Neglected Disease Laboratory Opens

The department celebrated a milestone with the opening of the third phase of the global health / neglected disease facilities. The new 2,500 square foot laboratory is located on the south wing of the fourth floor of Hurtig and will be directed by recent hire Professor Roman Manetsch. The state of art facility, which is custom designed, includes 14 fume hoods for organic synthesis, an analytical room for drug pharmacodynamic studies and a dedicated freezer bank, which will serve as a repository for new compound libraries. This third phase compliments the Pollastri and Aggen laboratories and establishes combined expertise that is unrivaled in the academy.

Chemistry graduate program ranked in top ten Nationally

The department was delighted to learn that its graduate program was ranked in the top ten Nationally for career support. The ranking is published by graduateprograms.com, and is based on surveys to 3,000 stakeholders at 300 Universities. The ranking is based on metrics that include quality of career planning, resources and support for students in the program and alums. Bravo!

Professor Roman Manetsch with Cynthia Lichorowich, an Organic Chemistry PhD student, and Lisa Barton, a Chemistry major, Class of 2016

For the past decade, Professor Penny Beuning has focused her research on cellular responses to DNA damage, specifically a family of DNA polymerases that deal with copying the damaged DNA. Her tireless work in this area of chemistry has earned her the Chemical Research in Toxicology Young Investigator Award from the American Chemical Society Division of Chemical Toxicology. This award is given annually to a researcher who has had a major impact on research in chemical toxicology or a related field. Penny’s recognition further distinguishes the department’s faculty honors, which include the ACS National awards in Medicinal Chemistry, Chromatography and Mass Spectrometry. Congratulations!
As I write this newsletter and reflect on the past year, it is evident that the department always finds ways to grow and develop and this is clearly a function of our dynamic faculty, who attract and inspire our students to accomplish great things.

We once again welcomed record numbers of gifted students both at the undergraduate and graduate level who are drawn to us by the environment we have established. As higher education comes under ever deeper scrutiny by lawmakers, legislators, and of course the fee-paying general public, we need to provide transparency to allow those unfamiliar to appreciate the value of what we offer.

In our case, our statistics are among the best in the nation – close to full employment on graduation both at BS, MS and PhD level, and for those seeking further education we routinely place our graduates into the top 10 doctoral programs in the world. Evidence of this surfaces at open houses, where I field challenging questions from prospective students and their parents. Questions include publication rates for our students, job opportunities for our graduates and accessibility of the faculty – all logical points of comparison for those considering multiple schools against Northeastern. However while such inquiries may drive our competitor departments into a defensive stance, in our case those very outputs and expectations are in fact our tour de force, and result year on year in very high enrollment yields.

One can expect this trend to continue, as the value of experiential education becomes appreciated by all. It is little surprise that professional societies, in our case the ACS, are now encouraging programs to incorporate this very asset – as described in a recent feature in the CPT newsletter.

Likewise, the high technology industries which covet experienced graduates flock to us to establish corporate ties – some of the latest of which are described in this newsletter. We have also continually striven to grow our research programs in emerging areas of national need, and this has resulted in the visibility of our faculty, be it in a nationally broadcast story about the latest findings in drug discovery, to our faculty being appointed to internationally significant advisory panels.

As a result of this, we are stronger than ever: 30+ faculty members, 225 majors and >100 PhD students, and as our visibility swells as we attract awards and media attention, and we find ourselves as a top 10 ranked program in National polls.

Many things change each year. We congratulate and send on their way scores of graduates, new faculty are recruited, and we see changes in leadership at the college and university. We embrace these changes, as we are driven by excellence, and as a result we grow stronger and spread our wings wider each year. We invigorate our curriculum, open new research centers, and forge new ties with leading organizations. It is a pleasure to be a part of this process and to contribute to its success.

There are many exciting developments described in this edition of the newsletter, and we want you, our students and alums to be proud of your accomplishments. My wonderful colleagues and dedicated staff are grateful as ever, to play a part in your development, and I as always, am especially thankful for the opportunity to serve as your chair.

Enjoy the newsletter.

