clients had been researching for a renewable wood byproduct to use as a new raw material in its polyurethane foam line of products. It ultimately identified that Lignin, often used in the paper industry, could now serve as a new viable raw material for the chemical industry due to its recent increase in supply and availability. There were very few commercially available lignin-based products which presented the client with a significant market opportunity. The company is now developing the first of its kind commercially available liquid lignin polyol for the polyurethane industry. While the company had considerable prior experience with propylene oxide reactions, the handling of lignin as a chemical feedstock was entirely new to their team of scientists.

New Process Development

Company set out to develop a reliable and cost-effective manufacturing process to produce Electronic grades of two new products which are sold as ALD (Atomic Layer Deposition) precursors. The challenges encountered during the project development were to create a process that would generate a cost-effective high yield and consistently deliver high enough purity to meet the quality standards. The project investigated the synthesis and purification using a new synthetic route. During the project, purity and yield were evaluated to develop a process that would reliably produce a cost-effective final product. Maximizing the yield of the process was essential for enabling manufacture of commercially viable products.

Anchin’s R&D Practice

We are skilled and experienced at identifying qualifying projects and initiatives within each area of your business and

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NESACS ACS Awards

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erated catalysis and chemistry 'on water'; for discovering the CuAAC and SuFEx click reactions." Prof. Sharpless received the Theodore William Richards Medal from NESACS in 1998 and the Nobel Prize in Chemistry in 2001.

In addition, the **James Flack Norris Award in Physical Organic Chemistry**, sponsored by the ACS Northeastern Section, was presented to **Eric V. Anslyn**, University of



Texas at Austin: "For pioneering applications of physical organic chemistry to the development of new chemical sensors." Andrew Scholte, NESACS Chair, assisted in presenting the award.

The winner of the 2007 James Flack Norris Award for Outstanding Achievement in the Teaching of Chemistry from NESACS, **Diane M. Bunce**, The Catholic University of America, received the **ACS Award for Achievement in Research for the Teaching and Learning of Chemistry**, sponsored by the ACS Exams Institute: "For her work to understand how students acquire and retain chemical knowledge, as well as her efforts to improve chemical education research."



Other NESACS members who assisted with the award presentations were **Katherine Lee**, ACS Board of Directors; **Wayne Jones**, ACS Board of Directors; **Ephraim Honig**, Strem Chemicals. ♦

A Cartoon by Sidney Harris



Drilling muds are viscous fluids of chemical mixtures used in geotechnical drilling to flush boreholes, carry debris to the surface, lubricate drills and related functions — the humor is that this sounds pretty much like a process, on a very different scale, that cosmetics users would like to achieve with pores in their skin! It is funny in part because of the absurdity of using an engineering-scale chemical mixture as a personal care product. But perhaps the real joke is that skin care products, like many products people use every day, are all mixtures of chemicals, and the perception of their safety or toxicity may have more to do with how they are marketed than their actual chemical composition.

- Shana Sturla, ETH Zürich

[Sturla is Editor-in-Chief of the ACS journal Chemical Research in Toxicology]

Changes in the Nucleus

No printed or mailed copies

By Michael P. Filosa, Nucleus Editor 2005-Present

In 2015 the future of the Nucleus was assessed. At the time it was decided to go green (and save money) by only mailing hardcopy to those who specifically asked for it by a set date. The remainder of our membership would only receive a link to a downloadable pdf. At that time 115 members asked to continue receiving a printed copy. We then proceeded for the last four years to print a limited number and send extras to local chemistry clubs in order to maintain our third class mailing permit which required us to mail 300 copies.

Printing and mailing 300 copies cost us about \$600 per month or \$2 per copy. Over the last year the Board of Publications has discussed this issue and decided this did not make sense and that we should discontinue the printing and mailing so that we could save that \$6000 per year and devote it to other needs within NESACS. Furthermore, although we have not opted for a format such as MIT's Chemformation newsletter there is a strong desire to move towards that type of newsletter sometime in the future.

Our plan starting with the Summer-September Issue is to no longer print and mail the Nucleus. Furthermore, the format of the pdf is likely to change. We will still endeavor to format the Nucleus so that it can be printed and archived. However, we will no longer have to fit content into a set number of pages with the further restriction that it be in multiples of 4 pages to allow web printing and assembly. This should lead to additional savings in formatting and layout. Conversion from color to gray scale will also no longer be necessary.

I will remain editor and Art Related Technology (Harvey Steiner) will continue to assemble and produce the Nucleus for the foreseeable future. ♦

2019 NESACS Election

Chair-Elect

Raj (SB) Rajur



Education: Ph.D. in Organic/Medicinal Chemistry, Karnataka University, Dharwad, India Postdoctoral Fellow, University of Texas Southwestern Medical Center, Dallas and Boston College, Chestnut Hill, MA

Professional Experience: Instructor, Massachusetts General Hospital, Harvard Medical School, and Shriners Burns Institute (Boston, MA). Adjunct assistant professor, Northeastern University (Boston), Group leader Millipore Corporation (Bedford, MA), Project leader, ArQule, Inc. (Woburn, MA). Founding member and co-chair of Massachusetts Biotechnology Council CRO CMO forum. Presently, Founder, Chairman and CEO CreaGen, Inc. (Woburn, MA), (Founded 2002) and C2I Accelerator (Founded 2013)

ACS/NESACS Service: Program Chair, Medicinal Chemistry Division, NESACS (2003-present); Alternate Councilor, NESACS (2005-present); NESACS Nominating Committee (2008); NESACS election committee (2014), member of Organizing Committee, NESACS, IUPAC and RSC-US-Sponsored Advances in Chemical Sciences Symposium Series (2007-present). ACS Carrier consultant (2013-present)

Membership/Honors: Recipient of Henry Hill Award 2018. Member of ACS Organic Chemistry Division, ACS Medicinal Chemistry Division, AAAS, and Indian Chemical Society. Reviewer, Journal of Medicinal Chemistry, Journal of pharmaceutical sciences (ACS journal), Reviewer, BU ignition award, In-

vited speaker at several international conferences. Serving on advisory board of many Indian cultural and community organizations.

Position Statement: It would be an honor to serve as the chair to our local section. As an entrepreneur, scientist, educator and active collaborator I would bring an impressive amount of expertise and leadership to our section.

Scientific impact: I have been serving as the program chair for the medicinal chemistry section of NESACS since 2001. In my tenure as program chair, my mission has been to bring quality drug discovery science to our May, September and December annual symposia. The purpose of bringing good pharmaceutical science to our very active local section audiences is multifaceted. 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, most importantly, our meetings are places where students from our many prestigious colleges and universities can network with professionals and learn from the symposia topics that feature cutting edge science.

Since 2001 I have been serving as an Alternate Councilor for our section. I have regularly attended the NESACS monthly meetings and contributed several new ideas and inputs to these meetings. I have also regularly represented NESACS at national ACS meetings and participated in governance meetings.

Moving forward, as Chair-Elect, I will continue to support and encourage NESACS meetings that bring top notch science to our audiences of academic and industrial professionals and students. I also plan on initiating the establishment of the Medicinal Chemistry Prize and also an exchange program with Indian universities similar to the German Exchange program.

NESACS Election

Election of Candidates

In the interest of providing maximum information and expression of opinion by the candidates for election in 2019, the Nominating Committee has prepared this section of the NUCLEUS to help broadly disseminate the information about each candidate. The included statements will also be available for review with the electronic ballot. 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 2019 election will be conducted electronically in conformance with 2019 Bylaws of the Northeastern Section. The order of candidates for each office in the election will be determined by lot. Comments regarding the election may be addressed to the Nominating Committee Chair, Mindy Levine (address on p.3). The deadline for the election will be May 31, 2019. ◇

Leadership and collaborations:

Having worked in the biotech industry for the last 20 years in various leadership positions and having established my own company CreaGen Biosciences in 2001, I recognize the value of networking and collaboration. In 2010 I helped the Massachusetts Biotechnology Council establish a CRO/CMO Forum that represents all the Contract Research Organizations in Massachusetts. As the founding member and co-chair of this division, I have worked with committee members, volunteers and industry leaders to raise funds and organize annual CRO/CMO symposia. These symposia bring more than 500 companies and leaders under one roof to exchange ideas, establish dialogue and address the needs of the pharmaceutical and biotechnology industries.

