Biology Newsletter: May 2015

The College at Brockport
The State of the Department

Another academic year is coming to a close. However, this closing differs from other academic year endings. It will mark the end of one era and a transition to a new one. Events this Spring will bring about a major change for the 2015-2016 academic year in the form of a new college leader. Dr. John Halstead, the President of the college recently announced his intention to retire at the end of this academic year. The department would like to extend a heartfelt thank you for his leadership over the past decade. A presidential search is currently being undertaken to identify the next Brockport President who will start this Fall. Another event signaling the transition to a new era was the inaugural SUNY Undergraduate Research Conference (SURC) which was held at the Brockport SERC. This annual event is meant to showcase SUNY-wide undergraduate research at venues that will rotate annually.

Every year at this time, students are awarded several departmental awards named after emeritus faculty and alumni. This year, I would like to congratulate Allyson Burkhart, Audrey Filey, Maxwell DeNora, Kylie Britt, and Kendra Andrew as the recipients of this year’s awards. Please read on to find out which specific award each student was bestowed. I would also like to recognize Christopher Prevost and Allyson Burkhart for being nominated by the department for the School of Science and Mathematics Graduate Award and the Chancellor’s Award, respectively. Although they did not win these awards, I felt that being nominated was an accomplishment.

In closing, I would like to wish all of the graduating Biology and Medical Technology students much success in their future endeavors. Please also keep in touch and share your adventures, successes, and thoughts with us via Facebook at Brockport Biology Program. To all, have a great Summer and we’ll see the returning students in the Fall.

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- Students Present at Scholars Day
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Special Notes:

Congratulations to our graduating seniors! Have a wonderful summer and we’ll look forward to a successful 2015-2016 academic year!

Brockport Biology Students at the SUNY Undergraduate Research Conference

The College at Brockport was proud to organize the first SUNY Undergraduate Research Conference (SURC). Students representing the Biology Department included Kathryn Wershing, Amber Altrieth, Amber Blidy and Clayton Brady from Rey Sia’s lab, Jacob MacWilliams, Nicholas Desain and Justin Leach from Bernardo Ortega’s lab, Kendra Andrew from Huey Hing’s lab, and Maxwell Denora from Adam Rich’s lab. Congratulations to all!
Jacob MacWilliams  
(B.S. ‘15)

During my early years as a biochemistry major, I spent much time in Edwards and Smith, and seldom stopped by Lennon. Because of this, I had little knowledge of the opportunities that the biology department had to offer. Then, the fall of my sophomore year, Dr. Sia asked before a genetics lecture if any students were eligible for a work-study job in the biology department. I was the only student who raised their hand, so I was offered a job cleaning up mice cages and lab glassware. This job allowed me to see research being done first hand by faculty members and fellow students. I became very interested in what they were doing, so the next year I asked Dr. Ortega to join his research using lab mice in order to study the physiology of magnesium metabolism. Before this experience, I was not exactly sure what path to take after I graduated. Then, I found that Independent Research was the best class I had taken at Brockport. This led me to apply to graduate schools in order to pursue a career in research. Eventually, I was accepted into the Biochemistry and Molecular Biology PhD program at the University of California Riverside. Looking back, I would especially like to thank Dr. Sia, Dr. Ortega and Dr. Sreenilayam for helping me decide what to do after Brockport, and for encouraging me to be open to new things. You never know where new experiences are going to lead you!

Colin King  
(B.S. ‘14, M.S. ‘15)

For the last five years I have been a part of SUNY Brockport’s biology program. When I was a freshman, the course load seemed overwhelming, but numerous faculty and advisors reassured me that with hard work and passion, I could be successful. This experience my freshmen year taught me one thing about the biology department that is still true today: This department is a family that cares for its members. I was also a part of another family in my research lab. My sophomore year, Dr. Laurie Cook allowed me to work with her as I pursued a research project that was both interesting and would satisfy my honor’s thesis. In her lab I learned not only technical research methods like tissue culture and gel electrophoresis, but I also developed my critical thinking skills and my ability to apply what I learned in lecture to real biological situations. In May of 2014, I graduated with my Bachelor’s degree in Biology, but have stayed an extra year to gain my Masters. Unlike many programs here at Brockport, the biology program offers a combined B.S./M.S. program that allows you to get your Masters in five years instead of six.