Graham Jones
Department launches first European dialogue of civilizations course

Responding to student demand and reflecting the global nature of the chemical community, the department successfully launched a “Dialogue of Civilizations” course in summer 2015. The inaugural class of 30 students traveled to Dublin Ireland, Liverpool England and Basel Switzerland to study medicinal chemistry and conduct a semester long research project. Instructors in the dialogue were Professors O’Doherty, Jones and Manetsch, who also provided in depth local knowledge as they hail from the respective countries visited. Switzerland and England were selected for the dialogue based on the early origins of the chemical industry in Europe, whereas Ireland has recently taken a leadership role in the biopharmaceutical manufacturing sector. Some of the student research work is being showcased in Hurtig Hall, and a follow up offering will be made in summer 2016. In addition to University visits in Dublin, Liverpool, London, and Basel the group also visited industrial research facilities including Novartis (UK and Switzerland), Bristol-Myers-Squibb (Ireland), Lonza (Switzerland) and the National Institute for Bioprocessing Research and Training (Ireland). The students engaged in scientific discussions with researchers from the various universities, participated in numerous cultural events and will present their research on drug discovery at upcoming National ACS meetings. The dialogues’ activities were memorialized in the form of a daily blog, which proved popular with parents of the students on the trip. (nu-cd4.blogspot.com)

Industrial PhD program expands dramatically

For over a decade the department has allowed working research professionals the option to obtain a part-time doctoral degree by conducting a joint research project involving a departmental advisor and a counterpart in industry. Based on the surging popularity of the program, this year it was re-branded as the Industrial PhD. Now emulated by several other departments across campus, the program has received inquiries from a number of large corporations who wish to incorporate the degree platform into the career development programs. At the time of writing, a multinational corporation headquartered in Asia and a MA based biotechnology company are in active discussions for launch of programs in 2016.

Department champions new ACS certification requirements

The ACS Committee on Professional Training from time to time makes recommendations and adjustments in the certified ACS bachelors degree track in chemistry. A very recent requirement was for all certified programs to include specific programming in polymer and macromolecular chemistry within required courses. Though many programs are having to introduce new content, we were ideally positioned having already introduced this content into our general and organic chemistry courses for majors, coupled with specific work in chemical biology, bioanalytical chemistry and bioinorganic chemistry. Students wishing to study further in depth can also elect to take the polymer chemistry course introduced by Professor Ke Zhang last year. 2015 was also the year the department was required to be re-certified for another 5 year interval. The process was completed over the summer and approval and recertification [through 2021] will be granted by the ACS. Congratulations to all!

New “NU Core” curriculum to be introduced

Following several years of analysis and planning, the core curriculum for undergraduates at Northeastern is set to be revamped with a series of changes. Specific core competency areas have been earmarked, and classes have been identified which address these learning goals. The new curriculum is set to be introduced in 2016 following consultation with departments.
Jeffrey Agar – The Agar lab developed a technique for metabolic labeling for quantitative MS. They also introduced a new platform molecule, cyclic disulfides, that can target specific protein motifs and stabilize proteins associated with neuro degeneration. Papers published include a highly accessed proteogenomics study.

James Aggen – Since joining the University, Jim has aggressively pursued external funding for antibacterial research projects. In collaboration with colleagues, Jim secured his first external grant from the DoD. Jim also helped prepare four phase-1 proposals, five full research proposals to the NIH, and one contract bid to NIAD.

Penny Beuning – Penny was awarded the 2015 Chemical Research in Toxicology Young Investigator Award for her research on DNA replication and damage tolerance; the award will be presented at the fall American Chemical Society meeting in Boston. She also presented a book on effective teaching practices and is contributing to national efforts to improve faculty mentoring.

Raymond Booth – Supported by a new grant from the DoD, the Booth lab is using a G protein-coupled receptor (GPCR) homology modeling approach to design small molecules that target serotonin receptors in the brain for treatment of fragile X syndrome (FXS), a condition related to autism spectrum disorder (ASD).

David Budil – David continues to serve as Associate Dean of Research in the College of Science. This past year, David also continued to work on establishing research centers in the College, and participated in core laboratory planning for Northeastern’s new Interdisciplinary Science and Engineering Complex (ISEC).

Geoffrey Davies – Geoff and Elham Ghabbour’s group had another productive year measuring sequestered soil carbon in the National Soil Project, which is funded by the VK Rasmussen Foundation and the Farmers Advocating for Organic Fund in collaboration with the USDA. Geoff is the advisor of the award-winning undergraduate magazine NU Science.

