Boston National Meeting Issue

THE NUCLEUS

Summer/September 2018 *Vol. XCVII, No.1*

Monthly Meeting

Sam Kean, Science Writer, to Speak at Salem State University

Life as an Assistant Professor: A Retrospective

By Mindy Levine, 2018 NESACS Chair

James Edward Phillips

1946-2018

22nd Andrew H. Weinberg Memorial Lecture

Nada Jabado, M.D., Ph.D. to Speak at Dana-Farber Cancer Institute

James Edward Phillips

January 9, 1946–June 13, 2018

We are sorry to report the passing of James Edward Phillips. James was a longtime contributor to NESACS and husband of ACS Board of Directors Member, Dorothy Phillips. James was a long-time member of the Board of Publications (BOP) including several terms as chair. He had a passion for photography and contributed many photos to *the Nucleus* and the NESACS website. He served NESACS as a Director-at-Large and he ran for Chair of NESACS in 2013.

The members of the BOP received an ominous email on June 12 that Jim had a heart attack. He passed the next day and the membership was notified broadly on June 15. His wake was held the following Tuesday in Wayland at the John C. Bryant Funeral Home. His service was held the next morning at the Fisk United Methodist Church in Natick and interment followed immediately after at the Dell Park Cemetery in Natick. Family kindly suggests that memorial gifts in James' memory be sent to Fisk United Methodist Church, 106 Walnut St, Natick, MA 01760 or The Multiple Myeloma Research Fund, 383 Main Avenue, 5th Floor, Norwalk, CT 06851. For condolences please visit: www.johncbryantfuneralhome.com

I don't remember when I first met Jim, but I recall him first as a photographer for *the Nucleus* when I became editor in 2005. He was always a most congenial person and I always enjoyed seeing him whether it was at a National Meeting of the American Chemical Society or one of our local section meetings. He graciously hosted several Board of Publications meetings at his house in Natick and we always enjoyed his hospitality.

Jim was proud of his children and grandchildren and often talked of his visits to Georgia to visit his son, Anthony, and daughter, Vickie, and their families. I remember teasing him as to whether there was any family conflict when the Patriots played the Falcons in Super Bowl LI. Another daughter, Crystal, lives locally with her children.

James Phillips was born on January 9, 1946 in Nashville, TN to the late Margaret E. (Phillips) Walker and Douglas Harris. He received his B.S. degree from Tennessee State University in Nashville and his M.S. in Inorganic Chemistry from the University of Cincinnati.

Jim was a Research Chemist at Sheppard Chemical Company, Norwood, Ohio; a Technical Service Engineer at the Dow Chemical Company, Midland, Michigan; Chemical Supervisor at Corning Medical, Medfield, Massachusetts; Laboratory Supervisor at Muro Pharmaceutical Company, Tewksbury, Massachusetts and a Technical Service Engineer at Waters Corporation, Milford, Massachusetts until his retirement.

James is survived by his devoted wife, Dr. Dorothy Wingfield Phillips of Natick. He was a loving dad to Vickie A. Thomas and her husband Albert of Ellenwood, GA; Pastor Anthony J. Phillips of Atlanta, GA and Crystal J. Mayo of Natick. He was the grandfather of Braelen Phillips; Andrew Phillips; Anthony Phillips, Jr; Elizabeth Mayo; Logan Mayo; Brian Walker and Eric Lockett and Great-grandfather of Brian Walker, Jr.

He was the brother of Herbert Phillips and his wife Cassaundra; Douglas Harris, Jr.; Riley Harris; Deborah Harris and Mitzi Harris, all of Nashville, Tennesee. He was brother-in-law of Dr. Robert Wingfield; Oddie Wingfield and Dr. Shirley Wingfield; Dwight Wingfield; Addie Jenkins; Patricia McCarroll; Elsie Hurt, all of Nashville, TN and Rev. Margaret Smith of Belleville, IL. James was preceded in death by his sister Paulette Gray and his nurturing uncle and aunt George and Ethel Hart.

-M. Filosa ◇

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Cover: *Dr. James Bradner, M.D., President, Novartis Institutes for Biomedical Research, speaks at the 21st Annual Andrew H. Weinberg Memorial Lecture on "New Paths to the Waterfall: Rethinking the Science of Therapeutics for Pediatric Malignancies." (Photo by Sam Ogden)*

Editorial Deadlines: *November 2018 Issue: September 15, 2018*
December 2018 Issue: October 15, 2018

THE NUCLEUS

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Life As An Assistant Professor: A Retrospective

Mindy Levine, Associate Chemistry Professor
2018 Chair, Northeastern Section of the American Chemical Society

I remember when I thought that getting tenure was going to be my ticket to less work, that the days, nights, and weekends of seemingly endless work to obtain tenure was going to come to an end at some point in the not-so-distant future. It was that hope, partially, that nurtured me through six years of Assistant Professorship, from 2010 to 2016. That light at the end of the tunnel of getting tenure would make it all worth it, I figured, and soon that day would come.

