Biology Newsletter: May 2014

The College at Brockport

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The Department of Biology at The College at Brockport, State University of New York

Lennon Hall, 350 New Campus Drive, Brockport, NY 14420

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The State of the Department

Congratulations to all of the students, faculty, and staff of the Dept. of Biology for completing another academic year. On behalf of the department, I would like to WELCOME the College’s new Provost and Vice President for Academic Affairs Dr. Mary Ellen Zuckerman, PhD, MBA. Dr. Zuckerman has recently served as the Dean of Business at both Ithaca College and SUNY Geneseo. I would also like to thank Dr. Douglas Scheidt for serving this past year as the Interim Provost. In the Fall, we will be welcoming our new Bioinformatics professor, Dr. Rongkun Shen.

The end of the year is when many of the honors and awards are bestowed on deserving students. The department would like to congratulate the following students for receiving departmental awards and scholarships this academic year:

Sarah Scheuermann Periard, Colin King, Rachel Folts, Dalton Rarick, Allyson Burkhart, Amber Altrieth, Kyle McAtee, and Kathryn Wershing. We would also like to congratulate Noah Reger for receiving the Honors College Outstanding Senior Award and Mackenzie Meyer for receiving SUNY’s Chancellor’s Award for Student Excellence. We also would like to acknowledge the students who will be doing research with Biology faculty this summer supported by the 2014 Undergraduate Research Scholarships. These students include Kathryn Wershing, Kendra Andrews and Max DeNora.

As you continue reading on in the newsletter, you will learn about all of the student activities that have occurred recently. These include the presentations students have made at Scholars Day, at the National Conference for Undergraduate Research, and discipline specific meetings. These activities also include the efforts of our departmental clubs such as the BBQ Dinner fundraiser sponsored by the Honors Club.

To those students who will be graduating this May, the department wishes you the very best in your future career choices such as medical school, veterinary school, teaching, medical technology, graduate school, research/technical positions, and non-science positions. For those of you returning, have a relaxing summer and the faculty looks forward to seeing you in the Fall.

- Dr. Rey Sia, Assoc. Prof & Chair

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To the graduating class – Congratulations!
&
To those returning, have a wonderful summer and we look forward to seeing you all in the new Academic Year!
I came to Brockport as a transfer student after two years of community college with a general interest in biology and without a firm idea about what my future career should be. Research always intrigued me because of the tremendous impact it could potentially have on people’s lives, so I decided to check out what working in a lab was all about. During the summer prior to my final semester - Dr. Laurie B. Cook took me in her lab until I graduated and it was the best semester I had at Brockport. Going into it, I didn’t know what to expect - but the learning atmosphere in Dr. Cook’s lab was amazing. She always took the time to patiently and thoroughly explain all questions until the concept was understood.

The other students in the lab also were there to help whenever needed and they became some of my best friends I made at Brockport - and I was only in there for one semester. Personally, I learned more from the lab than in any class I’ve sat through because I learn easier when the material is hands-on. This experience gave me the confidence and skills to land a job as a consultant in a lab at Bristol-Myers Squibb shortly after I graduated in December 2013. Without my time in Dr. Cook’s lab, I’m not sure that would have been possible.

If I could give one piece of advice to new students, it would be to find an area of study that interests them - and stick with it - no matter what others tell them to do. I can’t tell you how many times I was told that I would not be able to find a job with just a BS in Biology. Three months after graduation, I’ve landed a job - with the help of my BS degree and some valuable experience from Dr. Cook’s lab!

Chris Tomeny, Class of 2013
Dr. Rey Sia

I would like to thank all of the students who have done research with me this academic year: Christopher Prevost, Deanna Pedeville, Hugo Avalos, Amber Altrieth, Amber Blidy, Allyson Burkhart, Christina Seger, Steven Gertz and Stephen Saginario. Their work contributes greatly to the lab’s research goals. Research in the lab will continue this summer with Kathryn Wershing, Hugo Avalos, Allyson Burkhart, and Christina Seger who received the 2014 Undergraduate Research Scholarship, the McNair Summer Research Program award, the Paul and Agnes Bower Summer Undergraduate Research Award in Biology, and funding from the National Science Foundation, respectively.