Max Diem – His research in optical classification methods of lung cancer has reached the stage of a major collaborative trial with a national cancer center, with over 400 patients. In addition, Prof. Diem has published six papers in medical and analytical journals, and a book (Wiley & Sons) on optical diagnostic methods.

John Engen – John was awarded an “Excellence in Teaching Award” at the 2015 Academic Honors Convocation. John enjoyed another record year for publications on the use of mass spectrometry to study membrane protein conformation. John collaborates with Harvard Medical School, MIT and Duke.

Thomas Gilbert – Tom is exploring new ways to use technology, process-oriented guided inquiry, and cooperative teaching methods to teach large lecture sections. In 2015 he won the NU College of Engineering Outstanding Teacher of First-Year Engineering Students Award for the third time in the last five years.

William Hancock – Bill’s DARPA grant for a joint project with MIT (for biopharmaceutical production on demand) has successfully completed Phase I, and has been funded for Phase II. While collaborating with Professor Jeff Agar, new high-resolution MS approaches were developed that allow for the in-depth analysis of intact protein drugs.

Robert Hanson – Bob is continuing to refine the new Organic Chemistry III course for majors by adding new case studies and problem solving sessions. He has also established new collaborations with BIDMC, working on novel molecular imaging agents for neuroendocrine cancers, and with MGH, on PET/SPECT radiotracers.

Barry Karger – This past year, the Karger lab published a major paper on deep proteomic analysis of rare cells (CTCs, stem) in blood at levels of as few as 100 cells. Also, the lab developed new CE-MS technology for the high-resolution separation/analysis of multiple proteoforms of intact biopharmaceuticals.

Rein Kirss – Rein taught an honors seminar on “Green Energy: Emerging Technologies and Opportunities”. Also, Rein developed experiments for CHEM 3506, which is a laboratory to accompany CHEM 3505 – Bioinorganic Chemistry. Rein continues to represent the department on the college curriculum committee.

Carolyn Lee-Parsons – Carolyn chaired a meeting of the Northeast American Society of Plant Biologists at NU, and organized a symposium on “Advances in Plant Secondary Metabolism.” Carolyn was selected to participate at Cold Spring Harbor’s “Frontiers in Plant Science.”
Patricia “Pam” Mabrouk – Pam completed five years of service to the College of Science as Associate Dean for Academic & Faculty Affairs. Pam will spend the fall semester on sabbatical as the recipient of a grant to explore how undergraduate research students understand authorship.

Lee Makowski – As of September 1st, Lee will begin his new appointment as Chair of the newly formed Department of Bioengineering, within the College of Engineering. His research using x-ray scattering to study the structure, structural changes and fluctuations of proteins in solution includes collaborations with many of our faculty.

Alexandros Makriyannis – Alex continues to lead NU’s Center for Drug Discovery with studies underway on the interactions of cannabinergic ligands with receptors, enzymes and transporters using a combination of chemical, biochemical, biophysical and computational methods.

Roman Manetsch – New students and postdoctoral researchers joined the research group, which focuses on antimalarial and antileishmanial compounds. Roman also served as an instructor in the department’s new “Dialogue of Civilizations” course launched in Europe this summer.

Carla Mattos – Carla’s lab is well known in the cancer research community for its expertise on the structural biology of Ras proteins and its mutants, which appear in about 20% of human cancers. This has led to a partnership with the NCI Frederick Laboratory and an agreement with Eli Lilly.

Sanjeev Mukerjee – Last year Professor Mukerjee served as adviser to physical chemistry/materials section for graduate students, Chair of the local section of the Electrochemical Society, and was a reviewer for reputed journals. He participated in 14 invited talks at national and international meetings and workshops.

George O’Doherty – Professor O’Doherty and his students have spent the year designing, synthesizing and testing new anticancer, antibacterial and antiviral compounds. Some of their most recent results have been published, and can be found online on the group website. He also served as an instructor in the department’s European “Dialogue” course.

Mary Jo Ondrechen – Mary returned from sabbatical leave at CalTech. With Penny Beuning, she received a new NSF grant for the project “Distal Residues in Enzyme Catalysis and Protein Design.” She continues developing methods to interpret genomics data and works with medicinal chemists on structure-based drug design.