Being an Assistant Professor was interesting, to say the least. During those six years of my life, I applied for more than 100 grants. Most of them were rejected; a few, just enough it seemed, were funded. The funds were enough to keep my laboratory of 4-6 graduate students running, were sometimes enough to host a postdoctoral research fellow for a short-term appointment, but were never quite enough to expand the group in any substantial way. The funding came from lots of small grants and a few big ones, including the one that probably made my tenure case successful: An NSF CAREER grant from the Division of Macromolecular, Supramolecular, and Nanochemistry, which I obtained on my third (and final) try, and which provided 5 years of substantial funding to support my research program.

The papers were rejected most of the time as well, with an average of 3 rejections before each paper was accepted. Keep submitting, I said to myself, and that mantra carried me to 27 peer-reviewed scientific publications in those six pre-tenure years. 27 publications, assuming 3 rejections per paper, meant that I had prepared and submitted my work 81 times.

And then, of course, there was the teaching and the service components of my job. The teaching was mostly straightforward, after the first year of working around the clock to prepare and deliver my advanced organic chemistry course for senior-level graduate students for the first time. Mostly I kept teaching that same class, although there was one semester where I taught 192 sophomore-level students who were majoring in biology, engineering, pharmaceutical sciences, nursing, animal sciences, and a seemingly endless array of other major fields of study, none of which were chemistry. "You don't understand," one student wrote on a mid-semester evaluation, which I distributed in order to provide students with the opportunity to comment on my in-class performance. "We don't really care about learning chemistry." I understood.

The service, I knew, could take as much time as I let it, but I felt a deep-rooted moral imperative to help the next generation of students succeed in science, especially for those students who identify as members of under-represented demographic groups. In the physical sciences, including chemistry, under-represented demographic groups in 2018 still includes anyone who is not a cis-gendered, heterosexual, able-bodied white man. Since that demographic description does not include me, my interest in broadening participation in science has a non-trivial personal component and self-interest as well. Other service of note included my work on the University Work-Life Committee, and my role in establishing a Professional Family Travel Fund to enable faculty and staff members to better balance professional and family caregiving responsibilities.

Personally, I needed as much help balancing professional and caregiving responsibilities as I could get. In parallel with establishing a lab, obtaining funding, publishing papers, teaching courses, and working for the service of the

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NESACS Sponsors 2017

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Monthly Meeting

The 980th Meeting of the Northeastern Section of the American Chemical Society – Sponsored by Strem Chemicals

Thursday – September 20, 2018
Salem State University
Ellison Campus Center
352 Lafayette Street, Salem, MA 01970

Please join us for our September Monthly meeting to honor our 50 and 60 year members of the Northeastern Section of the American Chemical Society. Our keynote speaker is Mr. Sam Kean, renowned scientific writer. You may have read one of Sam's books in the past including "The Disappearing Spoon." His lecture will catch your attention with interesting stories from the periodic table. There will also be an opportunity to learn about the archives of the section, which are located at Salem State University. We want to thank Strem Chemicals and Salem State University for their support of this event.

4:30 pm NESACS Board Meeting - Presidential Conference Room

5:30 pm Social Hour – Veterans Hall

6:30 pm Dinner - Veterans Hall

7:30 pm Presentation of 50 and 60-year member awards.
Evening Presentation:
Speaker: **Sam Kean, Science Writer**
Title: *"The Disappearing Spoon: And Other True Tales of Madness, Love and History from the Periodic Table of the Elements"*

For those who would like to join us for dinner, register by noon, Thursday, September 13, 2018. Reservations are to be made using Eventbrite services: https://sam-kean-nesacs-disappearing-spoon.eventbrite.com
Select the Education Night Awards and the appropriate ticket price. Cost: Members, $30; Non-members, $35; Retirees, $20; Students, $10. **Dinner reservations not cancelled at least 24 hours in advance must be paid.**

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

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

Directions to Salem State University - From Route 128 via Lowell Street Exit:

- Follow Lowell Street into downtown Peabody
- Lowell Street turns into Main Street which turns into Boston Street in Salem
- Continue straight on Boston Street until it ends
- Turn right on Essex Street
- At first set of lights, turn left onto Jackson Street
- At the end of Jackson Street, turn right on Jefferson Avenue
- Follow Jefferson Avenue to Loring Avenue
- Turn left for North Campus, bear right at the next light to stay on Loring Avenue ◇

Biography:

Sam Kean spent years collecting mercury from broken thermometers as a kid, and now he's a writer in Washington, D.C. His stories have appeared in *The Best American Science and Nature Writing, The New Yorker, The Atlantic, The New York Times Magazine, Slate,* and *Psychology Today*, among other places, and his work has been featured on NPR's *"Radiolab," "Science Friday,"* and *"All Things Considered,"* among other shows.

