The field of glycochemistry (the study of sugars and their complex carbohydrate derivatives) is one of the fastest growing and important new fields of biological chemistry. Beyond the more obvious roles that sugars play as structural building blocks in biology and in metabolic processes, they are pivotal in the emerging biomedical field termed glycomics. Small structural changes in sugars coupled to complex proteins can have profound consequences both in the efficacy of therapeutics and cell signaling pathways in systems biology. The department launched a new course in glycochemistry in 2009 and initiated a national search for a leading researcher in the field. This past year we were successful in attracting Professor George O’Doherty, who joins us September 2010 and will establish a state-of-art synthetic glycochemistry laboratory at Northeastern. O’Doherty, who has served on the faculty at both the University of Minnesota and West Virginia has multiple programs funded by the NSF and NIH for chemical synthesis of modified sugars and their derivatives and has an extensive collaborative network. Complimenting his synthesis program, the analysis of complex carbohydrates and glycoproteins is already an active area of research in the department with the Mass Spectrometry research program in the Barnett Institute and the LC-NMR facilities housed in the Center for Drug Discovery. The emerging drugs of the future or so-called ‘biotherapeutics’ are typically composed of carbohydrates attached to proteins or antibodies, and the ability to study and modify their structures is becoming significant. Additionally close to $80 billion worth of these biotechnology drugs will come off patent in the next 10 years, fuelling enormous interest in (bio)generic versions of the agents. Prof O’Doherty’s arrival is thus timely and his laboratory looks set to make a major impact at Northeastern given our extensive collaborative opportunities with area biotechnology companies and in the clinical sector. Welcome aboard!

Department is key unit in the new College of Science

Following on from a planning process this past year, the new College of Science became operational July 2010. Composed of the departments of biology, chemistry and chemical biology, mathematics, psychology, physics, and earth and environmental science (which were all formerly in the College of Arts and Sciences), the new college will be lead by its inaugural Dean, Murray Gibson. An applied physicist by training, Dean Gibson comes to Northeastern from the University of Illinois and its affiliated Argonne National Laboratory where he was a director. The reorganization of the College of Arts and Sciences into three discrete new colleges [Science, Arts Media & Design, and Social Sciences] is the result of a year-long process coordinated through the Provost’s Office. Chair Jones served on the restructuring taskforce, which helped define departmental needs in the new colleges and identify areas for improved operations. In addition to facilitating closer interactions between the science departments, the new college will play a leading role in promoting interdisciplinary research and curricular initiatives with the College of Engineering and Bouve College of Health Sciences.
The 2009-10 academic year proved an incredibly successful one for the department and university. While many other schools scaled back or in some cases eliminated programs, we were able to press ahead with strategic plans and sustain our investments in academic programs. As described in this edition of Husky Chemist, this included new faculty hiring, opening of new research and instructional laboratories, renovation of facilities and recruiting of talented new students.

As a result of its investments and rise in reputation, the University rose in the often cited US News & World Report ranking to number 80 – a jump of some 16 places over last year. In the case of the department, a report issued by the independent consultants Academic Analytics compared us to departments ranked in the US top 50 and placed us 5th overall in one of the key categories [research funding per faculty member]. Metrics and rankings of course do not tell the whole story or convey the impact of the unique Northeastern experience and its myriad benefits.

For our undergraduates, the combination of real world experience obtained on co-op with academic research excellence developed on campus allowed us to graduate the largest class [30] in our history. Graduates are moving on into exciting careers in a wide range of sectors including pharmaceuticals and biotechnology, consumer products, cosmetics and government laboratories. A large number of graduates were recruited into PhD programs at top ranked Universities including MIT, Cornell and Princeton, while others go on to medical school. Their continued success and development in turn will serve to underscore the preparation we give our students and the confidence that they develop that there are few boundaries for a Northeastern grad. It seems clear that each graduating class challenges the next to continue to excel and propel the NU brand. The future seems bright – one of our upper classmen became the second chemistry major in 5 years to win the prestigious National Goldwater Scholarship.

The graduate program continued to scale new heights and produced a record number of graduates [24 PhD and MS students] this past year. Our students showed their competitiveness on the national and international stage, being awarded numerous research fellowships, and prestigious prizes. The research programs they work in attracted substantial numbers of new $ multi-million grants and contracts from government agencies and industry and these will propel our growth in our centers of research excellence.