Michael Pollastri – In 2014, the Pollastri lab published 12 papers and received funding totaling $3.5 million (from NIH and other sources) to support their neglected tropical disease drug discovery work. Now tenured, Professor Pollastri will be spending a sabbatical year at GlaxoSmithKline to re-immerse in industrial drug discovery.

Eugene Smotkin – Gene was funded with three grants this past year, and published four papers. He presented a Plenary lecture at the 5th International Conference on Operando Spectroscopy in France. He guest edited a 2014 issue of the International Journal of Hydrogen Energy as the proceedings for an international symposium.

Olga Vitek – The Vitek lab works on statistical and computational methods for large- scale proteomics and metabolomics. Recent outcomes are two open-source software tools: MSstats for relative protein quantification in MS experiments, and Cardinal for quantitative MS imaging. This work was supported by NSF and by Roche.

Paul Vouros – Paul’s collaboration with the Roswell Park Cancer Institute is focusing on the formation of DNA adducts from tobacco carcinogens with current emphasis on gender disparity in bladder cancer. His research in the area of differential ion mobility spectrometry is continuing in collaboration with colleagues at Georgetown University.

Ke Zhang – This past year, Ke’s program in polymer and nucleic acid nanotechnology grew at a steady pace. One new graduate student and one postdoctoral fellow joined the team. Two JACS papers and a ChemComm paper have been published, and he received the NSF CAREER award among numerous other grants.

Sunny Zhou – The group made a breakthrough in characterizing protein crosslinking, which plays diverse and critical roles in biology (e.g., oxidative stress and aging) and biotherapeutics. The career path of Chris Chumsae, an industrial PhD from Abbvie, was highlighted by President Aoun during commencement
Department lands NSF grant for new forensics center

Forensics chemistry has always had a special tie to the Barnett Institute from its origins with funding from the Department of Justice to the development of new analytic techniques and the establishment of the Saferstein forensics lecture series. Things look set to grow even deeper with the award of a planning grant from the NSF to establish it as a forensics center of excellence. Led by the mass spectrometry core laboratory director, Adam Hall, the planning grant is being used to establish formal ties to partner universities and also institutes, including our very own Kostas Center for Homeland Security located at the Burlington campus. We look forward to exciting developments.

Hancock appointed to FDA advisory board

Given the importance of biopharmaceuticals and the recent introduction of biosimilar versions to the marketplace, the regulatory agencies are in constant need for expert analysis from the academy. Professor Bill Hancock was recently appointed to an FDA advisory board for new drug approvals based on his extensive scholarship in this area from a career spanning academics and industry. The appointment is a two-year term and promises to be a busy engagement as the first biosimilars have now entered the US market, and up to $50BN of innovator drugs are likely to be subjected to generic competition over the next five years as patents expire. Kudos!

Karger and Mukerjee honored

Two of our colleagues were honored this year as inaugural recipients of the College of Science Distinguished Professorship. The awards were conferred on both Barry Karger and Sanjeev Mukerjee for their research contributions over the past decade. The aim of the program is to recognize faculty excellence and confer the title to a very limited number of recipients. Highlighting the significance of the title is the fact that the College has over 200 faculty, and for the first two recipients to hail from our department reflects well on our research culture.

Drug Discovery program featured in national campaign

Colleagues were the subject of an intense and wide ranging media campaign in the spring resulting from a series of high profile discoveries in the neglected disease program. A number of media features involved our research in the search for new antibiotics, which highlighted the work of Professors Aggen and collaborators in Biology, and was followed by features on global health research featuring Professors Pollastri and Manetsch. In addition to local media outlets some of the stories reached the national wires and were even featured in CNN and the BBC. Keep up the great work!

Northeastern welcomes new Provost

Following the announcement that Stephen W. Director would step down as Provost, a national search was initiated for a successor. Chair Jones was appointed to the committee that was successful in securing James C. Bean, a professor and former Provost at the University of Oregon. Provost Bean commenced his post full-time this August and will be spearheading a number of complex initiatives including implementation of the new Interdisciplinary Science and Engineering Complex (ISEC), which is set to open in 2016. Welcome aboard.
Co-op News

It has been another exciting year of rapid growth! Our students continue to be placed on amazing co-ops across the U.S. and around the globe. Companies are now increasing the number of co-op students they will hire after our wildly successful partnerships. And, families are making scholarships possible for our promising students. Thanks to a generous donation from the Pajak family, we were able to expand and strengthen our relationship with Brigham and Women’s / Harvard Medical Laboratory for Neurodegenerative Diseases. We also partnered with Dr. Steven Balk of Beth Israel Deaconess Hospital where a pre-med student in the department worked on cutting edge prostate cancer research and presented his findings in a research symposium.