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If elected, I will bring the same enthusiasm, spirit, top quality programs and collaborative efforts to our locale section. Such programs can help our members participate actively in our monthly meetings and also network with speakers, attendees and decision makers. I would also establish collaborations between Massachusetts Biotechnology Council, Massachusetts Life Science Center and other local life science organizations to expand the collaborations and visibility of NESACS.

Finally, the history of our section is immense and impressive. I hope to add to this legacy if elected. Thank you for your consideration and support.

Secretary

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, MA 2001-2007; R&D Manager, MilliporeSigma, MA 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) 1991-2001; 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 – 2013; Meetings and Expositions Committee, Associate Member 2014, Member 2015-present.

Professional Recognition: ACS Fellow – 2015; Henry Hill Award – 2008

Statement for Secretary: During my tenure as Secretary for the NESACS, I

have worked consistently to increase the quality of communication within the section. Current Board related activity is being managed via electronic communications. This has allowed for more detailed record keeping of activities within NESACS. Meeting minutes, announcements and activities are now promptly posted on our section website (www.nesacs.org) enabling our NESACS members to be up to date on all section activity. These next few years will see an increase in electronic communication within NESACS. I continue to work closely with the NESACS Administrative Coordinator to ensure communication within the section using the Constant Contact platform.

These past seven years, I have been actively working with the NESACS Archivist on developing a long term plan for the storage and indexing of the section archives. The archives are now successfully housed at Salem State University. Complete digitalization of the Archives is the current focus of the project.

As with any volunteer organization, the organization is only as strong as the membership and those volunteer members that actively participate in the planning and execution of the various events. The strength of the NESACS lies in its membership. For the membership to be strong, communication is critical. With your support for another term as Secretary for the NESACS I will strive to increase the flow of communication between all facets of our section membership.

Trustee

Dorothy Phillips

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

Honors: American Chemical Society Fellow, Class of 2010; Shirley B. Radding Award, ACS Santa Clara Valley Section, 2008; ACS Northeastern Section Henry A. Hill Award, 2006; ACS Nashville Section, Salute to Excellence Award, 2004; Vanderbilt University Dr. Dorothy J. Wingfield Phillips Endowed Chair and Chancellor's Fac-

ulty Fellows, 2015; Distinguished Chemist Award, The New England Institute of Chemists, 2011; Waters Leadership Award for Outstanding Contributions to Waters and Waters' Community, 2008; Vanderbilt University, Dr. Dorothy Wingfield Phillips Award for Leadership, 2007; Distinguished Alumni, University of Cincinnati, McMickens College of Arts and Sciences, 1994 and Center for Women Studies, 1993.

Professional Positions (for past 10 years): Retired, Waters Corporation, 1984-13; Director, Strategic Marketing, 2006-13; Director, Clinical Marketing, 2004-06.

Service in ACS National Offices: Board of Directors, Director-at-Large, 2014-19, Councilor, ex officio, 2014-19; Executive Committee, 2016-19, Board Committee on Public Affairs & Public Relations, 2015; Board Committee on Professional & Member Relations, 2014-19, chair 2018, 2019; Board Liaison for ACS Science & Human Rights Initiatives, 2014-19; Board Standing Committee on Strategic Planning, 2016-17, Corporation Associate, Liaison, 2015-16, Consultant, 2017; Development Advisory Board, 2017-19; Council Policy Committee, 2008-13; Committee on Committees, 2001-06; Committee on Divisional Activities, 2007-08; Committee on International Activities, Committee Associate, 1998; Committee on Membership Affairs, 1997-2000, Committee Associate, 1996; Undergraduate Programs Advisory Board, 2013; Presidential Task Force, "Vision 2025: Helping ACS Members Thrive in the Global Chemistry Enterprise", 2012.

Service in ACS Offices: *Northeastern Section:* Councilor, 1995-13; Chair, 1993; Chair-Elect and Program Chair, 1992; Project SEED, Committee Chair, 1994-95; Nominating Committee, Chair, 1994; Centennial Celebration, Co-Chair, 1998; Awards Committee, Chair, 2009-19; Trustee 2014-19, Chair, 2016. *Analytical Chemistry Division:* Chair, 2009-10; Program Chair, 2008-09, Chair-Elect, 2007-08, Immediate Past-Chair, 2008-09, Fundraising Committee Chair, 2012-13.

Member (current): Member ACS since 1973. National Organization for

the Professional Advancement of Black Chemists and Chemical Engineers; Sigma Xi; Alpha Kappa Alpha Sorority, Inc. *ACS Divisions:* Agrochemicals; American Association of Chemistry Teachers; Analytical Chemistry; Biological Chemistry; and Business Development and Management.

Related Activities: African-American Women Chemists in the Modern Era, J.E. Brown, Chapter 2.1 pp 5-23; 2018 Spearheaded Waters sponsorship of the Frank H. Field and Joe L. Franklin Award for Outstanding Achievements in Mass Spectrometry and the ACS Award in Separation Science and Technology; Keynote or invited speaker at the 15th International Conference of the Indian Society of Chemists & Biologists, Rajkot, India, 2011; The International Conference on Chemistry for Mankind, Innovative Ideas in Life Sciences, Nagpur, India, 2011; Third Annual PepCon Conference, Beijing, China, 2010; Co-editor and chapter co-author in ACS Symposium Series 1288. Responsible Conduct in Chemistry Research and Practice: Global Perspective, 2019.

Statement: I am a candidate for a third term on the ACS Northeastern Section Board of Trustees; I would appreciate your vote. During my first term in 2016 I served as chair of the Trustees. While serving on this board I acquired knowledge about NESACS' investment portfolio and its management. My expertise also increased due to the fiduciary responsibility of the ACS Board of Directors; I am in my sixth years as a Director-at-Large on the ACS Board. During my 38-year industrial career I acquired skills and expertise in financial management as a director at Waters Corporation. Combining the expertise gained in industry and in ACS I am qualified to be re-elected for a third term as a Trustee. If re-elected, I promise to continue to work actively with the other Trustees, the Treasurer and our Financial Advisor to manage NESACS funds to address budget and new programs requests. Thank you for your vote.

Councilor/Alternate Councilor

Lisa A. Marcaurelle

Education: B.A. Chemistry 1997, College of the Holy Cross; Ph.D. Chemistry 2001, University of California, Berkeley; Postdoctoral Fellow, Massachusetts Institute of Technology 2001-2002

Professional Career: Director, Chemistry, GlaxoSmithKline 2018-present; Senior Director, Chemistry, Warp Drive Bio 2016-2018; Vice President, Discovery Chemistry, H3 Biomedicine 2011-2016; Director, Chemistry, Broad Institute 2007-2011; Lead Senior Scientist/Senior Scientist/Scientist, Infinity Pharmaceuticals 2002-2007

ACS Service: 2019 Chair-Elect, Division of Organic Chemistry (DOC), National Organic Symposium Executive Officer, DOC 2017-2019; Member-At-Large, DOC 2015-2017; DOC Communications Committee, Chair, 2015-2017; DOC SURF Committee, Member 2015-present; DOC Awards Committee, Member 2015; Councilor, Northeastern Section of the ACS (NESACS) 2017-present; NESACS Medicinal Chemistry Symposium Planning Committee, 2015-2016, 2019; Board Member of ACS Committee on the Petroleum Research Fund 2015-present; ACS Central Science, Editorial Advisory Board Member, 2015-present; Member of ACS 1996-present (ORGN and MEDI Divisions); **Other Professional Service:** Gordon Research Conference on High-Throughput Chemistry & Chemical Biology, Chair 2013, Vice Chair 2011

Honors and Awards: ACS Women Chemists Committee Rising Star Award 2013; DOC Young Investigator Symposium 2011; ACS DOC Graduate Fellowship 2000; Roche Bioscience Graduate Research Fellowship 1999; American Institute of Chemists Foundation Award 1997; Phi Beta Kappa 1996; **Research Interests:** Drug discovery, chemical technologies, chemical biology, high-throughput screening, medicinal chemistry, natural products.