Our faculty continued to garner National and International attention for their work, with a number of prestigious awards captured and honors bestowed. They were invited to serve in leadership roles in international organizations, sit on advisory panels to government agencies, and sought as expert consultants to our nations industrial backbone. In addition a number of our faculty attracted the attention of the venture capital community for the potential to spin-out promising technology into startup companies. This activity is a good barometer for the recovering innovation economy, and is also a testimony to the rich history of use inspired / translational research in the department. We will build on these successes and continually attract the next generation of academic leaders to the department with a sustained faculty hiring program. Identifying key areas for strategic growth is the key – and our recruitment of a top ranked glycochemist will be followed by hires in other emerging and exciting fields of international significance.

All this activity has made the department an attractive place to study for prospective students. This fall we will welcome a record number of incoming PhD students [25], and a class of undergraduate majors [40] with some of the highest SAT scores in the University. We wish them well, and trust that they will challenge us to keep the tradition of excellence alive and kicking. It is a truly rewarding experience being part of this program, and I am delighted for the opportunity to serve as its chair.

To our Husky Alumni around the globe, I urge you to visit us to witness first-hand the incredible developments that have taken place over the past years. With the fall ACS meeting in Boston, it would be an excellent time to reconnect- and I hope to see many of you soon!

Graham Jones

Message from the Chair

Please contact us: www.chem.neu.edu • gr.jones@neu.edu • 102 Hurtig Hall
Bioinorganic Chemistry debuts

Recognizing the importance of bioinorganic chemistry in the physical and life sciences, the University recently approved a new course from the department -- bioinorganic chemistry. Taught by inorganic chemistry Professor Rein Kirss, the new course introduces the bonding, spectroscopy, substitution and electron transfer reactions of coordination compounds in the context of metal-based drugs and and metalloproteins. The course is open to students who have completed organic and physical chemistry, and is expected to be popular for chemistry and biochemistry majors and chemical engineers alike. In connection with the introduction of new courses such as bioinorganic chemistry, the department is now in the process of reviewing the new ACS guidelines for the certified degree program issued by the Committee on Professional Training (CPT).

Recitation sections introduced for organic chemistry

Organic chemistry is often perceived by many as one of the most challenging courses they take, and this seems particularly true of students of other majors. In an effort to assist students’ progress through organic 1 and 2 [particularly important for those in pre-med tracks] the department is now introducing formal recitation sections to all of its organic chemistry service courses. The recitations, modeled on those offered through our general chemistry program, will be zero credit hour courses with co-registration in the lecture and laboratory sections required. It is expected that the recitations will assist students in problem solving and group learning exercises, particularly useful in build up to mid term and final examinations. Debuting this fall, recitations will operate on a late afternoon – early evening cycle and be overseen by a team of academic specialists and faculty working in concert with the instructors of record for the lecture sections.

FDA Backed Regulatory Science Programs Launched

Following a year of planning, the new professional science master’s degree in regulatory science [PSM] commences this fall. Regulatory science covers the scientific and technological basis for regulatory approvals and monitoring of drug substances. The discipline compliments that of regulatory affairs, which is concerned with the development and enforcement of regulations through administrative procedures. The regulatory science associated with conventional drugs is now a mature discipline. However, in the case of complex biopharmaceuticals, the underpinnings of regulatory protocols and procedures are intimately tied to the science behind them, and are emerging continually. This will be the fourth Professional Science Masters (PSM) degree program at Northeastern integrating aspects of science, business and regulatory affairs. The majority of the coursework is derived from the Department of Chemistry & Chemical Biology and the program will be overseen by Director, Professor Tom Gilbert and Executive Administrator, Cynthia Bainton. The program is of two years duration consisting of classroom & laboratory instruction plus a research project leading to a thesis. The clientele will be professionals in the biotechnology and pharmaceutical industry, the regulatory agencies, and science graduates who wish to train in this rapidly developing field. The Massachusetts Biotechnology Council (MBC) have endorsed the program, which will be first in the nation. Signifying the importance of Northeastern’s PSM degrees, Bainton was recently elected to the National Professional Science Master Association (NPSMA). Congratulations!
Penny Beuning — Penny Beuning served as a Discussion Leader at the Bioorganic Chemistry Gordon Research Conference in June. Her group published several papers this year and produced two M.S. graduates. Prof. Beuning also demonstrated the chemistry behind ‘disappearing’ ink at the Museum of Science, as part of the “Inspiring Minds: Meet Women in Science” May event.

David Budil — The Budil group enjoyed a very productive year with ten publications in top journals and a number of presentations at conferences, reflecting their new research initiatives with the CDD, WUCRET, and Nanotechnology. David returned as Biochemistry Committee Chair this past year and will be working with physical chemistry faculty to re-engineer the graduate thermodynamics program.