Caesar's Last Breath was named *the Guardian* science book of the year in 2017, while *The Disappearing Spoon* was a runner-up for the Royal Society book of the year. Both *The Violinist's Thumb* and *The Dueling Neurosurgeons* were nominated for PEN's literary science writing award. ◇

Abstract:

"The Disappearing Spoon: And Other True Tales of Madness, Love and History from the Periodic Table of the Elements"

Why did Gandhi hate iodine? Why did the Japanese kill Godzilla with missiles made of cadmium? How did radium nearly ruin Marie Curie's reputation? And why did tellurium lead to the most bizarre gold rush in history?

The Periodic Table is one of our crowning scientific achievements, but it's also a treasure trove of passion, adventure, betrayal, and obsession. The Disappearing Spoon delves into every single element on the table and explains each one's role in science, money, mythology, war, the arts, medicine, alchemy, and other areas of human history, from the Big Bang through the end of time. ◇

Report on the 21st Andrew H. Weinberg Memorial Lecture

Weinberg lecturer challenges notion that some drug targets are out of reach

By Robert Levy, Dana-Farber Cancer Institute
Reprinted with permission from DFCI Online

Many of the genes and proteins that make the most enticing targets for new cancer therapies have been deemed off-limits because they are considered "undruggable" – too remote within the cell or too shape-shifting to be blocked with drugs made from small molecules. But new techniques for snaring and eliminating such proteins suggest it is far too early to slap the "undruggable" label on them, the presenter of the 21st Annual Andrew H. Weinberg Memorial Lecture told a standing-room-only audience at Dana-Farber earlier this month (October 2017).

Titling his talk, *"New Paths to the Waterfall: Rethinking the Science of Therapeutics for Pediatric Malignancies,"* James Bradner, M.D., president of the Novartis Institutes for BioMedical Research, brought listeners inside his team's efforts to harpoon some of the most elusive, but powerful targets in cancer medicine. In one case in particular, those efforts spring directly from his research at Dana-Farber, where he was a member of the Chemical Biology Initiative until 2015.

"We're at an awkward moment in cancer medicine," Bradner observed. "Never before have we had a better appreciation of the hard-wiring of cancer, with total certainty of its genetic origins, but we face the humbling reality that we lack the therapeutic instruments to respond to that information."

Bradner focused his remarks on the key operators of the cell's machinery for division – proteins known as transcription factors which switch genes on and off and are almost always out of balance in pediatric cancers. Appealing as such factors are as potential drug targets, they present chemists and drug-designers with an array of technical and conceptual challenges. "They live in the nucleus, where antibody drugs can't go, and they lack druggable pockets," nooks and crevices where small drug molecules can lodge, Bradner noted.

James Bradner gives the keynote talk at the 21st Annual Andrew H. Weinberg Memorial Lecture. Photo by Sam Ogden

The result is a prevailing sense of defeatism about developing drugs against them. "'Undruggable' is my least favorite term in science," he confided. "It literally means we haven't drugged it yet, but it has come to mean 'Don't bother.'" The path to a more versatile drug – the "waterfall" of his title – demands novel thinking. "It will require a reconsideration of the science of therapeutics, from which these new drugs would arise," he said.

He began a detailed discussion of one approach to such novel therapies. Where conventional targeted therapies are designed to block or disable a cancer-related protein, Bradner and his team are at work on agents that would destroy such proteins – an approach they call targeted protein degradation. The researchers have constructed drug molecules with two "arms," or active regions. One arm binds to the targeted protein. The other holds a proteosome, part of the cell's trash-disposal machinery. When the drug molecule attaches to its prey protein, the trash disposal eliminates it.

The advantages of this approach are clear: "Eliminating a protein altogether can have a greater effect than disabling its biochemical or biophysical function," Bradner explained. "In addition, proteins and gene circuits can adapt when a protein is blocked. A drug that eradicates the protein, by contrast, may not only be more potent but might have a longer-lasting effect."

Lastly, he touched on two other approaches his team is taking. One, called conformational restructuring, involves "gluing" proteins into odd combinations so they are incapacitated. The other uses RNA to bind to and interfere with proteins. "If targeting RNA is possible," he said, "then nothing is undruggable."