Position statement: I am honored to be considered for re-election as a Councilor for NESACS this year. My passion

for connecting chemists is what continues to inspire me to participate in ACS governance at both a local and national level. I volunteer for the ACS as I am committed to ensuring we continue to provide chemists with ample opportunities to come together to share science and network. In the Boston area we are fortunate to have a vibrant scientific community which facilitates quality scientific programming. While our events attract many local chemists, I believe there is an opportunity for even broader engagement, including attracting new volunteers, especially as new companies continue to move to the area. It is at these NESACS-sponsored events that we learn what is important to our colleagues to ensure the opinions of our local section are well-represented at a national level. As a Councilor I would continue to raise awareness of these valuable events to further connect the community to ACS and recruit new volunteers.

Mary Jane Shultz

Education: B.S. (Honors) 1970, U. Wis.; Ph.D., 1975, MIT.

Positions: Visiting Professor, Chinese Academy of Sciences, 2013-to date; Chair, Department of Chemistry, Tufts University, 2000-2006; Professor (Assistant, Associate, Full), Tufts University, 1979-to date; Visiting Professor, M.I.T., 1985-87; Assistant Professor, University of Massachusetts, Boston, 1978-79; Research Associate/Lecturer, Boston College, 1977-78; Research Fellow, Harvard University, 1976-77; Radcliffe Fellow, 1976-77; Postdoctoral Associate, U. Calif., Berkeley, 1975-76.

ACS Service: Women's Chemists Committee, 2012-to date; Alternate Councilor, Physical Chemistry Division, 2010-2013; Executive Committee, Physical Chemistry Division, 2010-2013; Multidisciplinary Program Planning Committee (211-212).

NESACS Service: Richards Award Committee, 2015-2019; Councilor Northeastern Section, 2011-2019; Chair, Norris Award Committee, 2011-2014, 1988-1991, Board of Directors, 2009-to date.

Memberships: American Chemical

Society, Division memberships: 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).

Honors: AAAS Fellow; ACS Fellow, Radcliffe Fellow

Position statement: It seems that diversity and inclusion are in the news daily. Many studies show that corporate profits increase, workplaces are more fulfilling, and students thrive when more voices are included. It is my firm belief that all voices are needed if the World is to meet the chemical challenges that face it; ranging from human health to global warming. At the local level, I have actively campaigned for inclusion while chairing (three times) the James Flack Norris Award for Outstanding Achievement in the Teaching of Chemistry, promoting gender, racial and national diversity among the winners.

At the national level, I am a member of the Women Chemists Committee (WCC). As a member of WCC, I helped launch the Rising Star Award for mid-career women and am now managing the awards, recognition, and retention Project Group. Our goal is to showcase the success of women in the chemical enterprise. One of our recent projects was catalyzing an issue of the Journal of Physical Chemistry recognizing the 150th birthday of Marie Currie with contributions from 66 female editors and officers of the physical division, symbolizing the 66 years of Marie Currie's life. Another project is the Mom the Chemistry Professor book filled with stories of the varied paths of women Professors.

As a councilor, I am also a member of the NESACS board. Our section is one of the largest in the society having an active and accomplished membership. I am honored to be selected to run for councilor; if elected I will continue to represent our interests at both the local and National level.

As a chemist, I am intensely interested in interactions at soft and nanoparticle interfaces; interactions that shape our bodies, our environment, and indeed the Universe. I have invented instru-

ments and techniques in pursuit of generating a molecular-level picture of these interfaces. "Seeing" at the molecular level enables manipulation at the macroscopic level to solve challenges still facing the world.

Jens Breffke

Education: Diplom, Physical Chemistry, Humboldt-University of Berlin (2008); Visiting Research Scholar, Universidad de Santiago de Compostela (2006-2007); Ph.D., Physical Chemistry, The Pennsylvania State University (2014); Postdoctoral Fellow, National Institute of Standards and Technology (2014-2017)

Professional Experience: Application Specialist, Boston Electronics Corporation (2017 – present)

Awards: IUPAC Young Observer, National Academy of Sciences (2017); Global Innovation Award, ACS Office of International Activities (2012 & 2015); Innovative Project Grant, ACS Local Section Activities Committee (2011 & 2015); Seed Grant, ACS Corporation Associates (2011 & 2015); ACS Leadership Development Award (2013); Harry and Catherine Dalalian Travel Fellowship (2009 & 2011); Evonik Industries Thesis Research Scholarship (2008); Leonardo da Vinci II Scholarship, German Academic Exchange Service (DAAD) (2007)

Society Service: Chair, ACS International Activities Committee (IAC) (2018 – present); Associate, ACS IAC (2016); ACS Younger Chemists Committee (YCC) International Presence Working Group Leader (2013-2015); President, PA Centre County Homebrew Club (2012-2014); Member, ACS YCC (2010-2015); Board Member, European Young Chemists Network (EYCN); Chair, JungChemikerForum (JCF), German Chemical Society (GDCh) (2006-2007)

Personal Statement: I moved to the Boston area in 2017 but have been acquainted with NESACS for much longer. As chair of the German Jung-ChemikerForum (JCF) I came in 2007 as part of the German Exchange (GEX) program and I have been an advocate of this program ever since. During my term

servicing the national Younger Chemists Committee (YCC) I founded a nationwide equivalent program Younger Chemists Crossing Borders (YCCB) program which is ongoing till this day, with credit always given to NESACS. As chair of the ACS International Activities Committee (IAC) and together with the national YCC we're advocating for the establishment of this exchange program as an ACS Award and funded by the Society, continuing the vision of many NESACS members. I assisted and supported NESACS activities throughout my national committee appointments and hope you will give me the opportunity to represent this great local section also at ACS Council as a NESACS Councilor. Thank you for your vote!

Kap-Sun Yeung

Education: B.Sc. (1st Class Honors), The Chinese University of Hong Kong, 1990; Ph.D. University of Cambridge, UK, 1994; Postdoctoral Fellow, Scripps Research Institute, La Jolla, CA, 1995-1996.

Professional Experience: Discovery Chemistry, Bristol-Myers Squibb (joined BMS, Wallingford, CT in 1996; relocated to BMS, Cambridge, MA in November, 2019), current position: Senior Principal Scientist.

ACS Service: Committee on International Activities (Member 2019-2021; Associate Member 2016-2018), The first Asia Pacific International Chapters Conference, Scientific Program Committee (Member 2016-2017); ACS Northeast Regional Meeting (NERM 2013), New Haven, CT (Program Co-Chair, Organizing Committee 2011-2013); New Haven Local Section, Councilor, Board Member (2016-2018), Alternate Councilor, Board Member (2015), Bylaws Update Chair (2016-2018). Organizer/co-organizer for fifteen MEDI Division sessions at ACS National Meetings, including two MEDI-sponsored sessions at EFMC (Germany) and AFMC (South Korea) symposiums (2009 to present).

NESACS Service: Organizing Committee Chair, NESACS Medicinal Chemistry Symposium, February 2019,

at BMS Cambridge, in collaboration with NESACS Medicinal Chemistry group.