In the fall of 2014, one student had the opportunity to co-op for 6 months at Novartis Pharmaceuticals in Basel, Switzerland. And, this fall in 2015, a student from the new Drug Discovery and Development dialogue will stay on in Dublin, Ireland to complete a co-op at the National Institute for Bioprocessing Research and Training (NIBRT). We find that alumni involvement and mentoring through co-op are integral parts of shaping a student’s future and lighting a path toward success. To become a mentor and/or part of the co-op process please contact me at k.cameron@neu.edu or 617-373-4498 to learn more!

Best, Katie (Cameron) Dioli

Co-op at Woods Hole Oceanographic Institute: A student’s perspective...

Thankfully I had the opportunity to work at the Woods Hold Oceanographic Institute for my third and final coop. My official role was “Climate Change and Organic Geochemistry Research Assistant.” My co-op involved analyzing sediment core samples for biomarkers in the molecular paleoclimatology lab of Dr. Jessica Tierney. Biomarkers are compounds that are produced by algae, microbes, or higher plants and animals, and are preserved in sediments. The work was very independent and rewarding!

Living in Woods Hole, MA on Cape Cod was an amazing experience, despite the harsh winter. Even when everything was frozen for the first couple of months (even Buzzards Bay froze over!), it was still incredibly beautiful. I will surely miss watching the sunset on the beach every evening, exploring the many trails and beaches nearby, and running/biking on the Shining Sea Bikeway. Overall, I left Woods Hole with some great work experience and many wonderful memories! Regards, Anastasia Maydanov

Anastasia pictured by the Atlantic Ocean, Woods Hole, MA

Co-op at the University of Tsukuba in Japan

Working in Japan is an experience that was very enjoyable for me, but felt far removed from the American way of life. I was assigned as a student researcher in the Ichikawa Lab at the University of Tsukuba working full-time with Professor Junji Ichikawa. Professor Ichikawa was a former colleague of Chair Jones at Harvard University, and was thus able to secure the position for me with ease.

In most Japanese companies, you work at least 70 hours a week – essentially double the standard American week. Your co-workers will become the closest people in your life, even closer than your own family in most cases. Aside from the obvious language barrier, I also found there were many differences in the way we did chemistry. At Northeastern I had been conditioned to use very cautious lab practices and often sought alternative synthetic routes if a reaction needed the use of extreme reagents. However, here the use of dangerous reagents was so commonplace that many students would not even bother to wear gloves, goggles or a lab coat – even while using n-butyl lithium or strong Lewis acids!

There is an innate Japanese pursuit of perfection. Even making noodles can take over 10 years of training to master. This was evident in the way they conducted chemistry as well. Students would often retry the same experiment 10 times in hopes of improving the yield. If they were stuck on a reaction, they would often stay working in the lab past midnight and on Sundays until they had the result they wanted.

The research done at the Ichikawa Laboratory is all fluorine chemistry related. I felt that my contributions in this area would be very limited because of my lack of exposure on the topics. But, I did have previous experience making heterocyclic compounds, including indoles from my experience in the Jones lab. So, I felt that I could develop a new method to form these compounds. I was successful in creating multiple trifluoromethyl bearing indoles including a new method I developed on my own.

Overall I enjoyed my experience working in Japan!

My best, Tanner Jankins

Tanner pictured in the city of Tsukuba, Ibaraki Prefecture, Japan
The 2014-2015 academic year has been thrilling, as we anticipate the next year will be also. On behalf of myself and my fellow officers (Matthew Dowgiallo – Vice President, Hannah Stern – Secretary, and Alina Kassenbrock– Treasurer) it is our honor to represent the chemistry graduate students. We will strive to continue the great work accomplished by the previous officers, while enhancing GSA as much as possible.

The current first-year graduate students are currently busy studying for and taking their cumulative exams, placing us one step closer to becoming PhD candidates. One of the unique aspects of the PhD program at Northeastern is that all of the course work is completed within the first year, allowing the subsequent years to solely be spent doing research. I can personally attest that this past year has been challenging, yet enriching, providing me with the knowledge and tools needed to successfully transition to the research laboratory. The goal of our program is to provide you with a unique graduate experience that will lead you anywhere you desire.