The Andrew H. Weinberg Memorial Endowment Fund was created in 1995 with the support of family and friends of Dana-Farber patient Andrew H. Weinberg, along with the Medicinal Chemistry Group of the Northeastern Section of the American Chemical Society and Dana-Farber. The fund is dedicated to bringing researchers from the field of cancer drug development together with

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22nd Annual Andrew H. Weinberg Symposium

Nada Jabado, M.D., Ph.D.
Professor of Pediatrics and Human Genetics, McGill University,
The Research Institute of the McGill University Health Center
Montreal, QC, Canada

"Oncohistones: Exquisite Opportunities and Therapeutic Vulnerabilities"

September 6, 2018
3:00 pm – 4:00 pm

Yawkey Conference Center, 3rd Floor, Y306 and Y307
Dana-Farber Cancer Institute, 450 Brookline Ave, Boston, MA 02215

Live webcast link for lecture:
https://bit.ly/2MgmmNZ

Free parking in the Yawkey Center garage, entrance on Jimmy Fund Way.

Abstract:

Brain tumours are the leading cause of cancer related mortality and morbidity in children and young adults. High grade gliomas (HGG) are a particularly lethal and disabling, with barely 10% of children and young adults surviving 3 years after their diagnosis, regardless of enormous efforts to achieve Zingly similar histology. Our landmark discoveries, the foundation of the 2016 World Health Organization (WHO) classification, showed that epigenetic deregulation during brain development is at the core of these cancers. We were the first to identify high-frequency recurrent, gain-of-function, somatic mutations at specific residues in histone 3 (H3) variants in HGG affecting children and young adults. The two mutations found in HGG lead to amino acid changes in key residues of H3 variants: K27M in one of the genes H3F3A/H3.3, HIST1H3B or HIST1H3C/H3.1 occurs in 80% of HGG in the brain midline, including the deadly diffuse intrinsic pontine gliomas; G34V or G34R in H3F3A/H3.3 occurs in 36% of HGG in the cerebral hemispheres. These "oncohistones" are the pediatric counterpart of the recurrent mutations in isocitrate dehydrogenase enzymes (IDH) identified in young adult gliomas, which we now know indirectly affect these histone marks. We uncovered mutations in SETD2, a H3K36 trimethyltransferase, in HGG of the cortex and further showed that K27M and G34R/V H3 mutations are tightly correlated with a distinct global DNA methylation pattern and have neuroanatomical specificity. Indeed, H3K27M specify brain midline gliomas, while alterations directly or indirectly affecting the K36 mark (SETD2, H3.3G34R/V) chart HGG of the cere-

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Biography:

Dr. Nada Jabado is a Professor of Pediatrics and staff physician at McGill University. She completed her residency in pediatrics with a specialization in hemato-oncology. She also obtained a PhD in Immunology in Paris, France, followed by a postdoctoral fellowship in biochemistry at McGill. She began her career as an independent investigator at McGill in 2003, pioneering a research program in pediatric brain tumors which is now unparalleled. Her group uncovered that pediatric high-grade astrocytomas (HGA) are molecularly and genetically distinct from adult tumors. More importantly, they identified a new molecular mechanism driving pediatric HGA, namely recurrent somatic driver mutations in the tail of histone 3 variants (H3.3 and H3.1).

Dr. Jabado's ground-breaking work has created a paradigm shift in cancer with the identification of histone mutations in human disease which has revolutionized this field, as the epigenome was a previously unsuspected hallmark of oncogenesis, thus linking development and what we now know are epigenetic-driven cancers. This work and other publications are considered landmark papers (over 3000 citations since 2012). Dr. Nada Jabado has over 150 peer-reviewed publications to her credit, with an impressive number of senior-author, high-impact publications in such prominent journals as

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Call for Nominations

2018 Theodore William Richards Medal Award

The ACS Northeastern Section is soliciting nominations for the 2018 Theodore William Richards Medal Award for conspicuous achievement in any area of chemistry. The medal honors the U.S.'s first chemistry Nobel Laureate and is awarded every two years. The 2016 Richards Award was presented to Professor Gabor A. Somorjai of the University of California at Berkeley.

Nomination packages, consisting of a brief (no more than 5 pages) curriculum vitae for the nominee, and a clear and concise (no more than 2 pages) nomination letter that outlines the candidate's "conspicuous achievements in chemistry" on which the nomination is based should be submitted electronically as a single PDF file to the NESACS Administrative Secretary Anna Singer, secretary@nesacs.org.

Nominations must be received by October 31, 2018. The 2018 Richards Medal will be awarded on Thursday, March 14, 2019.

More information about the Richards Medal, including the list of all previous recipients, can be found at http://www.nesacs.org/awards_richards-medal.html.

The Gustavus John Esselen Award for Chemistry in the Public Interest

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

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

The Award consists of a bronze medal and the sum of $5,000. Travel expenses incidental to the conferring of the award will be reimbursed. The award will be presented at the April 2019 meeting of the Section. The Awardee is expected to deliver an address on the subject of the work for which the honor is conferred, or for work in progress which is also directed toward chemistry in the public interest.

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

Nominations Are Due October 19, 2018 to dwalt@bwh.harvard.edu with cc to JPiperGrady@gmail.com. Award recipients will be notified by February 1, 2019.