Geoffrey Davies — Geoff Davies and Principal Research Scientist Elham Ghabbour co-chaired Humic Science & Technology Conference 13 in March. Their National Soil Project is going well with agricultural top soil samples from 431 US counties analyzed for their humic acid contents. Geoff also led the chemistry majors through both semesters of the general chemistry program this year.

The research group of Max Diem continues worldwide leadership in the development of methodology for automated and machine-based spectral cytopathology and histopathology. The research group has produced over 25 papers and book chapters since 2008, and was represented at numerous invited lectures and conferences. Efforts for commercialization of these techniques are underway.

John Engen — Several strong collaborations with the Dana Farber Cancer Institute and Harvard University Medical School researchers on kinase conformation led to papers in the top ranked journal Nature. John also taught a short course on hydrogen exchange Mass Spectrometry at the National ASMS meeting. He has given a total of 15 invited lectures in past 9 months, which included a tour in India.

David Forsyth — David engaged two undergraduate students in an NMR study of preferred conformations of alkoxyarenes via NOE measurements and comparison of GIAO-predicted chemical shifts to observed carbon chemical shifts. He also modified the Spectroscopy of Organic Compounds lab to incorporate the capabilities of the newly installed 400 MHz NMR instrument.

This spring and summer Professor Thomas Gilbert led a team of facilitators in launching two new chemistry courses, CHM 6501 (The Particulate Nature of Matter) and 6502 (The Energetics of Chemical Reactions). The courses attracted a total of 58 middle and high school science teachers to courses that are part of the Masters in Science Education offered through Northeastern’s School of Education.

Professor William Hancock continued to extend the visibility of our proteomics program on the international stage in connection with his role in the Human Proteome Organization (HUPO). A multi-center clinical screening program is now underway involving research teams in the USA, Australia, and South Korea on the risk factors linked to breast, colon and stomach cancers respectively.

Robert Hanson — Bob Hanson completed the first year as principal investigator on a three year DOE Training program in radiomedicinal chemistry. Two of his graduate students received DoD Prostate cancer research program pre-doctoral fellowships. One new area of research involves the development of multifunctional gold nanoparticles for cancer imaging and therapy.

Graham Jones’ laboratory signed an agreement with ChemTrix for development of flow chemistry methodology. Graham gave plenary lectures at the Alzheimer’s Drug Discovery meeting and at an international conference organized by Nobel Laureate Robert Grubbs. He and graduate student Amy Kallmerten received the 2009 MJ Collins award for technology innovation at the Fall ACS meeting.

Professor Barry Karger had another excellent year establishing major collaborative agreements with a number of biopharmaceutical companies on the analysis of next generation biosimilar drugs. This program enjoys strong ties to the NIH and FDA, and will play a leading role in the Barnett Institutes recently established Center for Advanced Regulatory Analysis (CARA).

Professor Rein Kirss was on sabbatical leave during 2009-2010 working with Tom Gilbert, Natalie Foster and Geoff Davis on the third edition of “Chemistry: The Science in Context” and a new textbook using the “Atoms First” approach. Rein is looking forward to the roll-out of the new course Bioinorganic Chemistry in the 2010-11 academic year.
News from our faculty

Professor George O’Doherty will be moving his research team to Northeastern from West Virginia in time for the start of the fall semester. He and his group of fourteen organic chemists are looking forward to collaborative opportunities in the department and the New England area. George will be teaching the organic chemistry 2 for majors course in the Spring of 2011.

Professor Lee Makowski from the Argonne National Laboratory will join Northeastern in 2010 as a joint hire between the Departments of Electrical & Computer Engineering and Chemistry & Chemical Biology. Lee looks forward to developing research collaborations with colleagues on protein chemistry and developing new courses in the physical and materials chemistry division of our graduate program.

Under the leadership of Professor Sanjeev Mukerjee, the Center for Renewable Energy Technology received grants from the Department of Energy worth close to S8 MM. Several international outreach activities have been implemented including collaborations with the Czech Republic and India. A renewable energy lab is also being built for students at Mansfield elementary and middle schools.

Professor Mark Ondrechen’s work continues on functional genomics, protein engineering, drug discovery, and understanding enzyme function, with support from the NSF. Her group made a strong showing at the 2010 ISMB and ACS National conferences in Boston, with a total of 12 presentations. Her leadership in the field led to her appointment on a number of national advisory boards.

The Center for Drug Discovery (CDD) directed by Professor Alexandros Makriyannis continued to grow from strength to strength, with a number of additional faculty hires in progress. Their doctoral training program, supported by a multi-year grant from the National Institutes of Drug Abuse (NIDA) now funds a large number of doctoral students in chemistry and pharmaceutical sciences programs.