I would like to give a huge thank you to the previous officers (Dana Klug – President, Jen Winters – Vice President, Tim Coulther – Secretary, and Di Wu – Treasurer), for making this past year such a success. The previous officers worked hard to plan each of the traditional social events of the GSA, including the end-of-the-year barbecue and international day. In addition to the great food provided at these events, they provide an opportunity to build relationships. We will continue to host these events to instill a sense of community within the department.

In addition to social events, GSA had the pleasure of hosting great speakers at the annual colloquium series. Special thanks to Meaghan Sebelka for organizing this series. Colloquium provides the opportunity for graduate students to interact with invigorating and innovative speakers from various areas of research including chemical biology, organic/medicinal chemistry, materials, and analytical chemistry. These weekly colloquia are a valuable asset to the graduate experience at Northeastern, and help students build their network throughout the scientific community.

I would also like to take this opportunity to congratulate the recipients of department awards this year. Congratulations to all on a job well done! This upcoming year will be one to remember, as we continue the precedent set by officers before us. Matthew, Hannah, Alina, and myself will partner with faculty and current students to continue the wonderful traditions of the GSA. We are always open to suggestions on how to improve your graduate experience, therefore feel free to correspond with us via email (gsa.neuchem@gmail.com) or in person.

Let’s make this year great!
Derion Reid
GSA President
ACS Student Affiliate Chapter News 2014 – 2015

I am so excited to kick off another great year in the chemistry department. I am confident that all of our incoming and returning students are certainly going to make this year both successful and fun!

Maintaining the tradition of excellence upheld by NUSAACS, our last year was extremely productive to say the least. We hosted weekly speakers in various fields, such as an analytical chemist working on proteomics, a medicinal chemist working on the next generation of oncology treatments, and a cosmetic chemist working on everyday products such as shampoo. From these experienced speakers, members gained insight into possible career routes and valuable connections that translated into co-ops and even full time jobs after graduation.

We hosted two local universities at our annual Joint Student Chapter meeting where John Warner spoke to us about his career and his passion for Green Chemistry. Our biggest event of the year with record attendance was the 3rd Annual Futures in the Sciences speaker panel, which was a great hit on campus and further solidified NUSAACS’s presence within our NU community.

We also impacted the greater Boston area as a group. Aside from our annual volunteering for National Chemistry Week and Earth Day demos at the Museum of Science and the Children’s museum, NUSAACS also participated in many other great fundraising events such as Light the Night and Relay for Life. With a science lesson and an ice cream experiment, we also extended our reach to a new group, ROCA, which helps high-risk youth create a better future for themselves.

On top of these professional, campus-wide, and community service events, we also presented our group at the ACS conference in March at the successful student chapter showcase. We were recognized nationally as a group, as well as for our commitment to green chemistry. As one can see, we all put a lot of work into this year, but we also got to have a lot of fun! In the past year we got to eat ice cream at Kimball Farm, scream on the rides at Six Flags, cheer from box seats at a Boston Celtics Game, and brave the frigid air to snow tube at Nashoba Valley. There was never a dull moment and we all have great memories to look back on.

I am so very appreciative of the executive board of this past year, Mark Naniong, William Timson, Rebecca Timson, Jason Conway, and Brittany Laramee, who put so much work into this group to continue a legacy of an award winning student chapter. As for this year, the new board of Brittany Laramee, Travis Delano, Connor Gallin, Jane Compton, and myself are extremely excited to begin a new year and implement some new exciting ideas.

Last but not least, we would not be the same successful student group without the help of Dr. Graham Jones, Katie Dioli, and the rest of the amazing chemistry department. We are all so grateful for their constant unwavering support.

As I enter my final year here at Northeastern, I can truly see the huge impact that this organization and department have had on my college experience and I cannot emphasize enough how thankful I am and fortunate I feel. I am so excited to spend this next year ensuring the success of our group and facilitating a close-knit environment where we can all thrive here within NUSAACS. I hope my passion extends to all of you in the coming year!