Amber Altrieth, Matthew Luther, and Hugo Avalos presented research from the lab at the National Conference for Undergraduate Research (NCUR) while Christopher Prevost presented at the college’s Master’s Level Graduate Research Conference (MaRC). Chris will also be presenting this summer at the national Yeast Genetics and Molecular Biology Meeting in Seattle, WA. I would like to congratulate Amber Blidy, Allyson Burkhart, Christina Seger for their acceptance into the combined BS/MS Biology program, Rachel Folts (lab alumnus) for receiving the dept.’s Francis Claffey Award, Emily Whiteside (lab alumnus) for her acceptance into Ross University’s veterinary medicine program, and Laura Pankowski (lab alumnus) for her acceptance into the physicians assistant program at Harding University.

Finally, I would like to give a great big THANKS to the student(s) that nominated me for the college’s 2013-14 Outstanding Academic Adviser Award. The college actually honored me with the award. I will try my best to continue living up to its standards.

Dr. Laurie Cook

Four research students are graduating from Dr Cook’s lab this May; Derek Bernacki, Colin King, Eddie Capurro and Nico Covello. Both Derek Bernacki and Colin King are set to graduate with Departmental Honors. John Fitzsimmons is leaving the lab to begin his clinical internship at Rochester General Hospital as part of his Medical Technology training. Did you get to visit Derek, Colin and John who presented their research at this year’s Scholar’s Day? Remember Danielle Feligno? She is set to defend her master’s thesis on the last day of final exams – stop by and say hello! Colin King is an accelerated B.S./M.S.
degree student, and will therefore be returning next academic year to complete his master’s thesis training. He was chosen to receive a Distinguished Professors Award for Graduate Student Research for the 2014-2015 academic year to fund his research. Congratulations Colin! While in New Orleans at the American Society for Cell Biology conference this past December, Dr. Cook was surprised to see two alums, Robert Carroll (former Cook lab student) and Jessica Ouderkirk (’10).

Dr. Cook is getting ready for her research sabbatical approved for the Fall 2014 semester. She will be researching the role of G protein-coupled receptor kinases in the regulation of MCH receptor function, which is an important component of appetite signaling in the brain. She was awarded a Provost’s Post-Tenure Award to fund her work. She is crossing her fingers that the NIH will fund her latest research proposal too! In addition to becoming a lab rat until the snow flies again, Dr. Cook is taking online classes towards a graduate certificate in Higher Education Administration through SUNY Stony Brook and she is planning a big Disney vacation in the middle of August with her family! Any students interested in a research experience beginning January 2015 or May 2015 should contact her at lcook@brockport.edu before the end of summer. There will be several open research spots when she returns!

cuse, NY. Published reports provide some evidence that anoctamin ion channels contribute to epithelial secretion, sensory nerve transduction, gastrointestinal motility, and cardiovascular function. The short version of our project is that we will exam the roles for Ano1 and 2 on cilia development (Dr Amack) and on the development of the regulatory mechanisms for gastrointestinal motility patterns. Dr Amack is an expert on developmental biology and focuses on cardiac development, and our lab has expertise on gastrointestinal physiology. Our role in this project is to provide the physiological measurements after interfering with ano1 and 2 gene expression. Dr Amack’s lab will develop transgenic animals with reduced or eliminated ano1 and 2 expression.

Several new lab members will be busy with experiments this summer, including Ian Shannon, Clayton Brady, Olusola Adeniran, Griffin Steinhilber, and Max DeNora. Everyone is relatively new to research and we will have our hands full with this project!