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Professor Mike Polastri fully established his research group and is pursuing several projects in the area of neglected disease drug discovery. He also cemented a series of industrial collaborations for the development of techniques for medicinal chemistry compound diversification. Michael is also a lead investigator on a new program involving researchers from Harvard and Cal Tech.

Professor William Reiff became emeritus professor as of July 1, 2010 but will continue to conduct research at the national magnet laboratory in Tallahassee, Florida. Following on from the successful retirement symposium, Bill is in the process of completing a number of manuscripts based on his recent collaborative research efforts.

Professor Eugene Smotkin’s group continues to flourish, developing new applications for fuel cell technology and analysis of the mechanisms of complex chemical reactions. Genea affiliated start-up company NuVant was awarded multi-million dollar funding from the government for commercialization of their technology and is actively involved in outreach programs at the University of Puerto Rico.

Professor Paul Vouros is happy to report the renewal of his NIH R01 Grant for the period August 2009 through July 2014. This program, on analysis of DNA adducts using mass spectrometry represents one of the longest continually funded programs at Northeastern! Paul is also involved in a new collaborative program with researchers at the University of Crete, in Greece.

Professor Philip Warner continued to develop new applications of computer based analysis of complex organic reactions, involving collaboration with a number of research groups on campus and at Universities around the US and overseas. Phil is also engaged in the process of restructuring our undergraduate organic chemistry curriculum, which will see numerous developments starting Fall 2010.

One of Professor Sunny Zhou’s talks on the analysis of protein modifications, at the American Chemical Society National meeting was selected as a webinar by the ACS Division of Biochemical Technology (BIOT). Sunny remains an active member of the Barnett Institute and his program on epigenetics continues to attract interest in the biotechnology community.
Spin Out Company received venture backing

A primary goal in Professor Max Diem’s laboratory, the Laboratory of Spectral Diagnosis, is the use of spectroscopic methods to achieve non-invasive or minimally invasive diagnosis and prognosis of suspected tumors. Applications include alternatives to the commonly used (but often misdiagnosed) ‘Pap’ smear method for cervical cancer screening, in the detection of oral cancers, and for the detection and diagnosis of cancers of interior organs (lung, pancreas, etc.). Diem’s program looks set to accelerate this process thanks to involvement of an angel capital firm, and establishment of a spin-out company which will spearhead the commercialization of the spectral methods of diagnosis. Commenting on the exciting times ahead, Diem stated “The entrepreneurial spirit of Northeastern University enables faculty, researchers and students to aim for research accomplishments that have scientific and commercial value, and thereby may affect thousands of people worldwide in the future”. There is a rich heritage of technology transfer and spin-out activity in the department and its affiliated Barnett Institute, with a half-dozen new ventures established in the past decade alone, and licensing royalties in excess of $3MM secured for new inventions.

Renewable Energy Technology Center Director lands $multi MM funding

With the increased emphasis placed on renewable energy by the Obama administration Professor Sanjeev Mukerjee, director of Northeastern’s Renewable Energy Technology Center (NUCRET), has had a very busy year. A plethora of new opportunities for joint research projects with industry and government laboratories were announced this year, and Mukerjee successfully landed a substantial haul of new research grants. The total, which is in excess of $7.5MM will allow the center to develop new materials for fuel cells and batteries, especially in the emerging arenas of anion exchange membrane fuel cells and Li-air batteries. The Center, formed in 2009 has ten affiliated faculty from the Colleges of Science and Engineering with a total student population of 25 graduate students and undergraduates. Clearly timing was right for establishing the now flourishing Center, and the need for alternative/renewable energy sources has been exacerbated with the recent environmental disaster in the gulf. Congratulations, Sanjeev and NUCRET!

Karger lands new awards

Professor of Chemistry and Barnett Institute Director Barry Karger is no stranger to academic honors, having been the recipient of numerous ACS and National awards over the years for his groundbreaking work on separation science. His latest honors hail from Europe, where he received the Herovskey Gold Medal for Merit in the Chemical Sciences from the Czech Academy of Sciences. In separate news from Europe, Karger was also chosen to deliver the inaugural Csaba Horvath Memorial Lectureship by the Hungarian section of the ACS.

Faculty & Department to feature in 2010 Boston ACS Meeting

The Fall National ACS meeting will be held this in Boston year – at the Convention and Exhibition Center. The department will have a strong presence in the meeting, which is expected to draw approx 15,000 delegates from around the world. In addition to a large number of presentations given by faculty and students, the department hosts a mixer on the Monday evening of the meeting. The event will be co-sponsored by Northeastern University’s ADVANCE program, an NSF initiative to encourage more women chemists to pursue academic careers.
Co-op News...