Inquiries may be directed to the above or to Dr. David Walt, Tel. (857) 307-1112 or Jeananne Piper Grady, Tel. (617) 620-8315. Address: 11 Thaxter St., Hingham, MA 02043.

NSYCC/NESACS-JCF/GDCh Exchange to Germany March 2019

The German Exchange Steering Committee and the Education Committee of the Northeastern Section of the American Chemical Society (NESACS, www.nesacs.org) invite applications from undergraduate and graduate students of chemistry, biochemistry, and chemical engineering (including materials science) at colleges and universities within the Northeastern Section. Applicants must be engaged in original research to spend a week in Germany as the guests of the Jungchemikerforum (Young Chemists Committee; JCF) of the Gesellschaft Deutscher Chemiker (German Chemical Society; GDCh). The exchange group will consist of up to 12 students and a number of faculty and industrial representatives. The trip to Germany will start with an overnight flight from Boston around March 17th, with a return to Boston will be around March 24th (travel dates are being determined). The highlight of the visit will be the JCF Bremen student-run spring chemistry research conference (Fruehjahrssymposium) in Bremen, taking place Wednesday-Saturday, March 20th – March 23rd, which will provide the opportunity for all delegates to engage in extensive networking with hundreds of German and International students, to take part in discussions focused on research, careers, education, and international opportunities in chemistry and related fields.

The activities for the first part of the week will include industrial, academic, scientific, and cultural excursions in and around Bremen. Each student representative from NESACS will be expected to give a poster or oral presentation on his/her research at the Fruehjahrssymposium and in the Boston area at the Northeast Student Chemistry Research Conference (NSCRC) in April 2019. Air travel costs will be provided by NESACS, while the GDCh will cover ground transfers and accommodations while we are in Germany. A working knowledge of German, while useful, will not be required; the language of the Fruehjahrssymposium and the other events will be English. Application forms will be available at the NESACS website (www.nesacs.org) on or about September 15, 2018. When applying, the following material must be submitted electronically using the electronic application form: 1) the abstract of the

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A Medicinal Chemistry Symposium

"The Future of Anti-infectives"

Organized by the Medicinal Chemistry Section, Northeastern Section of the American Chemical Society

Sponsored by Takeda Oncology

Thursday, September 13, 2018

Takeda Oncology

40 Landsdowne Street, Cambridge, MA 20139

For updated information please see the NESACS Website: www.nesacs.org

3:00 pm	Refreshments
3:15 pm	Welcome, Raj Rajur, Med Chem Program Chair, CreaGen, Inc., Woburn, MA
3:20 pm	Introductory Remarks (Moderator), Dan Elbaum, QurAlis, Cambridge, MA
3:30 pm	Kim Lewis, Northeastern University "*Reviving Antibiotic Discovery from Natural Products*"
4:15 pm	Durand Reville, Entasis, Waltham, MA "*The rational design and discovery of ETX2514, a novel broad-spectrum β-lactamase inhibitor for the treatment of Gram-negative infections*"
5:00 pm	Roger Clark, Macrolide, Watertown, MA *"Novel Macrolides for Gram-Negative Infections"*
6:00 pm	Social Hour
6:45 pm	Dinner
7:45 pm	Keynote Presentation, Jacques Dumas, Tetraphase, Watertown, MA *"TP-6076: taking chemistry to the next level to beat superbug"*

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

Dinner reservations should be made no later than noon, Thursday, September 6, 2018. Reservations are to be made using Eventbrite: https://future-anti-infectives-nesacs.eventbrite.com Members, $30; Non-members, $35; Retirees, $20; Students, $10.

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

Directions to Takeda: Use the following address for your GPS: 40 Landsdowne St, Cambridge, MA 02139

Visitor Parking: All visitors to Takeda Boston facilities in University Park should be directed to park at the 55 Franklin Street Garage; the Franklin Street Garage is the public parking garage and visitors will be charged for parking on an hourly basis. ◇

2018 NESACS Election Results

Chair (vote for 1)

Anna W. Sromek	153*
Sofia Santos	84

Treasurer (vote for 1)

Ashis K. Saha	224*

Trustee (vote for 1)

Peter C. Meltzer	227*

Councilor/Alternate Councilor (5/5 elected)

Katherine Lee	191c
Catherine Costello	165c
Ruth Tanner	155c
Andrew Scholte	154c
June Lum	135c
Morton Z. Hoffman	133a
Kenneth Mattes	122a
Joshua Sacher	118a
Mariam Ismnail	112a
Malika Jeffries-El	100a
Patrick Cappillino	100
Raj (SB) Rajur	92
Ashis Saha	82
Ajay Purohit	72
Hicham Fenniri	70
Daljit Matharu	25

Director-at-Large (vote for 2)

John M. Burke	149*
June Lum	139*
John L. Neumeyer	133

Nominating Committee (vote for 2)

Michael P. Filosa	215*
Sonja Strah-Pleynet	204*

Norris Committee (vote for 2)

Mark Tebbe	195*
Kuzhikalail Abraham	165*
Vasiliki Lykourinou	69

Total Votes submitted **256** ◇

SURPRISE

our editor by calling and saying you appreciate the quality and content of our newsletter. Our editor works hard to maintain a publication of interest to our membership. Oh, and by the way you could also give credit to our advertisers who financially support us.