Statement: As a former councilor for the New Haven Section, I led the efforts that successfully updated the 15-year old Bylaws of the Section. I was the program co-chair for the 2013 NERM, a meeting that exceeded expectation in scientific abstracts and meeting attendees. These are two contributions to the New Haven Section that I am particularly proud of. I am also pleased that I was part of an effort in the petition for a Bylaw change to remove certain restrictions on ACS International Chapters, and that was approved in the Council meeting in Boston last year. Being a newcomer to the Northeastern Section, I will look for opportunities where I can help the most to promote the growth of the Section and to connect the members to organizations within and outside of ACS. Through my participation in ACS both at Local and National levels, I believe that in ACS, every opinion counts regardless of one's personal and professional background, and every volunteer effort is valued no matter it is small or big. I always look for diversity, and I encourage you to volunteer in ACS activities. I would be honored to be your councilor to represent your voice in ACS.

Sofia Santos

Education: Master's in Pharmaceutical Sciences, 2011, University of Lisbon- Faculty of Pharmacy, Lisbon, Portugal; Ph. D. in Pharmaceutical Sciences with specialty in Medicinal Chemistry, 2016, University of Lisbon-Faculty of Pharmacy, Lisbon, Portugal/Massachusetts General Hospital, Boston-Massachusetts.

Professional Experience: Technical Specialist at the IP Law firm Finnegan, Henderson, Farabow, Garrett & Dunner LLP, Boston 2018. Research Fellow at Harvard Medical School and Massachusetts General Hospital, Boston, Massachusetts. PhD researcher at Center for Systems Biology, 2016, Massachusetts General Hospital, Boston, Massachusetts.

Honors/Professional Activity: Fun-

dação para a Ciência e Tecnologia, Research Predoctoral Fellowship, 2012-2016; Merck Women in Chemistry Symposium, Best Poster Award, 2015.

ACS Service: 2016-2017 Career Chair in the local Younger Chemists Committee (YCC); 2017-2019 Alternate Councilor of NESACS; Member of Organic and Medicinal Chemistry Divisions of the ACS; 2018-2020 Councilor of NESACS; Active member of the executive board in the local Younger Chemists Committee (YCC) since 2015. Active member of the executive board in the Division of Chemistry and the Law since 2018.

Memberships: American Chemical Society (ACS), New England Section of the American Chemical Society (NESACS), Younger Chemists Committee (YCC), Portuguese Chemical Society (SPQ), Massachusetts General Hospital Postdoc Association (MGPA), Association for Women in Science (AWIS), Massachusetts Chapter of Association for Women in Science (MassAWIS), Portuguese Board of Pharmacists.

Statement: It would be an honor to serve as a NESACS Councilor. If elected, I would bring my expertise as a scientist and pharmacist to this role and apply my hands-on experiences as a YCC board member to support our local section. My areas of focus are: 1) to increase engagement and participation among NESACS members, especially younger chemists, in our local community, through support of diverse scientific talks, better communication of volunteer opportunities, and special events; 2) to provide career-oriented programming and networking opportunities for the NESACS community; and 3) to support novel technical and social programming for NESACS members to offer alternative ways for traditional NESACS members to become involved.

Thank you for your support.

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); University of California, San Diego

(1998-1999).

Professional Experience: Fish & Richardson, P.C., Technology Specialist (2018-present); RSM, Teacher (2013-2018); National Science Foundation, Reviewer (2012); Thermedical, Inc. (2012); Arena Pharmaceuticals (1999-2009); Senior Scientist, Medicinal Chemistry (2006-2009); Research Scientist (1999-2006).

ACS Service: Member since 1998; *ACS Divisions:* Organic and Medicinal Chemistry, Chemistry and the Law; ACS Council (2004-Present); Presidential Task Force "Vision 2025", Member (2012-2013); ACS National Award Selection Committee, Member (2011-2013); Committee on Chemistry and Public Affairs, Associate (2013), Committee on Economic and Professional Affairs (CEPA), Member (2007-2012), CEPA Liaison to Committee on Minority Affairs (2008-2012); CEPA Liaison to Committee on International Activities (2011-2012); ACS Legislative Action Network, Member (2006-Present); CEPA Task Force on Globalization (2008-2009); *San Diego Section:* Executive Board Member (2000-2012), Councilor (2004-2012), Alternate Councilor (2000-2003); Government Affairs Committee, Chair (2007-2010); *Western Regional Meeting:* Invited speaker, Women Chemist Symposium (2006); ACS Host Local Section Volunteer (2007).

NESACS Service: Board of Directors (2013-Present); Chair, NESACS Host Local Section Committee, ACS National Meeting, Boston, MA (2015); Alternate Councilor (2013-Present), Government Affairs Committee (2010-Present), STEM Outreach, Science Fairs (2011-Present).

Awards and Honors: ACS Salutes to Excellence Recipient, CEPA (2012), ACS ChemLuminary Award - ACS President's Award for Local Section Government Affairs (2010); American Chemical Society Certificate of Achievement, ACS San Diego Section (2008); Outstanding Medicinal Chemistry Team Award, Arena Pharmaceuticals (2007); Postdoctoral 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).

Statement: I am honored to be nominated to the position of Councilor for the Northeastern Section. I have over fifteen years of ACS volunteer and leadership experience on local and national level, combined with ten years of bi-pharmaceutical industry experience. I have been an active NESACS member since 2010 and had a privilege of serving as an Alternate Councilor and a member of the Board of Directors for the past seven years. I chaired the NESACS Host Local Section Committee, helping to make the 2015 Fall ACS National Meeting in Boston a huge success, hosting over 13,000 attendees. In this role, I had the opportunity to recruit and engage many NESACS members from academia and industry, several of them first time volunteers. As a passionate advocate for STEM education and research, I have shared my professional experience with students, teachers and younger chemists, through classroom visits, science fairs or career development symposia, helping our members navigate career changes and explore new ways to thrive in the global chemistry enterprise. As a Councilor, I will use this experience to continue fostering communication and collaboration between ACS members in industry, academia and government; our younger and senior chemists; our local section and national ACS, work with NESACS leadership to develop programs that will help engage and benefit our diverse membership.

Thank you for your vote!

Tom Gilbert

Academic Record: Clarkson College of Technology, B.S., 1968; Massachusetts Institute of Technology, Ph.D., 1971.

Honors: ACS Fellow, 2011; Henry A. Hill Memorial Award, 2010; Outstanding Teacher of First Year Students Award, College of Engineering, Northeastern University, 2010, 2013, 2015; Excellence in Teaching Award, Northeastern University, 1999.

Professional Positions (for past 10

years): Northeastern University, Acting Chair, Department of Chemistry and Chemical Biology, 2015–16; Academic Director, Professional Science Masters Programs in Biotechnology, 2009-11.

Service in ACS National Offices: Membership Affairs Committee (MAC), member, 2017 to date; Board of Directors, Director, District I, 2013-15; Council Policy Committee, 2007-12, Vice-Chair, 2008-10; Long-Range Planning Subcommittee, Chair, 2008-12; Committee on Nominations and Elections, 2001-06, Vice-Chair, 2004-06; Committee on Meetings and Expositions, 1995-2000, Chair, 2000; Task Force on Web-Based Resources for Volunteers, Chair, 2015-2016; ACS Network Task Force, Chair, 2014.

Service in ACS Offices: Member ACS since 1968. *Northeastern Section:* Councilor, 1990-2012 and 2017 to date; Chair, 1988; Chair-Elect, 1987; NESACS-GDCh Student Exchange Program Co-Chair, 2016 – present; Nominations Committee, 2016 – 2017, Chair, 1989; Long-Range Planning Committee Chair, 1989. *Northeast Regional Meeting:* General Chair, 1993. *Division of Analytical Chemistry: 46th Annual Summer Symposium on Analytical Chemistry*, Co-Chair Organizing Committee, 1993.

Member: *ACS Divisions:* Analytical Chemistry and Chemical Education.

Related Activities: International Symposia on High Performance Capillary Electrophoresis, Vice-Chair Organizing Committees, 1993-96, 1998, and 1999; Published 45 journal articles and two general chemistry textbooks (in their 5th and 2nd editions), holds three patents.