Being a part of the B.S./M.S. program has been integral to my future plans of becoming a physician. Taking this extra year has allowed me to focus on my thesis and the medical school application process. Currently, my applications are submitted, and I plan on hearing from medical schools regarding my decision within the month. I have always had a passion for medicine and giving back to my community in a way that would enhance people’s quality of life, and the biology department here at Brockport has put me in a position to achieve that goal. I have learned biological concepts that will help me succeed in medical school and have also been pushed by faculty members to think independently, a crucial skill to have in any career.

My time at Brockport has been an enjoyable one thanks in part to my experiences in the Biology department. I would highly suggest this major and the combined degree program for those not only interested in medicine but also teaching and careers that involve a biological background. I cannot stress enough the feeling of community and support that this Biology department offers along with an outstanding education. I will forever be proud that I am a member of the SUNY Brockport Biology Department.
Summer 2012 Course Selections

The Department of Biology is offering the following courses over the Summer Session. If you are interested in taking a summer course, we urge you to register soon so that you may lock in your seat. Demand has been high this year.

- **5/18/15-7/3/15**
  - BIO 285 Biology of Aging (online course)
  - BIO 111 Principles of Biology
  - BIO 321 Anatomy and Physiology I (hybrid)
  - BIO 323 Microbiology

- **6/1/15-7/3/15**
  - BIO 323 Microbiology
  - BIO 322 Anatomy and Physiology II
  - BIO 323 Microbiology

- **7/6/15-8/8/15**

Departmental Honors and Awards

- **Noah Reger** was awarded the **Distinguished Professor's Fellowship** ($1,000). He will be using this stipend in order to present his research at a Gordon Conference in California.
- **Audrey Filey** is this year's recipient of the **Charles S. Thomas Memorial Scholarship** for the student with the highest average in BIO111.
- This year, **Kendra Andrew** was selected as the recipient of the **Francis Claffey Award**, which is awarded to a senior demonstrating academic excellence and Departmental Scholar.
- **Kylie Britt** received this year the **Henry Gould Award**, for a Biology major with the highest GPA graduating from the Teacher Certification program.
- **Maxwell DeNora** received the **Elmer J & Fay Cloutier Award**, for a junior or senior with potential for success in graduate or professional school.
- **Allyson Burkhart** has been selected as the recipient of the **Departmental Scholar's Award**, for demonstrating strong academic performance and for major contribution to the community spirit of the department.
- **Jacob Syracuse** and **Melissa Stoj** will be inducted into the Omega Upsilon Chapter of the Beta Beta Beta National Biological Honor Society.

Biology Offers a Combined B.S. Plus M.S. Degree in 5 Years

In the Spring semester of your Junior Year, you are eligible to apply for this new opportunity. If you are considering graduate work, we offer well-qualified students with a 3.25 GPA or higher the chance to get an accelerated Masters degree in one year rather than the usual two years. If you are interested, please contact Dr. Laurie Cook, 3+2 Program Coordinator.

Biology Students presenting at Scholars Day included; **Colin King** from Laurie Cook's lab, **Christopher Prevost**, **Christina Seger**, **Kathryn Wershing**, **Amber Altrieth**, **Amber Bldy**, **Allyson and Burkhart** from Rey Sia's lab, **Jacob MacWilliams**, **Nicholas Desain** and **Justin Leach** from Bernardo Ortega's lab, **Noah Reger** and **Kendra Andrew** from Huey Hing's lab, **Ian Shannon**, **Nicole Van Wie**, **Clayton Brady** and **Max-
**Department Achievements**