Despite the economic climate Northeastern’s co-op program in chemistry continues to flourish. There were 28 new positions created in 2009, many of them at new companies. However we also saw an expansion of co-op at some companies whether it was hiring more students in one area or reaching out to other departments within the company to let them know how much co-op students have to offer. The Boston area biotech community realizes what a large impact the co-op program can have on their organization. I have been told numerous times that a student’s fresh perspective or unending energy has rejuvenated a project that they thought was at a dead end. Our students have continued to excel at what they do and are always looking for new and interesting ways to apply chemistry to the world outside of academia. New for July 2010 we will be sending students to Ireland and Greece for co-ops with partnering universities. The students will be working on modeling chromophores using molecular modeling in Dublin and on fuel cell research in Patras. A total of 62 students were placed between the July 2009 and January 2010 placement cycles.

The chemistry major continues to grow with even greater numbers of driven and determined students joining us each year. We find that alumni involvement and mentoring through co-op are integral parts of shaping a student’s future and leading them on a path to success. To become a mentor and/or part of the co-op program please contact me at j.swift@neu.edu or 617-373-4498 to learn more!

Best,
Jordan Keefe

Kate Hardy Excels at the Centers for Disease Control!

Middler Katelyn Hardy has always had a desire to work on the chemical side of public health and environmental sciences. Katelyn’s first co-op involved Environmental Health Training in Emergency Response (EHTER). She was able to shadow professionals in the public health sector and learn more about the profession. For her second co-op at the CDC, Katelyn decided she would like to experience a purely based chemistry assignment. Describing her second co-op recently in an email, Kateyn explains “The lab just recently got a couple very new pieces of equipment that will be used to detect Butyrylcholinesterase (which is a nerve agent adduct) in blood and urine samples through polyacrylamide gel electrophoresis. The equipment will replace their current methods of SDS-PAGE, and can run samples very quickly, which is something the lab is always in need of. They’re the lead organic chemistry lab that accepts clinical samples when there is question of a national contamination event (such as in case of a shellfish toxin poisoning, anthrax or sarin, or bioterrorism agents), and so they need to be able to process the highest number of samples in the smallest amount of time possible. My task will be to get the equipment up and running and develop the protocol and standard operating procedure for [this equipment].” Through this work Kateyn is contributing to all of our safety by allowing the CDC to respond to urgent requests to identify agents in chemical terrorism and disease outbreaks. Her work during this co-op has now led to a paper in Analytical Chemistry. Bravo Kateyn!

Students Shine at Research Symposium

Recipients of the Matz Research Scholarship presented their findings on April 6 at a symposium honoring the benefactors of the program, Bob and Eileen Matz. The scholarships provide funding for students interested in research in biotechnology, to perform original work in a professors’ laboratory on campus. This year two chemistry majors were among the awardees, Rhiannon Thomas presented about her work with Professor Sitkovsky and Jones on the synthesis of hypoxic antitumor agents. Colleen Holewa completed a project on photo-activated antibacterials in a joint project with the Forsyth Dental Institute.

Jade Malcho is Shapazian Scholar

Following on the heels from an extremely productive co-op conducted by middler Kylie Hwang, this years Shapazian scholarship was awarded to Jade Malcho for research at the Beth Israel Medical Center. The competitive and prestigious award is made to majors pursuing pre-med tracks who wish to gain first hand research experience at the Harvard University medical school. Malcho, who is researching signaling pathways in prostatic cancer with physician Glenn Bubley MD and Dr. Michael Yaffe, has already been accepted early decision to Tufts Medical School for Fall 2011 entry.
GSA News

The 2009-2010 academic year was full of successful events that strengthened existing bonds within the department and allowed new students to become immersed in the Northeastern community. Last year’s GSA with Josh Klaene as president, Jason Walsh as vice-president, Ellen Swain as secretary and Kristin Kenney as treasurer did a truly outstanding job of organizing department events as well as assisting in the implementation of the new curriculum and developing new programs and events such as the recruitment committee and waffle days. The new GSA (myself, Pengcheng “Cody” Yin, Lisa Hawver and Kara Strickland) hopes to carry on their tradition of service to strengthen the community through social events and department initiatives encouraging academic excellence.

The involvement of previous GSA administrations has truly paid off with the successful roll out of the new accelerated graduate curriculum. This fast-track course schedule allows new students to complete their core courses in the first two semesters, followed by courses in research ethics and advanced lab methods at the beginning of the summer and cumulative exams at the end of the summer. This year’s cumulative exam schedule has already been posted and the GSA is helping to organize study groups and provide study material to part-time PhD students who work in industry. The ability to begin independent research at the start of the second year is a fantastic opportunity and provides Northeastern students with a significant advantage over their peers in other institutions.