Best, Jaime Conway

Best, Jaime Conway

GRADUATES 2014-15

Bachelor of Science (Chemistry)

Caitlin Kramer
Sin Nong Jennifer Li
Anastasia Maydanov
Allison Murdza
Mark Vic Nannon
Michael Pablo
Hannah Peterlin
Srivatsan Raghavan
Marissa Reyes
Shores Saltar
Jonathan Savas
Coleen Shea
Megan Sheehan
Nicholas Sherman
Brian Shin
Xiwen Song
Benjamin Tanenbaum
Douglas Townsend
Nikola Vidovic
Devan Wilkins

Master of Science

Kelton Barnsley
Elizabeth Jones

Doctor of Philosophy

Emily Corcoran

Min Liu
Nadeesha Ranasinghe
Arachch
Jennifer Woodring
Yashan Zhong
Daniel Abbott
Michael Bates
Christopher Chumsae
William Devine
Michael Philip Nevin
Wanfu Qu
Pei Shi
Emily Stoler
Kara Strickland
Memet Ates
Bajaj Sumit
KyOnese Taylor
Teh James
Fan Zhang

Bachelor of Science (Biochemistry)

Naimah AlHazza
Joshua Araya

Robertha Barnes
Christopher Beneduce, Jr.
Ian Brenckle
Morgan Butler
Farya Chattergoon
Ching Kit Chan
Erita Chong Ng
Jesse Cooper
Courtney Cowell
Eva Dixon
Patrick Donohue
Hilary Du
Saleh El-Husayni
Jennifer Endress
Arielle Fabiano
Lesley Ferguson
Giulia Giammo
Sarah Goldberg
Kelsey Hickey
John Hinds
Judith Holland
Daniel Kritzay
Kyle McSweeney

Selamawit Mezegebo
Meghan Montgomery
Matthew Neale
Joseph Paquette
Esha Parikh
Jeffrey Pitts
Isabel Price
Samantha Saggese
Abhi Shah
Jacob Siegel
Gordon Ta
Brendan Taillon
Lauren Tang
Rebecca Timson
Lan Tran
Herman Tse
Chad Urlaub
Lukas Voortman
Benjamin Weaver
Laura Weinstock
Alexander Williams

Jonathan Savas
Nicholas Sherman
Megan Sheehan
Nicholas Sherman
Brian Shin
Xiwen Song
Benjamin Tanenbaum
Douglas Townsend
Nikola Vidovic
Devan Wilkins

Master of Science

Kelton Barnsley
Elizabeth Jones

Doctor of Philosophy

Emily Corcoran

Min Liu
Nadeesha Ranasinghe
Arachch
Jennifer Woodring
Yashan Zhong
Daniel Abbott
Michael Bates
Christopher Chumsae
William Devine
Michael Philip Nevin
Wanfu Qu
Pei Shi
Emily Stoler
Kara Strickland
Memet Ates
Bajaj Sumit
KyOnese Taylor
Teh James
Fan Zhang

Bachelor of Science (Biochemistry)

Naimah AlHazza
Joshua Araya

Robertha Barnes
Christopher Beneduce, Jr.
Ian Brenckle
Morgan Butler
Farya Chattergoon
Ching Kit Chan
Erita Chong Ng
Jesse Cooper
Courtney Cowell
Eva Dixon
Patrick Donohue
Hilary Du
Saleh El-Husayni
Jennifer Endress
Arielle Fabiano
Lesley Ferguson
Giulia Giammo
Sarah Goldberg
Kelsey Hickey
John Hinds
Judith Holland
Daniel Kritzay
Kyle McSweeney

Selamawit Mezegebo
Meghan Montgomery
Matthew Neale
Joseph Paquette
Esha Parikh
Jeffrey Pitts
Isabel Price
Samantha Saggese
Abhi Shah
Jacob Siegel
Gordon Ta
Brendan Taillon
Lauren Tang
Rebecca Timson
Lan Tran
Herman Tse
Chad Urlaub
Lukas Voortman
Benjamin Weaver
Laura Weinstock
Alexander Williams
BATL hosts SFDA regulators
The Biopharmaceutical Analysis and Training Laboratory (BATL) opened its doors officially in the fall of 2014, and has been providing training in the form of short courses each month since. One of the major beneficiaries of these courses will be the regulatory agencies, who are keen to keep abreast of current developments in the field. The facility has entered into a multi year agreement with the Chinese SFDA and negotiations are also underway with other agencies including those which are part of the Asia Pacific Economic Co-operative (APEC), whose member countries seek regulatory science training based on the FDA approvals process.