**Faculty Updates**

**Dr. Laurie Cook** returned this spring semester from her sabbatical research leave, which focused on developing assays to better detect melanin-concentrating hormone receptors in adipose cells. She spent her leave time in the lab last summer and fall preparing preliminary data for and writing four grant proposal applications. She also received a travel award to present her lab's latest data at the American Society for Cell Biology meeting in Philadelphia, PA in December. Now that she is back on the clock and since Colin King is graduating with his M.S. degree in Biology, Dr. Cook is looking to repopulate her research lab! The lab welcomes new research students Oleg Kibuveevich and Ashley Brotheron who will begin this summer. Dr. Cook was recently appointed Assistant to the Provost for Applied Learning here at The College and in her spare time is working on a M.A. degree from Stony Brook University in Higher Education Administration. This summer, you’ll see Dr. Cook hanging around her office and the lab working on her next project; except for the end of June when she’ll be taking another trip with her family to the happiest place on Earth, aka Walt Disney World!

**Dr. Bernardo Ortega’s** lab welcomes undergraduate students Eric Sywulski and Jason Dey. The lab also welcomes Oyindamola Aregbesola, who will join soon for her summer research project. In addition, Nicholas DeSain and Jacob MacWilliams will graduate this semester after an extremely successful research experience. During this semester, students in the lab have been making great progress in understanding the role of FGF23 during hypomagnesemia. Experiments involved placing mice in a magnesium deficient diet and analyzing changes in serum electrolyte composition at different time points. Students also used metabolic cages in order to study 24 hr. electrolyte excretion. Jacob MacWilliams, Justin Leach and Nicholas DeSain presented all our recent advances during their oral communications at Scholars day and the SUNY Undergraduate Research Conference (SURC).

I would like to close by recognizing Jacob’s achievements. As a work-study student, Jacob MacWilliams took care of the mice colony for two years. It is difficult to imagine how all the research in the lab could have been possible without his dedication and hard work. He later became an independent research student, demonstrating great research abilities. I would like to congratulate him for his acceptance at the Biochemistry and Molecular Biology Graduate Program at the University of California, Riverside and the Graduate School Program at Binghamton University. He will be hard to replace. I will miss him and I am sure that the mice will miss him too! We all wish him great success in life.

**Dr. Rich**, from the GI lab writes: Holy cow it has been a busy semester! Clayton Brady, Max Denora, Nikole Van Wie, and Ian Shannon all presented at Scholars Day and at the first annual SURC. They all did a great job! Both conferences were great. At SURC the keynote speaker, George Kuh, reminded me how valuable independent research is for students. He has data showing that most student will have 10 different jobs by the time they are 38 years old! He said that this work is valuable because employers are looking for people that can solve puzzles. Research gives practice at solving puzzles, figuring out how to do things and how to persevere. So, no matter what your major is and no matter what your project is, it is valuable!

I am proud and amazed at the success of current and former students! Clayton Brady is going to Minnesota to do a summer internship in a nephrology lab. Chris Brown (Biology 2010) is starting a Gastroenterology fellowship at NorWalk Hospital in Connecticut. He also got married on 3/28/2015! Julie Mcgrath is finishing up her MS degree at Roswell Park in Buffalo, and her thesis title is *Pooled shRNA Library Screen Identifies Tumor Dormancy Suppressor Genes*. She applied to many schools for PhD programs and decided on The University of Arizona in Tucson! It is not surprising that nearly every program wanted her.