Our academic life benefitted from another successful colloquium series organized by Antonella Mazur. Students and faculty enjoyed a wide range of speakers from various fields in both industry and academia. These weekly colloquia play an integral role in keeping students informed of cutting-edge research in the various fields of chemistry as well as stimulating creativity and promoting collaborative work. They also provide time each week for the entire department to gather and enjoy coffee and snacks — giving a break from coursework and research to learn about and reflect on the exciting work being conducted at different institutions.

In addition to promoting academic excellence and outstanding research, the GSA also served to enrich our social lives. Events such as the Boston harbor cruise, Ashland BBQ and holiday party provide students with a well-deserved time to loosen their lab-coats and have some fun. I’ve found that our community operates on a very effective work hard, play hard mentality that provides students with exciting events to look forward to after long hours studying or working in the lab. But the events aren’t just fun and games, they also help to build camaraderie throughout the department. Furthermore, many events such as the afternoon BBQs here on campus, the waffle breakfasts (special thanks to Jocelyn Lee) and the International day provide students with not only free food (an integral part of grad student life) but with a chance to get to know their colleagues and professors on both a professional and a personal level.

A particular success for the GSA this year was the annual open house. Prospective students were able to get a feel for the academic and social life here at Northeastern. The attendance for the Friday night dinner as well as the Saturday night dinner and comedy show was excellent and allowed current students to provide insight and answer questions for prospective students. In addition, the lab tours and poster sessions gave prospective students a detailed look at current research at Northeastern. And finally, the faculty presentations and student Q&A session allowed new students to get an idea of the panorama of experiences awaiting them here at Northeastern. The success of the open house is evident in the 20+ new students who will be joining us next year.

The GSA also helped to organize a retirement party for Nancy Weston, who had worked as the department secretary for nearly 20 years! Nancy was honored with gifts, a plaque and an overwhelming turn-out of students and faculty to see her off and wish her well. Nancy was also recognized with the annual GSA award — along with Roger Kautz, principle research scientist / program manager for the Barnett Institute for his tireless work assisting with NMR research.

Moving forward, this year’s GSA hopes to maintain the high level of professionalism and dedication that has been set forth by our predecessors. Secretary Lisa Hawver has already begun plans for the creation of an online “grad student survival guide” which will provide advice and references on relevant academic, financial and social-life issues for new and current students. We will also strive to help mold the dynamic new curriculum and nurture the development of new programs like the recruitment committee. Thanks to everyone who has assisted with GSA activities. You’ve all helped to make the department a vibrant and active community and I look forward to working with you all this year.

Regards,
Mike Bates

[Image of Mike Bates]
September will usher in the latest executive board installment of our NUSAACS chapter, and with it the exciting prospects of new beginnings as well as tried and true traditions, all under the expert guidance and support of our academic advisor, Jordan Swift. Our past year enjoyed incredible success under the leadership of Phil Hamzik, aided by Jackie O’Neil, Colleen Holewa, and Rhiannon Thomas.

Our chapter offers an impressive array of academics and fun, tailoring the needs of every type of student. We pride ourselves on creating a chemical society where students can come together to not only explore their passion for chemistry but also to meet new people and enjoy each other’s company in non-chemistry related experiences.

Academics are of utmost importance to those of us at Northeastern pursuing an education in the field of chemistry. A small, but tight-knit group of students, aid each other on their own roads to success. Our chapter offers a mentor program where we pair each incoming freshman with upper-class chemistry majors. The mentor process is extensive, and results in the ideal match between mentor and student in personality traits, academic ambition, and learning styles.

For those new to it and daunted by the rumors circulating through school halls, we eased the transition into Organic Chemistry by hosting a workshop for writing lab reports. Our chapter also hosted an unprecedented number of speakers ranging from a formulations chemist from Alkermes Pharmaceuticals, a chemist specializing in neuroimaging, a bioanalytical chemist specializing in mass spectrometry, to a restoration chemist from the Museum of Fine Arts.

The chapter’s academic achievement culminated in San Francisco, California, where nearly a dozen students traveled to present their research in poster and oral sessions at the spring National meeting of the American Chemical Society, as well as to participate in chemistry demonstrations for elementary school children.

While our chapter does focus greatly upon the academic aspect of chemistry, we never forget our initial love of the central science that has brought us all together, and aim to proudly share our love with the surrounding community.

Chemistry Week was celebrated on Northeastern’s main quad drawing in passing students and community members with attractive posters to take part in chemistry demonstrations such as elephant foam and create your own slime; we carried the excitement through the week, concluding with a “Chemistry—it’s elemental” potluck and pumpkin carving.