Dr. Adam Rich
My lab studies gastrointestinal motility using a zebrafish model system. We will be starting work on a newly funded project, Tool building: developmental and physiological roles of Anoctamin ion channels and will be collaborating with Dr Jeff Amack at Upstate Medical University in Syra-

Dr. Huey Hing
Kathryn Yaeger of my lab presented our research findings at the National Conference of Undergraduate Research. The title of her abstract was: "Characterization of the olfactory behaviors of wnt5 loss-of-function and gain-of-function mutants"
Dr. Michel Pelletier

This Spring semester, I taught my 2 favorites classes: Immunology (BIO414), and General Microbiology (BIO423), 2 upper-level classes. It has been a very busy last few months. I am also awaiting the decision on a manuscript that I submitted a few months ago to the International Journal for Bahamian Studies. Speaking of research, a total of 9 undergraduate conducted research in my lab this spring. They are (in alphabetical order): Nicholas Bablin, Philip Bellomio, Matthew Brostch, George Fadden, Christopher Peeck, Stephanie Schmidt, Gina Tascione, Jennifer Taylor, and Rebecca Tobin. I would like to wish good luck and success to Nicholas, Philip, Matthew, Christopher, George, Gina, and Rebecca who are all graduating. In addition, two graduate students, Caitlyne Kocik and William Bigham, are slowly but surely learning the ropes in my lab. Also, congratulations to Mackenzie Meyer for winning the Chancellor’s Award, and for accepting an offer to study Veterinary Medicine at University of Guelph, Ontario, Canada.

On April 30th, the whole lab attended the Buffalo Conference on Microbial Pathogens. We heard speakers talk about their research on different topics such as Regulation of type IV pilin expression in Salmonella, Nanotubes and Extracellular Vesicles in African Trypanosomes, differentiation-dependent life cycle of human papillomaviruses, and Intracellular pathogenesis of the fungal pathogen Histoplasma capsulatum. In addition William Bigham and Caitlyne Kocik presented a poster.

Call for Updates!

If you are a current or former Brockport Biology Student, we want to hear about you! Please send us updates on your career, education, etc. to include in our Departmental Newsletter!

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.
Becoming a graduate student is nothing like I expected it to be. I am enjoying my time as a graduate student more than I ever did as an undergrad. I am finding that I have less stress, when it comes to my academic life; I have also found a renewed passion for biology.

The opportunity to become a teaching assistant (TA) has been amazing. I never imagined that I would actually teach others. At first I was quite nervous about being in front of a class, but soon realized that it was very enjoyable. Becoming a TA has allowed me to meet hundreds of students that I otherwise would not have the chance to and to actually have a positive impact on their academic careers. Becoming a TA has also helped me grow as a person, I have learned how to better teach others, handle or defuse potential situations of conflict, I have become more patient and have become a better listener and speaker. Another great aspect of being a TA is the knowledge you gain. I have been lucky enough to teach Microbiology lab and Anatomy and Physiology lab, which are my two favorite subjects. I have gained a much deeper understanding of the subject matter as a whole, like the saying goes ‘you don’t really know something until you can teach it to others’. When a student asks me a question, quite often I will ask them questions in return. I don’t want to just give them the answer I want to show them how to find it for themselves, especially when they already possess the knowledge but might not realize it. The lighter class load allows for a better mastering of the subject matter as well as more time to build relationships with other graduate students and professors. I have found as a graduate student I no longer cram for a test the night before an exam but instead meet with other students for study sessions often times a week or more in advance. Overall my experience as a graduate student has been great. I have renewed my love of science, increased my passion for learning and have gained many valuable skills from the research that I am doing. I would recommend the Graduate program at Brockport to anyone interested.

When I made the decision to apply for the biology graduate program at Brockport, I imagined that any free time I had had would disappear. I imagined spending all my time in class, studying, or doing research. However, now that I’m into my second semester of my first year of grad school, I’ve come to realize that there is so much more to graduate school than just learning. I attend class just like every other student on campus, do my homework and study when it comes to time to take exams, but I’ve also had the opportunity to become a teaching assistant for the anatomy and physiology class. I have between three to four lab sections a semester in which I am in charge of teaching undergraduate students and helping them to learn anatomy of the human body. I wasn’t sure at first how I was going to feel about being a leader for so many students, but I’ve found that I really do love it and it has helped me to become a more confident person. In addition to my work on campus, I am also able to volunteer once a week at a local animal hospital to gain more experience to apply for veterinary school this summer and also manage to find time to go to practice for the tae kwon do club two days a week, where I am currently a purple belt. Although I do spend a lot of time in the lab and in class, I still find time to pursue other passions and not surround myself with only schoolwork.
**Student Successes and Alumni Updates**