Trainees from the State Food and Drug Administration of China (SFDA) pose with host, Professor Sunny Zhou at the BATL facility.

REU program is a major success
This year marked the second cycle of the NSF sponsored REU program and once again we hosted a number of extremely talented students from various backgrounds. A research symposium featuring the final results from all students was held on August 10th. The students and their advisors also took a number of field trips to industry sites and celebrated summer with a picnic at the Chair’s residence.

REU participants enjoy a summer picnic with Chair Jones and their advisors including Profs. Engen, Mattos, Agar, O’Doherty and Beuning.

Program featured in ACS-CPT newsletter
The co-op program has long been considered a jewel in the crown of our educational program, providing our majors with vital practical training. The ACS has taken note of our unique program and featured a story on the co-op system in their “Committee on Professional Training” (CPT) newsletter. Given the substantive impact on the employability of our graduates (an area of deep concern for ACS at both the undergraduate and graduate level) it is likely that other universities will be encouraged to adopt aspects of the program.

Department continues to lead in research grant funding
The department had another banner year in terms of external funding and once again led the College of Science in total funding awarded, funding requested and numbers of proposals submitted. Significant new grants include in excess of $3M to the Pollastri group, and approximately $1M in new funding for the Mattos, Ondrechen and Lee-Parsons groups respectively. Such funding success is providing leadership to the University in its quest to double total research expenditures to >$200M annually. Keep up the good work!

Entrepreneurship seminar series a qualified success
Given the large number of successful alumni entrepreneurs, it seems logical that we would make use of this intellectual capital for developing the next generation of field leaders. Accordingly, and with assistance from the Office of Alumni Relations, the department and the Barnett Institute hosted the “Entrepreneurship / Intrapreneurship Seminar Series” with invited lecturers who are active in new business startup ventures. Speakers included Peter Barrett, ’79 PhD (Atlas Venture), James Vath, PhD (Zafgen, Inc.), Daniel Levangie (ATON Partners) and Jonathan Fleming (Oxford Bioscience Partners). Based on the success of the program, it will be expanded in 2015 – 16 through a collaboration with the College of Engineering, and entrepreneurship seminars will be integrated into the student colloquium series.
New ISEC building takes shape
Considerable progress has been made on the new 200,000+ sq. ft. Interdisciplinary Science and Engineering Complex, affectionately known as the ISEC. With the frame now in place, a topping-off ceremony was held in May 2015 with Northeastern’s President Joseph Aoun and Boston Mayor Martin J. Walsh. Based on current progress, the facility is slated to be ready for occupancy by summer 2016. A targeted cross-college hiring initiative is underway to recruit key faculty to the facility, many of whom may be jointly appointed between the department and the bioengineering department.

Familiar faces return to the Department
We are delighted to welcome back two faculty members who have held full-time administrative appointments outside the department in past years. Professor Kay Onan will return to us full-time in the fall of 2015, following various administrative appointments, including an appointment in the original College of Arts and Science, and in the Office of the President. Also returning this fall will be Professor Patricia “Pam” Mabrouk, who was most recently Associate Dean for Academic & Faculty Affairs in the College of Science. Welcome back!

Students win travel grants and poster awards
The department is pleased to note that PhD student Kalli Catcott was awarded an ACS Women Chemists Committee (WCC) travel grant to attend the PACIFICHEM Conference in Honolulu, Hawaii in December 2015. Kalli will present the results of her research at the conference. Also noteworthy, Xiaofan Liu, a Chemistry major in the class of 2018, won a poster award at the 27th International Symposium on Chiral Discrimination (Chirality 2015) held in Boston during the summer of 2015. Xiaofan works with Professor George O’Doherty, and Kalli with Professor Zhou.

Short course on biostatistics draws key audience
Given the importance of biostatistics and bioinformatics in chemical research, we were delighted to recruit Professor Olga Vitek as a colleague last year. One of her annual outreach endeavors is to host a summer short course covering state-of-the-art developments in biostatistics. The course had its debut at Northeastern this year and was a resounding success, attracting researchers from around the globe. An opening lecture was given by Dr. Steven Carr, Head of the Broad Institute’s proteomics program. Congratulations!