Statement: If elected to Council I will focus my energy in two areas:

Increase the value of ACS membership I will work with the other members of MAC and ACS staff to launch dues categories and benefits packages that will make ACS membership more valuable to a broad cross section of chemistry professionals including student members, recent graduates just entering the workforce, early and mid-career professionals, chemists who have transitioned into management and administrative roles, those entrepreneur-

ial chemists launching their own businesses, and members approaching retirement. New standing rules adopted by ACS Council at the Spring, 2019 national meeting now enables MAC and ACS staff to effectively address both sides of the membership cost-benefit equation.

Academic-industrial partnerships in education ACS is currently exploring ways to better align undergraduate and graduate education in chemistry to the growing interdisciplinary nature of many of the new jobs in the chemical sciences. Recent graduates need a broader base of knowledge and skills and cross-disciplinary experiences if they are to find employment in today's chemical enterprise. An effective and efficient way to provide this preparation is through partnerships between academic and industrial chemists that include paid industrial internships and cooperative education experiences. A number of universities (including mine) offer this blend of academic and experiential education and their students and their corporate partners have reaped the benefits. ACS, with its strong industrial base and ties large corporations and small chemistry businesses, is uniquely positioned to serve as a catalyst in launching a national experiential education program in the chemistry.

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, MA 2001-2007; R&D Manager, MilliporeSigma, MA 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)

1991-2001; 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 – 2013; Meetings and Expositions Committee, Associate Member 2014, Member 2015-present.

Professional Recognition: ACS Fellow – 2015; Henry Hill Award – 2008

Statement: The Northeastern Section of the American Chemical Society has over 6400 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.

Currently, I am serving on the Meetings and Expositions Committee. This committee is charged with oversight of the National and Regional ACS Meetings, including the Technical Program, Site Selection, and Exposition. This committee has exposed me a better understanding of ACS Operations and how best to integrate NESACS activities with the National ACS activities. For example, at the August 2015 and 2018 ACS meetings in Boston, I was able to have a link to The Nucleus added to the ACS Mobile Application. This saved the section the cost of printing and circulating over 5,000 copies of the Nucleus at the National Meeting.

As your local elected representative to the National ACS Council I would 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, BS, 1993; Virginia Commonwealth University,

MS, 2003; Boston University, MA, 2008.

Professional Experience: Euretost, Director of Business Development, North America, 2018-present; WuXi AppTec, Key Account Manager, 2017-2018; Conditas Biotechnology Group, Founder, 2010-2018; BetaStem Therapeutics, VP Development, 2013-2015; CreaGen Biosciences, Business Development Manager, 2009-2010; Novartis, SA II, 2008-2009; Adenosine Therapeutics, 2002-2003; Insmid, Research Associate, 1999-2002.

Honors/Awards: Member, Alpha Chi Sigma; 1990-present; Chemluminary Award to NSYCC, (2007); Delegate, German Exchange, Konstanz (2006); Top Ten Poster, JCF-Fruehjahrssymposium, Konstanz, Germany (2006).

Service in NESACS offices: NESACS Nominations Chair; NESACS Chair of (Constitution and) Bylaws Committee 2017-present; Chem Bio Committee Co-Chair, 2017-present; NESACS Chair 2017, NESACS Program Chair, 2016; Chair, Exchange Program to Germany, 2015-2017; Facilitator Kiel (2016) and Jena (2014); Alternate Councilor, 2014-2017, Councilor, 2011-2013, 2018-2019; 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; Black History Month Panel, Joint Meeting with NOBCCHE, FEB-2016; Meeting at Takeda featuring George Whitesides, MAR-2016; Education Meeting at A123 featuring Luke Roberson (NASA), MAY-2016.

Statement: It has been an honor to volunteer as Councilor from NESACS and for the members of 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 continues to be an excellent way to engage chemists from across the nation and around the world. At each Spring National Meeting, the Council

votes on which nominees for President will make the ballot. At the past meeting, we also voted to revamp and to make easier changes to the constitution, bylaws, and standing rules. This is a double-edged sword, and I’d like to know your thoughts.

If elected as Councilor, I will continue to network 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. My path into NESACS came from the German Exchange Program and one of the great former Chairs of NESACS. I encourage Younger Chemists to be involved in NESACS. For me, NESACS service has helped me through each of my career transitions. I am indebted to the section. As a councilor and alternate councilor for the past eight years, I have taken each opportunity to travel to the national meetings that I have been given. From these council meetings and presence at National Meetings, I have been able to secure numerous speakers for the benefit of NESACS members and the greater Boston community. I will continue these efforts with your support.

As a councilor, I will accurately represent the interests of NESACS at every national meeting of the American Chemical Society. As a councilor, I will work with the section to increase participation in NESACS events, since these events can certainly aid the development of multiple career types in the chemical sciences. 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. Let’s discuss how NESACS and the national ACS might help each of us.

Mary 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 (1966)

Professional Experience: Haartz Corporation (1999 – present); Polaroid Corporation (1982 – 1998); University of Zurich, Switzerland (1979 – 1981); University of Constance, Germany (1977 – 1879)

NESACS Service: Member since 1977. Continuing Education Committee (1998 – 2008), Richards Medal Committee (2000 – 2004), Norris Award Committee (2014 – 2018), Alternative Councilor (2005 – 2007 and 2013 – present), Board of Publications (2004 – present)

Statement: I am proud to be a member of the American Chemical Society and am deeply committed to the Northeastern Section. It has been an honor to serve on multiple committees. I am currently an Alternate Councilor and serve of the Board of Publications. I would appreciate your vote to serve our section as Councilor.

Malika Jeffries-EL

Malika Jeffries-EL is an Associate Professor at Boston University with appointments in Chemistry and Materials Science and Engineering. She also serves as the director of the graduate program in Chemistry.

Education: B.A. Chem, Wellesley College; Ph. D., The George Washington University; Postdoctoral Fellow, Carnegie Mellon University with R.D. McCullough

Professional Experience: Associate Professor, Department of Chemistry and Division of Materials Science and Engineering, Boston University, 2016 – present; Martin Luther King Jr. Visiting Professor MIT 2015; Associate Professor of Chemistry, Iowa State University, 2012 – 2016; Assistant Professor of Chemistry, Iowa State University, 2005 – 2012;

ACS Service: Associate, Women Chemistry Committee 2019 – ; Division of Organic Chemistry Alternate Councilor 2017 – 2018; Division of Organic Chemistry Member-at-large 2014 – 2017; Program Chair, Division of Polymer Chemistry 2014 – 2016; Councilor – Ames Local Section 2011 – 2015; Editorial Advisory Board, *Macromolecules*, 2012 – 2014; advisory board for

the ACS Women Chemist of Color Initiative 2010 – present; Editorial Advisory Board, *Chemical and Engineering News*, 2010 – 2012; ACS Society Committee on Education (SocEd) 2009 – 2014; ACS Younger Chemist Committee (YCC) 2002 – 2009.

NESACS Services: ACS Fellows canvassing committee 2019 –

Relevant Memberships: Member Royal Society of Chemistry; Associate Editor, *Journal of Materials Chemistry C*, 2013-present.

Honors: ACS Fellow, Stanley C. Israel Regional Award for Advancing Diversity in the Chemical Sciences 2015; Iota Sigma Pi Agnes Fay Morgan Award 2014; ACS Women Chemist Committee Rising Star award 2012; the Lloyd Ferguson Award from the National Organization of Black Chemist and Chemical Engineers 2009; NSF CAREER award 2009; 3M untenured faculty award 2008.

Research interests: organic synthesis and organic electronics.

Personal statement: Prior to moving to Boston, I have had a solid track record of service to the ACS at the National and local level. I believe that my previous experience has prepared me to be of service to the Northeastern Section in many ways. I am active on the Women Chemists Committee, and would like to help develop local activities for the professional development of our female members. As your councilor, I will work to protect the interest of NESACS and also increase the prominence and visibility of its members. I have previously served on canvassing and selection committees for ACS national awards and thus think that I can be helpful in that regard. I have also been a staunch supporter of diversity and if elected, I will work hard to encourage participation of women and minorities in our chapters programs and also develop new ones targeting younger members.