**Hakeem Mateo Banks (B.S. 2014)** has been accepted into “Teach for America” to teach High School Biology 7-12 and the MALS program

**Gabriel Botana (B.S. 2013)** has been accepted into the UMHS medical school in St. Kitts

**Tiff Caza (B.S. 2006)** won the Chancellor’s award graduating the M.D./PhD program next month and is starting her residency in pathology this summer

**Jennifer Clark (B.S. 2013)** has been accepted to Georgetown Univ. Medical School

**Beth Delorme-Axford (B.S. 2006, M.S. 2008)** will be starting a postdoc at the University of Michigan this summer. Her July 2013 paper in PNAS won the Cozzarelli Prize in Biomedical Sciences

**Crystal Diaz (B.S. 2014)** has just been offered a job as a Medical Technologist at Rochester General Hospital

**Danielle Marie Feligno (B.S. 2009, M.S. 2014)** is a Technical Applications Specialist for Siemens Healthcare Diagnostics. She works on installing and verifying state of the art Chemistry and Immunoassay instruments as well as helps to maintain laboratory informatics, automation and robotics

**Christine Hochmuth (B.S. 2005)** is starting her third year as a post-doc at the University of California in San Diego, studying the hematopoietic stem cell niche in zebrafish

**Mary Holmes** is a Law clerk at the vaccine court at the US Court of Federal Claims in Washington DC

**Austin Olek (B.S. 2013)** is about to finish his Masters in Medical Management. He is currently working in NIH and Industry sponsored clinical research for hepatitis C and advanced gastrointestinal medical devices

**Sarah (Scheuermann) Periard (B.S. 2014)** is a Java programmer at Envisage Systems in Ithaca

**Laura Pankowski (B.S. 2013)** will be starting the Physician Assistant’s program in the fall at Harding University

**Alesya Poplavskiy (B.S. 2013)** has been accepted to the Physician Assistant’s program at Le Moyne College

**Scott Portwood (B.S. 2006, M.S. 2011)** is working in the Department of Medicine at Roswell Park Cancer Institute in Buffalo. He just published his second paper in Clinical Cancer Research and is half way through a Master’s of Business Administration from Canisius

**Kevin Ray (B.S. 2009)** is graduating medical school and starting a Neurosurgery residency in Southern California this June

**Cyrus Salehi (M.S. 2014)** has been accepted into the Physician Assistant’s program at Le Moyne

**Trish Steiner (B.S. 2013)** is at Rochester General in the Medical Technology program

**Chris Tomeny (B.S. 2013)** is working at Bausch & Lomb in Syracuse, NY

**Emily Whiteside (B.S. 2014)** has been accepted into the DVM program at Ross University
The Graduating Class of 2014…..
CONGRATULATIONS & GOOD LUCK!

Hugo Avalos
Nicholas Bablin
Emily Baldwin
Hakeem Banks
Jaclyn Beckinghausen
Derek Bernacki
Adam Brooks
Matthew Brotsch
Kristina Brown
Andrew Bumstead
Edward Capurro
Victoria Cenzi
Kayla Coleman
Kristina DeWaters
Crystal Diaz
George Fadden
Gregory Ferraro
Arcangell Flores
Charles Gorton
Erin Gwara
Alysha Hedding
Colin King
Thomas Loughlin
Matthew Luther
Manar Maali

Marlon McCullough
Mackenzie Meyer
Deanna Pedeville
Christopher Peeck
Sarah Periard
LeeEllen Ragne
Noah Reger
Matthew Roides
Theodore Ryan
Rachel Sealy
Elias Seward
Ian Shannon
Lacey Staniszewski
Patricia Steiner
Matthew Stewart
Cody Tallett
Gina Tascione
Rebecca Tobin
Christopher Tomeny
Leedia Viavattene
Alexander Viavattine
Emily Whiteside
Cody Whitney
Rachel Wyand
Honors and Awards

Charles S. Thomas Award (Top student in BIO111): Dalton Rarick
Elmer Cloutier Award (Junior or Senior specializing in Cellular-organismal Biology with a potential for success at a post-graduate or professional level): Colin King
Francis Claffey Award (Biology Major Senior): Rachel Folts

Henry Gould Award (Biology Major Junior enrolled in Teacher Education): Christina Schaefer

Departmental Scholar: Sarah Scheuermann

Bower Undergraduate Summer Research Fellowship: Allyson Burkhart, Jennifer Taylor

Congratulations to all of our award recipients! You set a wonderful example for our students!