SAVE THE DATE

Chemical Biology in the HUB

October 22nd 2018

Novartis Institute for BioMedical Research
181 Massachusetts Ave, Cambridge, MA

A day-long symposium focusing on the cutting edge of chemical biology

Ben Cravatt
Scripps Institute

Anne Carpenter
Broad Institute

Amanda Garner
Univ. of Michigan

Sara Buhrlage
Dana Farber

Jennifer Petter
ArrakisTherapeutics

Ethan Perlstein
Perlara

Andy Phillips
C4 Therapeutics

Jay Bradner
Novartis

Tickets will go on sale Sept 4th
To register visit nesacs.eventbrite.com
or for more info www.nesacs.org

SAVE THE DATE

Northeastern Section of the American Chemical Society

Process Chemistry Symposium

Date	Friday, October 19, 2018
Location	Novartis Institutes for BioMedical Research 250 Massachusetts Avenue Cambridge, MA 02139

Confirmed Speakers	**Frances H. Arnold**, California Institute of Technology **Robert Knowles**, Princeton University **Eric Meggers**, Philipps University Marburg **Kami L. Hull,** University of Texas, Austin **Industrial Speakers** TBD

- Save the date – October 19, 2018 - for a day-long symposium focused on process chemistry and featuring speakers from industry and academia. There will be opportunities to network with members of the local chemistry community during lunch and a late afternoon reception.

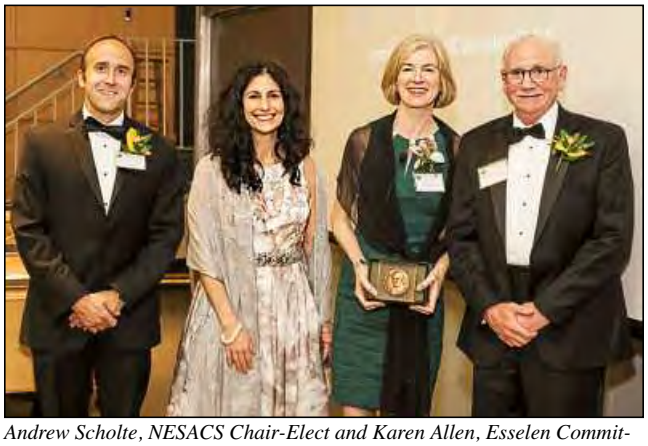
- Registration information **TBD**

- Questions? Please contact a member of the symposium organizing committee.
  - Matthew Beaver mbeaver@amgen.com
  - David Leahy david.leahy@takeda.com
  - Katherine Lee katherine.lee@pfizer.com
  - Matthew Maddess matthew_maddess@merck.com
  - Erin O'Brien erin.obrien@biogen.com
  - Scott Plummer scott.plummer@novartis.com
  - Stefanie Roeper stefanie_roeper@vrtx.com

Northeastern Section of the American Chemical Society

2018 Esselen Award Photos

Photos By Joel Laino



Andrew Scholte, NESACS Chair-Elect and Karen Allen, Esselen Committee Chair with the 2018 Awardee, Dr. Jennifer Doudna and Jack Esselen just after the award presentation.

Jennifer Doudna, Michael Marletta, , and Rudolf Jaenisch catch up at the cocktail hour.

Dr. Jennifer Doudna accepts the 2018 Gustavus John Esselen Award for Chemistry in the Public Interest from Gustavus John (Jack) Esselen IV, grandson of the award's namesake.

Head Table (l to r): Ryan Cross (National ACS, C&EN, Boston); Karl Hansen (immediate past chair, Esselen Committee); Michael Marletta (Dr. Doudna's Nominator, 2007 Esselen Awardee); Karen Allen (Chair, Esselen Committee); Jennifer Doudna, 2018 Awardee; Andrew Scholte (Chair-elect, NESACS); Tom Allen (Guest of Karen Allen); Bibiano Campos Seijo (National ACS, C&EN Editor, Esselen Committee).

The Esselen Family, standing (l to r): Jane Esselen Blocker, Malcolm and Nancy Bell, Dr. Katherine Esselen with her parents Catherine and Jack Esselen. Seated (l to r) Mrs. Joanna Hanson Stengle and Mr. Michael Hanson; Joan Esselen Foot and her husband Silas "Buck" Foot. The three siblings Jane, Jack & Joan and extended family continue to be actively involved in supporting the award and the award dinner that their father founded to honor his father.