Ashis Saha

Education: M.Sc. Chemistry IIT Kanpur, India, Ph.D. Chemistry Univ. Michigan, Ann Arbor, Post-doctoral fellow: University of California, Berkeley

Professional Experience: Medicinal Chemist, Co-founder & CSO Dover Lifesciences, Boston 2015-to date. VP, Discovery Research TCG Lifesciences, Boston & Kolkata, India 2007- 2015; Executive Director, Predix, Lexington, MA 2005-06; Director, Praecis, Waltham, MA 2004-05; Group Leader, Viropharma, Exton, PA 2001-2004; Principal Scientist, Johnson & Johnson (Janssen), Spring House, PA 1995-2000.

Chemistry & NESACS Service: ACS Member since 1983. POCC (Philadelphia Organic Chemistry Club, Univ of Pennsylvania): Chair Elect & Chair 2000-2002. Seminar Committee Chair: Janssen. NESACS: Organizing committee member, Process Chemistry, 2008-10. Treasurer, 2017-to date.

Statement: It is an honor to be an active member of the Northeastern Section of the American Chemical Society. As a NESACS alternate Councilor for last year, I had the opportunity to learn the value of member service to the National organization. Serving NESACS as Treasurer for past three years, I focused my energy on two areas: 1) efficient online tools for streamlined financial/accounting practices; and 2) improving our communication with our members. I worked to establish online banking practices for outgoing payments for improved efficiency. Our bookkeeping practices were improved with my identification and hiring of a professional bookkeeper for everyday needs. I have helped facilitate fundraising and expense tracking for all of the four major NESACS chemistry symposia. Working with the board and NESACS committee chairs/members I aim to continue delivering practices that are the best in class and serve members in most efficient manner. With your support, I would continue my work in NESACS, particularly in the area of finance but also beyond. At the ACS, I would like to serve in the budget and finance committee among a few other areas such as committee of professional training. With your gracious vote, I hope to serve as councilor allowing me to contribute with my experience and time. Thanks you!

Director-at-Large

Mark Tebbe

Education: B.S. (Chemistry) University of Notre Dame; Ph.D. (Organic Chemistry) Stanford University

Professional Experience: Eli Lilly (1994-2010), Head of chemistry, Lilly-Hamburg (2000-2003), Head of Chemistry, Lilly-Research Triangle Park (2003-2004), Head – Global Discovery Chemistry Operations (2004-2006), Sr. Research Advisor (2007-2010); Forma Therapeutics (2010-2013), VP Medicinal and Computational Chemistry; Quartet Medicine (2014-2017), Head of Drug Discovery; Atlas Venture (2017-present) Entrepreneur-in-residence; Quench Bio (2018-present), Chief Technology Officer

American Chemical Society: Member, 1986-present

NESACS: Member, 2010-present; Fund-raising Committee Chair, 2013-2016; Councilor, 2015-2017; Norris Award Committee Member 2016-2018; Norris Award Chair 2017 and 2018

Statement: I have been involved with NESACS for many years now and looking for every increasing roles of responsibility and impact with this organization. I am a very diligent and reliable member of NESACS. I work hard at any position I am given. I will be especially honored to be elected to this position and entrusted with serving the larger community. I feel that the Director-at-Large position will allow me to influence the greater organization and continue to serve the chemistry community, share experiences and learn more about the ACS and NESACS in the process.

David Harris

Education: B.S., Chemistry, Boston College, 1976; Ph.D. Organic Chemistry, Brandeis University, 1982; Post-doctoral Research Associate, Massachusetts Institute of Technology, (1982-1984).

Professional Experience: 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 – 2016) Sanofi/Genzyme, Head of Pre-Development Sciences US Pharmaceutical Development Platform, & Waltham Site Head (2016 – present) Sanofi.

NESACS Service: Director at Large 2011 to present; Member German Exchange Organizing Committee 2012; Medicinal Chemistry Group affiliation 2012 to 2016.

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

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 have led successful teams in both discovery and development areas. I am a co-inventor in three technologically distinct areas that include one product now on the market and two candidates that reached the clinic. They are an oral enzyme inhibitor marketed for Gaucher disease type 1 (eliglustat/Cerdelga), a polymeric phosphate binder for renal disease, and a cationic lipid gene transfer agent for cystic fibrosis. My team and I also led the development of Cerdelga through to commercial launch. In my current role at Sanofi I lead the Synthesis Development, Early Formulation Development, and Analytical R&D organizations, as well as lead the Sanofi Waltham Site. Major functions of NESACS include representing the interests of its members and providing opportunities for members to interact, network, and disseminate information. Many of the most important advances come at the intersection of scientific disciplines, throughout my professional career I have

actively promoted strong collaborations between biologists, pharmacists, and chemists of all sub-disciplines. The ACS and NESACS need to continue to evolve and collaborate with those on chemistry's frontiers for the benefit of our members and society in general. 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 belief in the power of collaboration, 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 promote NESACS visibility and increase industrial participation at NESACS events (for example by hosting events at our Waltham site as done annually since 2012) and to support the health and growth of NESACS.

Michael P. Filosa

Education: B. Sc., Massachusetts Institute of Technology (1974), Ph.D., Harvard University, (1980), Babson School of Executive Education (1988).

Honors: Phi Beta Kappa, Phi Lambda Upsilon, Merck Award (1974), Dreyfus Foundation Scholar (1975), NESACS Henry A. Hill Award (2012).

Experience: Polaroid Corporation (1979-2005); Scientist, Group Leader, Senior Manager of Chemistry; ZINK Imaging, Inc.; Senior Manager of Chemistry (2005-2013); Performance Indicator, LLC. Chemistry Manager (2014-2018); Bambu Vault (2018-Present).

NESACS and ACS Service: ACS Member since 1976. Alternate Councilor (1997-1999; 2005-2008), Councilor (2009-2019); Director-at-Large (2017-2019); Editor of the *Nucleus* (2005-present). Board of Publications (2005-Present), Heyn Award Committee (2006-Present). Nominating Committee (2010, 2013, 2016, 2019). Local Organizing Committee for the 2007, 2010, 2013 Boston ACS National Meetings. Committee on Chemical Abstracts Serv-

ice (CCAS) Associate Member (2010) Full Committee Member (2011-19).

Statement: I would be honored to serve for three more years as Director-at-Large. I have been very involved with NESACS as editor of the Nucleus and as a Councilor since 2009. I will support the NESACS Board in its initiatives and continue to work for NESACS and the ACS at the National level. Thank you for your votes.

Nominating Committee

Joshua Sacher

Education: Joshua received his Ph.D. in Chemistry from Penn State University in 2012, working under the direction of Steven Weinreb. Prior to that, he received his B.S. in Biochemistry from the University of Delaware, where he performed research with Douglass Taber.

Professional Experience: Since 2014, Joshua has worked at the Broad Institute of MIT and Harvard as part of both the medicinal chemistry and informatics groups. Before joining Broad, he performed postdoctoral research with Peter Wipf at the University of Pittsburgh. Outside of chemistry, Joshua has also served as a teaching fellow for computer science courses at Harvard College, Business School, and Extension School since 2018.