2014 Outstanding Senior Award: Noah Reger

Noah Reger, a Masters student in the Biology Department, has been chosen by the College of Brockport's Honors Program to be the recipient of the 2014 Outstanding Senior Award. The College's Honors Program is part of the National Collegiate Honors Council, and accepts a selected group of undergraduate students with superior academic ability.

Starting in his undergraduate years, Noah was fascinated with the persistent questions of human existence. What makes us different from other animals? What is the nature of consciousness? What is free will? His quest for answers to these questions, led him to major in the Departments of Biology and Philosophy. In the Department of Philosophy, Noah’s interests led him to study the Philosophy of Science, and he carried out his undergraduate research on the Philosophy of Nietzsche. In Department of Biology, Noah’s interests naturally led him to the field of Neurobiology, in which he carried out his undergraduate research on the mechanisms of brain development in the lab of Dr. Huey Hing.

At present, Noah is enrolled in the Accelerated Master’s Program of Biology, where he is continuing his research in the Hing lab. For his thesis, Noah is investigating how the \( \text{wnt5} \) gene directs the formation of an olfactory neural circuit. He has recently made an exciting discovery that a new gene also functions in olfactory circuit development. Noah hopes that by understanding how the brain develops, he will begin to understand the origin of human nature. The Biology Department congratulates Noah on his achievement, and wishes him continued success in his research and future career.

2014 Chancellor’s Award for Student Excellence: Mackenzie Meyers

Congratulations to Mackenzie Meyer for winning the Chancellor's Award for Student Excellence. This is the highest honor bestowed upon a student by the University. It acknowledges students who have achieved excellence, and have demonstrated and been recognized for their integration of academic excellence with other aspects of their lives (leadership, community service, arts, athletics, and/or career achievement.

Mackenzie has performed research in my lab for 3 years, and presented her work at several venues. She was also the president of the Biology Honors Club, and was involved in several aspect of campus life. Her hard work in my lab will result in a scientific publication which Mackenzie would be one of the authors. In addition, Mackenzie has just accepted an offer to pursue a degree in Veterinary Medicine at the Ontario Veterinary College located at the University of Guelph, Canada. Being Canadian, I know that Canadian Universities and Colleges are very protective of their homogrown talent. So, for an American citizen like Mackenzie to be accepted into a Veterinary School in Canada, is an even greater feat. Congratulations and good luck!
A Word from the President of the Biology Honors Club

Brockport’s Biology Honors Program is one of the most rewarding clubs of which I have ever been a member at this school. Students in the honors program are able to receive real-life lab experience while working closely with a faculty member. Since starting my research with Dr. Sia last fall, I have learned so much more than I would by just attending my regular lectures and labs. I have also gained invaluable skills from the lab that will benefit me in the future. Without being in the honors program, I would have never been able to take advantage of these opportunities that I now have, such as being able to do summer research, presenting my research results at different venues, and potentially attending genetics conferences held around the country.

By being in the Biology Honors Program, every single member is able to gain these experiences! To become a member, you just have to maintain a certain GPA and fill out a simple application form that can be found online or in the biology department office. Once you have been accepted, you can start your research and then write your thesis. While the idea of a thesis may seem daunting for an undergraduate, your faculty mentor will help and support you during the time you write it. Plus, by being in the Honors Program, you will be a part of the Biology Honors Club, where it will be your responsibility to attend meetings and help with fund-raising for nonprofit organizations such as Gilda’s Club, a cancer support center in Rochester.

Allyson Burkhart, President, Biology Honors

Help Support the Next Generation of Biology Students

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 are active, working with students, and presenting results at scientific meetings with students. Not surprisingly research is expensive and 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. Stuart Tsubota (stsubota@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