Seated at the Committee Table (l to r): Irene Vouros, Paul Vouros, (past Committee Chair), Martin Idelson (past Committee Chair), Sivan Subburaju, Anna Sromek (past Committee Chair), and Juan Alejandre

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Esselen Photos

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Donald Smith, Joshua Sacher, Doris Lewis, Thomas Gilbert and Jens Brefke at the cocktail hour.

Bill Eykamp and Umair Javed enjoying the cocktail hour.; members of the Esselen family in the background

academic DRUGDISCOVERY consortium

Better Leads, Better Drugs - Innovation in Screening Libraries

May 8-9th 2019
Joseph B. Martin Conference Centre
Harvard Medical School

Event Synopsis

The Academic Drug Discovery Consortium invites you to hear about the latest ideas in small-molecule library development at, "Better Leads, Better Drugs: Innovations in Screening Libraries."

Scientists engaged in drug discovery and chemical biology know that a screen is only as good as the molecules that go into it. But with the vast potential chemical space, how do you decide what to include in your virtual, high-throughput, or fragment-based screens? This event will bring together drug-seekers from academia and industry focused on the application of new technologies and computational tools to tackle this question in order to deliver higher quality leads.

This 1.5-day meeting will create a dynamic, interactive environment for presentations and discussion, and also includes a ½-day networking session for one on one partnering meetings between participants.

Exhibition and sponsorship

An exhibition will take place alongside the conference during refreshment breaks for companies and related organizations who may wish to exhibit. For further information and prices, please email:
jayshree.mistry0615@gmail.com

www.addconsortium.org
*The Academic Drug Discovery Consortium is not affiliated with Harvard University, nor is Academic Drug Discovery Consortium a Harvard University program or activity.

Weinberg Lecture

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those in the biomedical research and clinical care communities at large, helping to foster an environment for synergy and originality in cancer research. ◇

Jabado Biography

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Nature Genetics, Nature, Science and Cancer Cell, to name a few. She is an international leader in the field of neuro-oncology/cancer, honored by invitations as s keynote speaker at top ranked symposia and universities. Dr. Jabado has received numerous national and international honors while garnering prestigious salary support awards throughout her career. She is one of the best-funded investigators in Canada, with grants from CIHR, Genome Canada, NIH as well as philanthropic organizations. She was recently inducted as a Fellow to the Royal Society of Canada, a member of the CIHR Governing Council and a member of the Canadian Academy of Health Sciences. ◇

Jabado Abstract

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bral hemispheres. Each H3 variant has selective, age, and spatial clustering of associated molecular alterations, including mutations in the chromatin remodeller ATRX. We will present our recent findings which indicate that these mutations stall differentiation and block the cell in an undifferentiated state. This "Peter Pan" effect (as we named it) will be discussed as well as how it impacts the epigenome to promote tumorigenesis with the obligate associated genetic alterations we identified in HGG. We will show oncohistones in other non-pediatric cancers and reveal how efforts to model these mutations in isogenic tumour systems, mouse, or fly models are helping identify exquisite therapeutic vulnerabilities. Oncohistones promote an aberrant epigenetic landscape that can be manipulated to the advantage of patients and our efforts to dissect the epigenome in these tumours may provide viable therapeutic strategies in untreatable deadly diseases. ◇

A Retrospective

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zbroader chemistry community, I was also parenting three high-energy children. The oldest, born in 2009 during my postdoctoral fellowship at MIT, was a precocious, hyperverbal, and hyperactive toddler, then preschooler, and then elementary schooler, who over the course of his life has required non-trivial attention to address a variety of developmental issues. The middle one, born during my second year as an Assistant Professor, was an eczema-prone and highly allergic infant, who turned into an adorable toddler and preschooler, once the allergy issues were at least somewhat addressed. Being responsible for these two children during my second year as an Assistant Professor nearly caused me to quit my job, as I took a few weeks of vacation to evaluate whether I wanted to continue in academia. When the two weeks were up, I was in my Chair's office with my decision. I needed the job, to stay engaged, to pursue research, to understand and learn more about science as often as I could. Staying home with my young children wasn't a long-term option for me. I returned.

And then there was the third child, born in September 2014 during my last year before I submitted my tenure application. That child was the product of a dizzyingly complicated pregnancy, born together with her stillborn twin brother who suffered from a rare but fatal genetic defect. She was perfectly healthy, my baby girl, despite the complicated pregnancy, despite being born via emergency C-section at 35.5 weeks pregnant after I went into spontaneous, precipitous labor. I was home with her for 7 weeks before I returned, although I did not resume teaching until the following spring semester. Was it hard to be back at work? Sure, but it was certainly less hard than being home with a single infant when there should have been two.