NESACS Service: Chair, Project SEED committee (2017-Present); Alternate Councilor (2018-Present)

Memberships: ACS (MEDI, COMP); AAAS

Brian D'Amico

Education: B.S. Chemistry, Northeastern University (2015)

Professional Experience: Senior Laboratory Technician, Department of Chemistry & Chemical Biology, Northeastern University (2019-Present); Laboratory Technician, Department of Chemistry & Chemical Biology, Northeastern University (2014-2019); Chemistry Supervisor & Teaching Assistant, Department of Chemistry & Chemical Biology, Northeastern University (2013-2014), CMC Co-op, Idenix Pharmaceuticals (2013), Post Selection Chemistry Co-op, GlaxoSmithKline (2012)

Memberships: American Chemical Society (2010-Present), Boy Scouts of America (Youth Member: 1997-2009, Adult Leader 2009-Present)

ACS & NESACS Service: Executive Board Member, Northeastern Section Younger Chemists Committee (2015-Present); Committee Chair, Northeastern Section Membership Committee (2016-Present); Member, Northeastern Section Bylaws Committee (2017-Present), Member, Northeastern Section Nominating Committee (2019), Member, Northeastern Section Government Affairs Committee (2016-Present); Northeast Student Chemistry Research Conference Organizing Committee (2015, 2016, 2017, 2018, 2019); Logistics Coordinator, 2021 Northeast Regional Meeting

Elizabeth Draganova

Education: B.S. Biochemistry, Kennesaw State University, GA (2011); Ph.D. Chemistry, Georgia State University, GA (2016); Postdoctoral Scholar, Tufts University, MA (2016-present).

ACS Service: ACS Society on Chemical Education (SOCED) Task Force (2019 – present); ACS Graduate Executive Advisory Board (GEAB) Member (2018 – present); ACS Atlanta Local Section Member (2014 – 2016) – assisted in re-establishing the Women's Chemist Committee (WCC); ACS Biological Chemistry Division Member (2012 – present); ACS Member (2012 – present).

NESACS Service: NSYCC Chair (2018 – present); co-wrote the Local Section Members Engaging Through Technology (METT) Grant – funded.

Relevant Memberships: AAAS, Protein Society, and AWIS.

Honors: F32 National Research Service Award Postdoctoral Fellowship, NIH, (2017 – present); Training in Education and Critical Research Skills (TEACRS) Postdoctoral Affiliate, NIH/NIGMS K12 Award, (2017 – present); Natalie V. Zucker Research Grant, Tufts University (2017); Collaborative Research Travel Grant, Burroughs Wellcome Fund, (2017); Graduate Teaching Award, Georgia State University (2016); Younger Chemist Leadership Develop-

ment Award, National YCC, ACS (2016); Poster Award, Molecular Basis of Disease Research Day, Georgia State University (2015); Student Leader of the Year Award Nominee, Georgia State University (2015); Graduate Teaching Award, Georgia State University, (2015); Outstanding Professional Service, Georgia State University (2014); Molecular Basis of Disease Fellowship, Georgia State University (2012 – 2016); Graduate Teaching Award, Georgia State University, (2012); National Chemical Honors Society, Kennesaw State University, (2010 – 2011); HOPE Scholarship, Kennesaw State University, (2007 – 2011).

Richards Medal Committee

Mary Jane Shultz

(See background information under Councilor/Alternate Councilor)

Position Statement: I have served as a member of the Richards Medal Award Committee for four years, most recently as the Chair. The committee is proud of the extremely strong pool of candidates for this award and our most recent winner: Chad Mirkin. (See the March issue of *The Nucleus* for information about Professor Mirkin.) Outstanding candidates are a fitting tribute to the memory of Theodore William Richards – the first American Chemist to win the Nobel Prize. I am honored to be asked to stand for re-election to this committee and will strive to maintain the outstanding quality of the awardees, many of whom have gone on to win Nobel prizes of their own.

Mingdi Yan

Education: Ph.D. Organic Chemistry (1994, University of Oregon); B.S. Polymer Physics (1988, University of Science and Technology of China)

Professional History: Professor of Chemistry (2011-present, University of Massachusetts Lowell), Assistant, Associate, Full Professor of Chemistry (1998-2011, Portland State University), Senior Research Scientist (1995-1998, Ikonos Corporation), Guest Professor (2006-2007, ETH Zurich; 2011-2015, KTH Sweden; 2014, Koch Institute, MIT)

NESACS Election

Continued from page 19

Membership/Honors: Member of ACS, MRS, Society for Biomaterials; Outstanding Researcher Award, Columbia-Willamette Chapter of Sigma Xi (2009); Outstanding Overseas Chinese Young Investigator Award, National Natural Science Foundation of China (2007); Outstanding Mentor of 2003/2004 Siemens Westinghouse Competition in Math, Science & Technology Winners

Professional Services (selected): Member of UMass Life Sciences Task Force (2013); permanent and ad-hoc member of several NIH study sections since 2009; panel reviewer and site reviewer for NSF centers and proposals; proposal reviewer for foreign funding agencies; symposium organizer, chair for ACS, MRS, IEEE meetings; judge for Intel science fairs (2003, 2010).

Research program: Research in the Yan lab lies at the interface of Organic Chemistry, Nanomaterials and Nanomedicine. Her research program covers a variety of topics including developing new conjugation reactions, metal catalyst-free click reactions, covalent chemistry of pristine graphene, glyconanomaterials, and developing new strategies to combat antibiotic resistance.

Esselen Award Committee

Karen Allen

Professor of Chemistry, Professor of Material Science and Engineering, faculty of the Department of Pharmacology and Experimental Therapeutics, faculty of the Department of Physiology and Biophysics, Boston University. B.S. (Biology) 1984, Tufts University, Ph.D. (Biochemistry) 1989, Brandeis University, American Cancer Society Fellow (Biochemistry), 1989-1993 MIT, Brandeis University. Nominating Committee, ACS, Biological Chemistry Division (2001), Program Chair, ACS National Meeting, Biological Chemistry Division (2006), Advisor, ACS Biological Chemistry Division, (2016-2018), Associate Editor, *BIOCHEMISTRY* (2006-2016), Editorial Advisory Board,

Chemistry Reviews (2009-2012), Esselen Award Committee and Chair, NESACS, 2015-present, Co-Chair, Gordon Research Conference, Enzymes, Coenzymes, and Metabolic Pathways (2002), Chair, 20th Enzyme Mechanisms Conference (2009), Secretary, ASBMB (2013-2016), Council, ASBMB (2010-2013), contributor, Faculty of 1000, (2003-present), Mentor, ASBMB Grant Writing & Mentoring workshop (2014-2015), Chair, ASBMB National Meeting, Women Scientist Mentoring/Networking (2013-2018), Associate Editor, *Beilstein J. Org. Chem.* (2017-present), Editorial Advisory Board, *Archives Biochem. Biophys.* (2018-present), NIH, Review Panel Pathway to Independence program, (2011), Chair, NIH Special Emphasis Panel, Macromolecular Diffraction Resource (2012). NIH, Review Panel High-Throughput-Enabled Structural Biology Research (2012), Molecular Structure and Function A Study Section (2016-present), Areas of Research: Biochemistry: mechanistic enzymology, X-ray crystallography, enzyme evolution.

Katherine Mirica

No candidate statement submitted ◇

Abstract

Continued from page 5

Council for Science (ICSU), International Astronomical Union (IAU), and the International Union of History and Philosophy of Science and Technology (IUHPS). It was submitted by numerous organizations from over 50 countries around the world. ◇

R&D Tax Credit

Continued from page 8

we are experts at examining and capturing all allowable expenses towards your company's research credit. Our dedicated team has decades of experience and is familiar with important issues in every sector of the chemicals industry. Anchin ensures that our clients maximize the R&D tax credit opportunity available to them.

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NESACS – GDCh Exchange

Continued from page 7

gates, Anne Kokel and Maurice Windley gave oral presentations on Friday afternoon; the other 10 students gave poster presentations on Saturday morning.

Among the more memorable plenary lectures was the first one in which David Leigh of the University of Manchester described molecular machines using an engaging blend of chemistry and magic. Other plenary speakers explored green chemistry themes and how chemistry can be carried out in alignment with the United Nations 17 Sustainable Development Goals. The social program included a pub crawl on Thursday night and a conference party with cocktails, dinner and dancing on Friday night.