I am eager for the summer to work in the lab. We have a brand new transgenic zebrafish, an anoctamin 1 knockout, made by Jeff Amack at Upstate medical. Max will learn quantitative PCR, and Ian will learn immunohistochemistry. Fingers crossed for success!
Dr. Rey Sia writes: The start of the Spring semester brought three new additions to the lab, Nathaniel Leisenring, a second year undergraduate BIO major, Maame Esi Aggrey, a second year MedTech major, and Nicole Ashman, a first year M.S. student. Returning undergraduate students are Amber Altrieth, Amber Blidy, Elizabeth Lindsey, Kyle McAtee, Melissa Stoj and Kathryn Wershing. The returning M.S. students are Allyson Burkhart, Christopher Prevost, and Christina Seger. This group of talented students has made great strides in determining whether specific target genes and their protein products play a role in mitochondrial DNA stability. These genes include the well-known nuclear DNA repair genes such as RAD1, RAD10, RAD54, RAD55, KU70, KU80 as well as DNM1, FIS1, CLU1, SGS1, and RTG1. The work of Amber Altrieth, Amber Blidy, Kathryn Wershing, Allyson Burkhart, Christopher Prevost, and Christina Seger was presented at Scholars Day as well as the inaugural SUNY Undergraduate Research Conference (SURC).

I would also like to acknowledge some student accomplishments. Allyson Burkhart and Kathryn Wershing spent their spring break in Belize volunteering in the 2015 Belize Village Medical Outreach Program that provides medical attention to rural villages. In addition, Elizabeth Lindsey will be spending her summer doing research as part of the Boston University’s Division of Graduate Medical Sciences Summer Training as Research Scholars (STaRS) Program located on Boston University’s Medical Campus. Kathryn Wershing received a Brockport Foundation Summer Undergraduate Research Fellowship to do summer research in the lab. I would also like to congratulate former lab members Steve Gertz (accepted into UB Pharmacology PhD program), JulieMcGrath (accepted into Ph.D. programs at the University of Iowa, the University of Arizona, and the University of Kansas Medical Center), and Rachel Folts (hired at RGH as a medical technologist) for their recent career successes.

I would like to close by recognizing Christopher Prevost. Chris will be graduating this May with his M.S. degree. Chris has been a student in the lab for three years, starting as an undergraduate and staying on to complete his master’s degree. I have seen him develop into an excellent researcher and mentor to the students in the lab. I’ll miss him as a valued TA for my BIO 302 Genetics lab sections. I relied on him heavily, giving him more and more responsibility and he never disappointed. I and the lab wish him great success in the next stage of his career and life.

Medical Technology Program News

The following students who will be attending the Clinical Year for Medical Technology in Fall 2015:

Going to Rochester General / Strong Memorial Hospital are Nissrin Alazzam, David Ash, Michael Burgart, Larry Byron, Matthew Cummings, Nicole DeSisto, Kathleen Gildemeyer, Brenton Smith, Jennifer Taylor, Derick Welch and Lauren Brooks.

Going to WCA Hospital in Jamestown, NY are Kathryn Sprague and Reni Roseman.

Congratulations!
Dr. Michel Pelletier writes:
This spring semester has gone by so quickly. This semester I taught my two favorite classes: General Microbiology (BIO423/643) (in a crowded lab), and Immunology (BIO414/514). These classes are always fun to teach but are also bitter sweet as most students enrolled are seniors that will leave the College. The General Microbiology have been busy working on their bacterial isolation projects, and I expect to read some great lab reports.

Four undergraduate students conducted research in my lab this semester: Elise Cade, Tanner Niedzialekowski, Evan Spencer, and Jennifer Taylor. Great job guys! In addition, William Bigham and Caitlyne Kocik are in the process of writing their Master thesis and should be done this summer. Three new graduate students also joined my lab in September, and have been busy with classes and getting acquainted with research. They are Andrew Bumstead, Daniel Steiner, and Dawn Newman.

Congratulations to Jennifer Taylor. Jenn will start her clinical year at Rochester General Hospital as part of the Medical Technology program. Congratulations to Elise Cade who will be starting a Ph.D. program at Georgia Tech University once she graduates in May.

Finally, I am slowly getting ready to teach Microbiology (BIO323) in June and to make significant progress in my research this summer. Maybe I will bump into you at some point. Enjoy your summer and congratulations to our graduating seniors.