So that's why being an Assistant Professor was stressful and tiring, and why even the act of recounting that time period for this article has made me exhausted by proxy. Why did I keep doing it though? Why couldn't I walk away in my second year, when I really, seriously, considered it? Because of the fun. Training and working with students in the laboratory, discovering new chemistry and phenomena that nobody had ever seen before, turning a "wouldn't it be nice if we could…" to "here is how we can do it" – all of that combined to make scientific research the most rewarding pursuit I have ever undertaken.

The teaching was fun, too, maybe because I just enjoyed hearing the sound of my own voice, but possibly also because of the joy of successfully communicating challenging topics to a student audience in a way that they understood. I am a chemistry professor because of inspiration from my undergraduate organic chemistry professor and the excitement he demonstrated for science. Maybe one of these students would become a chemistry professor because of me.

The science outreach component of service was similarly outstanding, as the participant thank-you notes underscored how much of an impact our efforts were really having. "Thank you for all you have done for XX," began one note from a parent of someone who participated in chemistry camp, our free, week-long outreach program for middle school girls throughout Rhode Island. "I wanted you to know that she talks about you non-stop and wants to grow up to be a scientist like you. Thank you for showing her that girls can do everything." "Do everything?" I questioned to myself. I am not sure of that, but at least we can try.

This is why I love my job, all of these reasons all at once, even with all the stresses that come with it as well. This is why when, even when my favorable tenure decision came with no reduction in workload and on the contrary, with a non-trivial workload increase, I was OK. More than OK, I now enjoy the job more than ever, especially at this moment, when I write this article from my sabbatical appointment in Israel more than 5000 miles away. This is why I couldn't walk away in 2012 to become a stay-at-home parent and take care of an infant and toddler, and why I am grateful every day that I am still here. ◇

Call for Nominations

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presentation to be made at the Fruehjahrssymposium and the NSCRC; 2) an essay on the relevance of the exchange to your professional goals; 3) A letter of recommendation from your faculty research supervisor that supports your application. In addition, your faculty research advisor must certify that you are currently engaged in original research under her/his supervision, and that s/he gives you permission to be absent from the research laboratory for the period March 25, 2019; 4) approval from your supervisor and the chair of your department for your absence from classes, the research laboratory, and other related responsibilities.

Members of the German Exchange Steering Committee will interview program finalists. Prospective applicants who may be planning on attending the 2019 Spring ACS National Meeting and Exposition in Orlando should note that the ACS meeting will take place the week following the trip to Bremen, which may make it difficult for you to attend the ACS meeting.

Before you apply, please be aware of this. Applications are being accepted from students at colleges and universities within the NESACS geographic area, which comprises all of New Hampshire and the following counties in eastern Massachusetts: Barnstable, Bristol, Dukes, Essex, Middlesex, Nantucket, Norfolk, Plymouth, and Suffolk. Students interested in learning more about the German Exchange Pro-gram should attend the September and/or October meetings of NESACS. There will be representatives from the Steering Committee at each meeting to answer your questions. To register for monthly meetings, please visit http://acssymposium.com/paypal.html. For more information about the program or the application process, send an email to GEX@nesacs.org, and a member of the German Exchange Steering Committee will answer your question. Deadline for electronic receipt of applications: Thursday, November 1, 2018, at 5:00 p.m. ◇

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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
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http://www.unh.edu/chemistry/events
https://www.wpi.edu/academics/departments/chemistry-biochemistry

September 4
Prof Andrew J. Boydston (Wisconsin-Madison)
U. New Hampshire, Parsons N104, 11:10 am

September 6
Prof. Helma Wennemers (ETH Zurich) and Jonathan Reeves (Boehringer-Ingelheim)
Boehringer-Ingelheim Lecture in Organic Chemistry
MIT, 6-120 4:00 pm

Prof. Qiang Cui (Boston University)
Boston College, Merkert 130, 4:00 pm

September 11
Prof. Paul Chirik (Princeton)
LaMattina Seminar Series
U. New Hampshire, Parsons N104, 11:10 am

September 12
Prof. Galia Maayan (Technion University)
MIT, 4-370, 4:15 pm

September 13
Prof. Richard Stratt (Brown)
Boston College, Merkert 130, 4:00 pm

September 18
Prof. Noah Burns (Stanford)
Boston College, Merkert 130, 4:00 pm

September 20
Prof. Daniel Gryko (Institute of Organic Chemistry, Polish Academy of Sciences)
MIT, 6-120, 4:00 pm

Prof. Xiaowei Zhuang (Harvard)
Boston College, Merkert 130, 4:00 pm

September 28
Prof. Yujie Sun (Utah State)
Boston College, Merkert 130, 4:00 pm

Notices for The Nucleus Calendar of Seminars should be sent to:
Michael Filosa, email:
mpf1952@gmail.com ◇