Our club also organizes outings which, through the years, have become a tradition for the chemistry department. Some of these include trips to Canobie lake park, Boston Celtics games, snow tubing, and an afternoon of apple picking. On the latter, after meandering through a giant themed corn maze the day ended with a trip through an extensive pumpkin patch. Disappointedly, we did not see the “Great Pumpkin” that night, Charlie Brown.

This past year we began what I believe will evolve into another tradition; NUSAACS participated in Northeastern’s first Relay for Life, fundraising, creating t-shirts, and walking as the team “Chemists for a Cure.”

I highly anticipate this approaching year- seeing new faces, continuing our record of accomplishment and augmenting it, participating in tradition and forging our own, and most importantly sharing our passion for chemistry. We have a dedicated team of officers assisting: Kathleen Lenau, Rhiannon Thomas, Ali Wallace, and Christine Dunne. We will all labor to ensure the most exceptional possible experience. I hope to see you all in September!

All the best,
Victoria Ronga
NUSAACS President

ACS Student Affiliate Chapter News

Bernie Lemire
Outstanding Senior Award
Sabrina Stucka
Carole J. Shapazian Award
Freshman: Cristin Juda
Sophomore: Kathleen Lenau
Midder: Katelyn Hardy
Junior: Rhiannon Thomas
Senior: Patrick Ng

Outstanding Undergraduate Researcher Award
Katelyn McFadden

American Institute of Chemists Award
Jackie O’Neil

ACS Inorganic Chemistry Award
Michael Fuccillo

Al & Joy Viola Scholarship
Christopher Camara
Helen Ly
Cheri Snedeker

American Chemical Society Polymers Award
Vincent Chevalier

Bachelor of Science (Chemistry)
Valerie Alexis
Kelly Barhite
Elizabeth Brownell
Theresa Dunstan
Darren Fehy
James Fanning
Michael Fuccillo
Phil Hamzik
Colleen Holewa
Samuel Jackson
Emily Machado
Michele Martin
Kaitlyn McFadden
Colleen Mitchell
Tomasz Mozdelewski
Samantha Mosley
Jeffrey Peterson

Sarah Pikeki
Patrick Reust
Erie Romanay
Matthew Stevenson
Caridad Street
Sabrina Stucka
Jennifer Sullivan

Bachelor of Science/Master of Science
Keeve Gorkin
Andrea Lebed
Patrick Ng
Jacklyn O’Neil
Helen Trinh Pham
Kelly Reiser

Master of Science
William Beavers
Joseph Bedard
Zhen Chen

Hajnalka Davis
LaShedric Grady
Luke Harris
Brian Hult
Robert Pawle
Michelle Silva
Dennis Sullivan
Alia Tang
Michael Tauber
Jason Walsh
Yin Shan Wong

Doctor of Philosophy
Thomas Arruda
Tatayana Chernenko
James Hendricks
Paul LaBrumme
Jamie Lawton

Alicia Tang
Michele Martin
Eugene McLeavens
Jesse Cline
Yin Shan Wong

Bachelor of Science (Biochemistry)
Vahid Agbortoko
Roberto Barberena
Eugene M. Barsukov
Matthew Chase
Erica P Chirisca
Courtney Condricci
Sara Cormiino
James J. Guillbaud
Michael A. Marrazzo
Eugene McLeavens
Dansen Njoka
Sean J. Osborne
Adhir Revipat
Susan Salvaggio
Tiffany Travis
Elliah Trefts
Department mourns passing of Bill Giessen

Colleagues and alums of the department mourned the loss of Professor Bill Giessen, whose battle with long-term illness ended March 25, 2010. Bill joined the faculty in 1968 and through his 40 year career taught many thousands of students and authored over 200 publications. He is survived by his wife, Mary Carolyn Burns. A memorial service was held in the sacred space on April 1, attended by friends and colleagues. Reflecting the impact of various aspects of his life, tributes were made from former students, representatives from the department and Barnett institute, the Jewish Studies program, and the holocaust awareness program at Northeastern. Bill established the Robert Solomon Morton Lecture series, which is presented each year during Holocaust Awareness Week and the Gustel C. Giessen Memorial Lecture in Jewish Studies. In addition, he established the Gideon Klein Award, which enables a student from Northeastern, Hebrew College or the New England Conservatory to study the work of artists persecuted by the Nazis. “For more than 40 years, Bill Giessen advanced the fields of chemistry, material science and engineering,” said President Aoun. “His dedication to scholarship was matched by his commitment to strengthening the fabric of society. Moved by his experiences growing up in war-torn Germany, he worked tirelessly to build bridges between the German and Jewish communities. His legacy of scholarship, moral clarity and generosity of spirit will forever inspire generations to come.”