Dr. Huey Hing writes: Our long-term goal is deciphering how the wnt5 gene controls the wiring of the olfactory system. We recently published a paper in the Journal of Neuroscience describing how wnt5 carries out this function with another gene called drl (Wu et. al., 2014). We are continuing to follow up on this exciting story. One group students in the lab is studying the effect of the wnt5 mutation on olfactory behaviors. As part of her College Honors research, Kendra Andrew showed that mutation in wnt5 gene abolished the ability of animals to perceive apple cider vinegar odor. She reported this finding at Scholars Day and the SUNY Undergraduate Research Conference. She is currently writing up her research for her Honors thesis. Meanwhile, Noah Reger, a Masters student, discovered a new gene, vang, as a key component of wnt5 signaling. In addition to his research, Noah successfully applied for a number of grants. He won a $1,000 Distinguished Professor Fellowship, which he used to purchase reagents for his research. He also won grants from the Graduate School, which he used to travel to the prestigious Gordon Research Seminar in Ventura, California, to present his findings. This summer, we are expecting a few new students to join our lab to follow up on the exciting wnt5 story.

Dr. Stuart Tsubota would like to announce that Ted Ryan will be receiving his Master’s degree this May. Jacob Courtney and Carmelina Derrico are continuing their Master’s research in the lab. Beresford Crick has been continuing his undergraduate research in the lab. Stuart submitted a grant proposal to the National Science Foundation and will be hearing soon about funding. He’s keeping his fingers crossed. On the cultural front, Stuart is working with BIO/DANCE on its Social Justice Series that is being funded by the Arts & Cultural Council for Greater Rochester. The project is a collection of dances by various choreographers with a general focus on social justice. Free performances are scheduled for May 1, 7pm at Nu Movement; May 29, 10:30 am, Monroe Community Hospital; and June 19, 12:30 pm Community Place of Greater Rochester.
Student Successes and Alumni Updates

- **Jenn Blair (B.S. ‘09; M.S. ’11)** is finishing up veterinary school at Michigan State and will then be going to TAMU for a small animal rotating internship.

- **Kayla McGahey (B.S. ’09)** is at the Cancer Treatment Centers of America working as a research pharmacist on clinical trials.

- **Bianca Rivera (B.S. ’12)** is working on a PharmD at Wegmans School of Pharmacy.

- **Austin Olek (B.S. ’12)** graduated with a M.B.A. from Simon Business School with a concentration in medical management. He is now working as a National Clinical Trials Project Manager at ACM Global Central Labs.

- **Laura Shum (B.S. ’10)** is in her second year in the Translational Biomedical Sciences PhD program at the U of R. She just won a poster award at the Musculoskeletal Development and Regeneration conference in Cancun.

- **Beth Delorme-Axford (B.S. ’06; M.S. ’08)** is a postdoc in the lab of Dan Klionsky at the University of Michigan and coauthored several recent publications in Annual Rev of Virology, mBio, Methods and Current Biology.

- **Mac Cerasaro (B.S. ’11)** graduates with his D.O. In May and will be beginning his residency in internal medicine at Community Memorial Hospital in Ventura, CA.

- **Ashley (Popovich) Gionta (B.S. ’10)** received her M.S. Degree and is now teaching AP Biology and Anatomy and Physiology at Aquinas.

- **Jillian Anderson (B.S ’10)** moved to Virginia and is working as a Vet Tech.

- **Kevin Ray (B.S. ’09)** is almost done with his first year of Neurosurgery residency in southern California.

- **Sean O’Donnell (B.S. ’11)** is teaching Anatomy and Physiology, Chemistry and Environmental Issues at Greece Arcadia.

- **Lauren Benoodt (B.S’15)** will begin a PhD program at the University of Rochester.

- **Jennifer Clark (B.S’14)** was accepted at Georgetown Medical School.

- **Elise Cade (B.S’15)** will begin a PhD program at Georgia Institute of Technology.

- **Jacob MacWilliams (B.S’15)** will begin a PhD program at the University of California, Riverside.

- **Serena Parker (B.S’15)** was accepted at the University of Buffalo School of Pharmacy.

- **Julie McGrath (B.S’13)** is completing an MS degree from Roswell Park, Buffalo, and will begin a PhD program at the University of Arizona in Tucson.