After the conclusion of the symposium at noon on Saturday, our delegates last excursion took them to the Café HAG coffee roasting factory, which was the site of the first commercially successful production of decaffeinated coffee. After a history lesson on the production of decaffeinated (and regular) coffee and drinking samples prepared from beans from around the world, our group returned to downtown Bremen for last-minute gift purchases and a farewell reception at the Bremen Ratskeller (Figure 7) during which we exchanged gifts with our German hosts. Early the next morning most of the delegation boarded a bus for a return trip to Hamburg and flights through Munich back to Boston.

Student reflections on their trip to Bremen:

“My time in Bremen was unequivocally one of the best weeks of my graduate school experience

“The 2019 German Exchange Program was fantastic, and absolutely the highlight of my undergraduate studies

“I still vividly remembered the sites we visited in Bremen on the day we arrived

“I was enchanted by Bremen’s culture and history

“Bremen is a beautiful city and we took full advantage of all it had to offer, from a tour of the old city to dinners on a converted trading ship and in the city wine cellar

“Our German counterparts were wonderful: welcoming us to Bremen and getting us everywhere we needed to be

“Our hosts in Germany and the professors who came with us not only took care of everything for us but also joined us in having fun

“Our excursions to locations such as Airbus and BASF offered unique insights into science outside of an academic lab

“It was a great opportunity to learn about chemistry while presenting my own research, and networking with scientists from diverse backgrounds

“We had the chance to meet enthusiastic young scientists from all over the world

“Networking during this event gave me new perspectives on my own work and career plans

“Our group from NESACS quickly bonded over our shared excitement

“It was amazing how a few days’ experiences could pull our group so close together

“I am certain that I made not only valuable networking

Frontiers in Organic Synthesis: New Synthetic Technologies

Friday, September 13, 2019
Connecticut College, New London, CT

Featured Speakers: Tim Jamison (MIT), Matt Sigman (University of Utah), Todd Hyster (Princeton), Paul Devine (Merck), Martin Eastgate (BMS), Bo Qu (Boehringer-Ingelheim).

Registration fees:

Students/Post-docs - \$20

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Lunch and refreshments included

Registration and abstract submissions for poster presentations are now open! https://form.jotform.com/acs_cvs/3rd_Symposium_Applied_Synthesis

Poster presentations on any topic in organic chemistry are welcomed and encouraged. Registration deadline – August 1, 2019. ◇

contacts but also lifelong friends.

“I have gained a strong sense of confidence in my abilities as a scientist, as well as the impact that I will be able to make going forward in my career

“I would like to thank NESACS, the German Chemical Society, our exchange chaperones, and my fellow delegates for making this a truly unforgettable experience.”

Members of the 2019 NESACS GEX Delegation to Bremen, Germany

Students:

Edwin Alfonzo, Boston University

Nicole Berry, Boston University

Nicholas Belloch, Dartmouth College

*Jingjia Chen, Boston College

Laura Cramer, Tufts University

*Brady Greene, Northeastern University

Anne Kokel, UMass Boston

Yonghwa Kwon, UMass Dartmouth

Paula Ortet, Boston University

*Meredith Pomfret, Stonehill College

Kathleen Sicinski, Tufts University

*Maurice Windley, Brandeis University

* Undergraduate

Accompanying Others

Prof. Tom Gilbert, Northeastern University

Prof. Mariam Ismail, Simmons University

Dr. Andrew Scholte, Sanofi–Genzyme, Waltham, MA ◇

PINT OF SCIENCE

SCIENCE TALKS IN YOUR LOCAL PUB



20 MAY



OUR BODIES

Fighting Infectious Diseases: Humankind has been fighting infectious diseases caused by bacteria and parasites for centuries. This lecture series will delve into how ancient scientific methods evolved into modern approaches to fighting infections, describe the threats posed by renewed resistance of bacteria to antibiotics and help us understand the workings of a "zombie" toxoplasma parasite that can "control your mind"!

Speakers: UNH professors Art Greenberg, Marc Boudreau, and Vicki Jeffers



21 MAY



ATOMS TO GALAXIES

Mysterious Space: From black holes to lightning in the outer atmosphere, UNH researchers are delving into the mysteries of space. Come learn how a trip to Antarctica helped scientists study black holes, how lightning events help us understand the make up of our atmosphere and the impact of solar radiation on astronauts.

Speakers: UNH professors Ningyu Liu, Fabian Klaut and Nathan Schwadron



22 MAY



OUR PLANET

Water Everywhere: On the NH seacoast, the ocean plays an important role in our daily lives. Researchers at UNH explore all aspects of the interplay of humans with the sea. At this event we will hear how the ocean chemistry affects the ocean's ability to absorb carbon dioxide from the atmosphere, how our dynamic coastlines evolve over time and how coastal floods impact the design of our roadway infrastructure.

Speakers: UNH professors Robert Letcher, Kyle Kwiatkowski and Diane Foster

20/21 MAY



Garrison City Beerworks

455 Central Ave, Dover, NH
Doors 7, Event 7:30-9:30

22 MAY



Tributary Brewing Company

10 Shapleigh Rd, Kittery, ME
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DSC, TGA, melting point

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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://chemistry.harvard.edu/calendar/upcoming>
- <http://www.northeastern.edu/cos/chemistry/events-2/>
- <http://chemistry.mit.edu/events/all>
- <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>
- <https://www.wpi.edu/academics/departments/chemistry-biochemistry>

May 1

- Prof. Harry B. Gray (Caltech)
Boston College, Devlin 008, 4:00 pm
- Prof. Pengfei Huo (Univ. Rochester)
Boston University, Metcalf 512, 2:00 pm
- Prof. Hansjörg Grützmacher (ETH-Zurich)
MIT, Rm 4-370, 4:15 pm
- Prof. Catherine L. Drennan (MIT)
Capturing snapshots of metalloproteins
UMass-Boston, Integrated Science Complex,
Rm 3300, 12:00 pm

May 2

- Prof. Tanja Cuk (U. Colorado)
Boston College, Merkert 127, 4:00 pm
- Prof. Marisa C. Kozlowski (U. Penn)
MIT, Rm 6-120, 4:00 pm

May 6

- Prof. Phillip Geissler (UC-Berkeley)
Harvard, Pfizer Lecture Hall, 4:15 pm
- Dr. Matthew Bio (Snapdragon Chemistry Inc.)
*Mighty Machines; Development and rapid
scaling of efficient drug substance processes in
purpose-built reactors enabled by continuous
manufacturing...*
MIT, Rm 2-105, 10:00 am

May 7

- Dr. Ke Xu (UCal-Berkeley)
*Multifunctional & multidimensional super-
resolution microscopy*
MIT, Rm 6-120, 4:00 pm

May 8

- Prof. Andy McCammon (UCal-San Diego)
Computational research in molecular chemistry
Boston University, Metcalf 512, 2:00 pm

May 9

- Prof. Marc Hillmyer (Univ. Minnesota)
MIT, Rm 6-120, 4:00 pm

May 14

- Prof. Alanna Schepartz (Yale)
MIT, Rm 6-120, 4:00 pm

May 20

- Prof. Anne Dell (Imperial College)
MIT, Rm 4-270, 4:00 pm

May 23

- Prof. Ruben Martin (Inst. Of Chemical Research
in Catalonia) and,
Dr. Subharkha Raghavan (Merck)
MIT, Rm 6-120, 4:00 pm

May 31

- Prof. Thomas Maimone (UCal-Berkeley)
*Synthetic Studies and Applications of Complex
Natural Products*
Boston College, Merkert 127, 4:00 pm

**Notices for The Nucleus
Calendar of Seminars should
be sent to:** Samurthi Wijesundera,
Email: samu.amameth@gmail.com ◇

Summerthing 2019

"Take me out to the Ball Game"!

Red Sox vs. Rockies • May 14, 2019 • 7:10 pm

Come out for a night of fun with friends and family!

See the Red Sox vs. the Rockies

<https://www.eventbrite.com/e/take-me-out-to-the-ball-game-2019-tickets-59406962825>

Questions: contact Anna Singer, Administrative Coordinator at:
secretary@nesacs.org ◇