Incoming Class Strongest Ever

As Northeastern climbs in the rankings league table and the virtues of its experiential education model becomes more widely appreciated, records are being broken for numbers of applications for admission. University wide this topped some 37,000 students clamoring for one of the 2,800 slots. The department and chemistry major has become particularly popular in recent years, and for the fall 2010 class this year proved no exception. Some 373 applications were received for admission, and the incoming class of 40 selected have characteristically high qualifications – average GPA’s of 3.8 and average SAT scores of 1375 – among the highest in the University!

Symposium celebrates the career of Professor William Reiff

Following a forty-year career at Northeastern, Professor William (Bill) Reiff became an emeritus professor effective July 2010. Bill, a native of New England, obtained his BS in chemistry from SUNY in 1964 and PhD from Syracuse in 1968. Following postdoctoral research at UT Austin, Bill joined the department in 1972 and reached the rank of Full Professor in 1982. Bill served as chair of the department during the period 1993-8 and has held numerous visiting appointments around the globe. On June 4, a research symposium was held in his honor, featuring former NU research student Dr. Charlie Torardi, Professor Philip Gutlich (University of Mainz) and Professor Richard Holm (Harvard). In a closing speech, Reiff gave an overview of is most exciting accomplishments in his career, taken from the some 230 publications already in print. As an emeritus professor, Reiff has established a Mossbauer spectroscopy center in the National Magnet Laboratory (Tallahassee, FL), where he will conduct collaborative research. Best wishes, Bill!

Nancy Weston

Following a career at Northeastern spanning over thirty years, Nancy Weston retired May 2010. As an administrative assistant, Nancy played an important role in the department over the years and will be missed by our faculty, staff and students. In honor of her contributions, the graduate student association hosted a surprise party for her on April 29, which was attended by over 100 students and colleagues. Active in her church group, Nancy looks forward to enjoying travel during her retirement years with her husband Rich, who also works at Northeastern.
Senior supper draws record crowd

Reflecting the recent growth of the chemistry major, a record number of students graduated with BS and MS degrees this year. The senior supper drew a crowd of over 140 parents and friends of the 30 majors, held at the Curry Ballroom on May 6. In addition to ACS certified degree certificates presented to the graduating class, the annual awards ceremony was held [see page 9]. Tributes were paid to the class and their parents by outgoing ACS president Phil Hamzik and Chair Jones.

Retreat focuses on cross – college research opportunities

The departments annual research retreat this year involved faculty from the departments of biology, and pharmaceutical sciences. The retreat, sponsored by the provosts office was designed to identify and develop cross-departmental and cross college research themes. In turn, these themes are expected to inform joint faculty hiring plans, and also curricular innovations. Chairs Graham Jones, Gunther Zupanc (Biology) and Mansoor Amiji (Pharmaceutical Sciences) co-hosted the event, which featured short talks from a dozen faculty members. A number of cross-departmental faculty searches are underway at the time of writing, including three involving Chemistry and Chemical Biology.

Many of our alums have asked how they can assist our current students and programs. Some have chosen to provide funding for awards, scholarships and co-ops. We would be delighted to discuss these and many other opportunities with you directly. Please contact Patty Flint – Development at p.flint@neu.edu or 617-373-7356 or the chair, Graham Jones at gr.jones@neu.edu or 617-373-2822 for a confidential and informal discussion.

Hurtig Renovations

Over the past few years various modernization and renovation projects have been undertaken in Hurtig Hall, to transform our beloved building into a modern research facility. Over the summer months, in addition to renovations connected to the arrival of Professor George O’Doherty, the main lecture halls in Hurtig (rooms 129 and 130 for those with memories) are being completely overhauled. In addition to modern seating, flooring and wall treatments, vastly improved A/V facilities will be installed, while reducing capacity only slightly. The project is slated for completion in time for the start of the fall semester. Additionally, new instrumentation for the undergraduate research laboratories was provided by the College; including LC-MS systems. A dedicated laboratory for senior research is also being completed on the Hurtig fourth floor, which will be of immediate benefit to our growing population of majors.

Barnett Institute Reorganizes

In connection with administrative changes in the University and the formation of the new College of Sciences, the Barnett Institute of Chemical and Biological Analysis will now become a branch of the Department. The move will allow synergies between the department and institute to be developed both in research mission and academic programming opportunities. The transition to the department, which becomes effective July, will provide greater access to resources for both Institute and Department. Plans are underway for opening of a university wide center for mass spectrometry research, and also an NMR service center.