- **Chris Brown (B.S’08)** attended medical school in St George’s University (Grenada) and is starting a Gastroenterology fellowship at Norwalk hospital.

Summer Research Fellowships

- **Kathryn Wershing** was granted a Brockport Foundation Summer Research Fellowship to work in Dr. Sia’s Lab.

- **Jason Dey** was awarded a Brockport Foundation Summer Research Fellowship to work in Dr. Ortega’s Lab.

- **Clayton Brady** was awarded a summer research fellowship at the Mayo Foundation in Rochester, MN to work in Dr Lieske’s lab in Nephrology and Urology. In August, he will attend a NIH Urology & nephrology conference at Emory University to present his work.

- **Maxwell DeNora** received a Brockport Foundation Summer Research Fellowship to work in Dr. Rich’s Lab.

- **Ashley Brotherton** was granted a Brockport Foundation Summer Research Fellowship to work in Dr. Cook’s Lab.
Dear Alumni,

We are asking you to contribute to our Department and to help us provide research experiences for students. A research experience contributes to undergraduate and graduate education by providing hands-on experience with state of the art equipment, and an opportunity to work with faculty mentors directly. These skills are fundamental to success, and the research experience provides a competitive edge. Biology faculty work hard to raise money for research. The College at Brockport is doing a great job in spite of funding cuts, and has found the funding to support equipment repair, equipment purchases, and support for summer research internships.

We ask that you consider donating to The College at Brockport, and specifically to the Biology Department. Your support will help us to help students. The faculty in the Department of Biology, and the College at Brockport, are committed to student excellence and student success. Donations of any amount will help us to provide significant and meaningful research experiences for students. Please consider helping to support our students’ research opportunities. For more information please contact Dr. Rey Sia (rsia@brockport.edu) or by making an online monetary gift by visiting the College’s Giving Website below, making sure that your gift is designated for use by The Biology Department in the appropriate box.

https://www.brockport.edu/giving/online/gift.php

-The Biology Faculty
The Biology Honors Club is off to a great start this semester and I am honored to be a part of this growing program filled with motivated students. Our club is currently planning and participating in several community service events, as well as a large sports event to be held this semester. The event will be open to Biology and Chemistry departments, students and faculty, and will be a great opportunity to come together for some afternoon fun with friends. In addition, all members of our club participate in student research within the Biology Department. These members will have the opportunity to present their research at Scholars Day on April 8th, 2015.

Our active members are motivated and excited for the many changes that the club has made this semester. As the new President of the Biology Honors Club, I want to provide our members the opportunity to network within the Biology department, lead various activity/event committees within the club, and create relationships with other Biology students. The Treasurer of Biology Honors Club, Kyle McAtee (Class of 2016) states, “Since becoming a member of bio honors in my sophomore year, I have seen the club grow in more ways than one. The magnitude and frequency of club sponsored events as well as participation of our club members has increased. I look forward to seeing what we can do in the future!” Justin Leach (Class of 2016) says, “Bio honors is a great way for us to get involved in community service and set up large events that would be impossible by ourselves. Another thing that’s great is getting to meet different professors and students to learn about the biology program at Brockport”. I am very proud to be the President of the Biology Honors Club. Our members are reliable, hardworking students who demonstrate a strong interest in helping the club be successful.

The Biology Honors Club meets bimonthly. These meetings provide an opportunity for members to discuss the club activities, the Biology department, and future events. If you are interested in the Biology Honors Program, please download our application from the department website. Questions about membership or general information can be forwarded to Nikole Van Wie or Dr. Laurie Cook.

Nikole Van Wie,
President of Biology Honors

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The Department of Biology in conjunction with the Alumni Association is holding a Biology Alumni Picnic on June 13th from 4-5:30p at the Alumni House on campus. All Biology and Medical Technology alumni and their guests are invited. Please come out and spend some time reminiscing with faculty and classmates. It should be a fun time for all. RSVP to bio-dept@brockport.edu