Biology Newsletter: October 2010

The College at Brockport
To the new Biology majors, Welcome! The faculty and staff are pleased that you have chosen to join our department. We will do our best to provide guidance and support to help you attain your career goals. To the returning Biology majors, Welcome Back! Hopefully, you have had an enjoyable summer, and feel invigorated and eager to resume the pursuit of your career goals.

Enrollment in the Department of Biology has increased this year from previous years. Currently, we have 245 BIO majors and 46 BIO minors. In addition, the department has 43 Medical Technology majors.

I would like to announce a new course that Dr. Laurie Cook will be offering this Spring. The course is called BIO 466 General Endocrinology. This course will meet the 400 level elective requirements for the BS in BIO degree.

For those highly motivated students interested in attaining a BS and MS degree in a total of 5 years, we now offer a 3+2 BS/MS program. For those students interested in the standard graduate school route, the department offers two options. We offer a MS degree that focuses primarily on basic scientific research. The other option is called a Professional Science Masters (PSM) track. It is geared for those students interested in bridging the business and research sides of science.

The department has recently purchased two new pieces of equipment. The first is a Zeiss Laser Scanning Confocal Microscope. This high resolution microscope will primarily aid the research efforts of Dr. Adam Rich and Dr. Huey Hing. Eventually, use of the microscope may be incorporated into lab courses. The second piece of equipment is a Fotodyne Gel Documentation System. This will be used to take images of DNA gels used in upper level lab courses and research.

Finally, I’d like to announce that I will be going on sabbatical next semester. I will be focusing on my research at the U of Rochester. Therefore, I will not be available. Instead, Dr. Stuart Tsubota will be the acting chairman of the department.

Have a great semester!

- Rey Sia, Ph.D.,
  Assoc. Prof & Chair

Update From the Paul and Agnes Bower Biology Research Scholarship Recipient for Summer 2010

“In the spring of 2010 I began working on an undergraduate research project in Dr. Rey Sia’s lab studying the role of the RAD52 gene in mitochondrial genome stability. My research was going well, but progressed in fits and starts and was done between classes and other obligations. The Paul and Agnes Bower Biology summer research scholarship that I received at the beginning of the summer allowed me to focus my efforts this summer on research, and I made significant progress towards the completion of my experiments. My next step is graduate school, and I consider the experience that I’ve gained and time devoted towards undergraduate research this summer an invaluable asset in both the graduate admissions process and my development as a researcher. I consider myself very lucky to have been a recipient of the scholarship.” - M Bontrager

Martin hopes to begin work on a Ph.D. in genetics or evolutionary biology next fall.

Pictured left to right: Dr. Bonner, former Genetics Professor of Dr. Bower, Dr. Bower, Martin, VP Advancement Roxanne Johnston
Streamline your Graduate Degree!  
Get a B.S. and M.S. in Just 5 Years!

Do you get nervous when you think about what you are going
to do after graduation? Are you unsure of whether you'll get into that professional program? Do you want to strengthen your technical skills and analytical thinking skills before jumping into the workforce? If you answered yes to any of these questions, you may be interested in the 3+2 B.S./M.S. combined degree program. It’s easy! You simply apply by the first semester of your junior year to qualify. You need at least a 3.25 GPA and need to maintain a 3.0 once accepted. Worried about the commitment? Don’t! If you choose to leave Brockport’s Biology program with only the B.S. degree, then you are under no obligation to finish the M.S. degree. On the other hand, if you decide to remain in the program, you can essentially shorten your time to the M.S. degree by one entire year! What a bargain! Think of what you could do with all of that tuition $$ saved! A car, a laptop, an iPad...the possibilities are endless!

Biology Alumni Updates

- **Patrick Donohue** (‘10) has recently received an offer for a job as a patient care technician on the orthopedic floor of Strong Hospital. This position will add an important clinical experience component to his next round of applications when applying to medical schools.
- **Phil Vecchione** (94’) is currently Project Manager for SUNY ITEC at Buffalo State College.
- **Laura Shum** (‘10) accepted a position in a laboratory at the University of Colorado at Denver.
- **Makoto Nagahama** (‘07) started working on his M.D. at the University at Buffalo.
- **Scott Gordon** (‘08) working on a Ph.D. in Pathobiology and Molecular Medicine at the University of Cincinnati. He recently published a manuscript titled “Proteomic Characterization of Human Plasma High Density Lipoprotein Fractionated by Gel Filtration Chromatography” in the Journal of Proteome Re-

Announcements

- Midsemester Break is October 18th & 19th this year—Classes are suspended
- November 5th is the deadline to Withdraw from classes without the Chair’s permission
- Final Exams scheduled for the week of December 13th
- Deadline for applications to the 3+2 B.S./M.S. combined degree program is November 1st

Summer Research Projects Presented at Poster Session

On Friday, September 24th, undergraduate students who performed summer research projects from across the Campus presented their results at a poster session in the Seymour Union Gallery. Summer research participants received funding from various sources including the Brockport Foundation, National Institutes of Health, the Paul and Agnes Bower Biology Research Scholarship and others. In attendance were members of the Brockport Foundation Board, President John Halstead, Provost Anne Huot, and numerous faculty and students from a wide variety of departments. Presenters from Biology were **Martin Bontrager**, **Katrina Haude**, **Luke Krembs**, **Jenna Wiemer** and **Hannah Lipshutz**. Congratulations on a job well done!!

Volume 3, Issue 1
**Welcome to Our New M.S. Students!**

**Dominic Munini**
I am a native of Kenya in Africa. I chose Brockport for graduate school because of the long history of academic excellence of the College. I wanted to be part of this prestigious educational institution. Brockport academic community has a good reputation. It is welcoming and friendly. Students are good to one another and the professors are committed to helping students achieve their goals in life. I longed to be part of this lovely community. My goal is to acquire a M.S. in biological science with a specialty in microbiology and immunology. These skills will prepare me for a doctoral programme in microbiology. Ultimately I’d like to teach microbiology in colleges in Kenya.

**Lisa Dishaw**
I am excited to be returning to Brockport to be the first Professional Science Master’s student at the school. This will be an exciting and challenging beginning to my goal of working for a biotechnology company. I chose to return to Brockport because of the welcoming community of staff members and students. The experience I had as a undergraduate will help me to succeed as well as professors who were always there to help, I couldn’t think of a better place to come back to!

**Lauren Field**
I went to Johns Hopkins University and received a B.S. in Biomedical Engineering. After attempting to find a job, and failing, I decided that going back to school would be a good idea. After moving back in with my parents (they are super excited about that) I am now commuting daily to Brockport. I decided to pursue biology for my M.S. because I want to gain a more thorough background in the specifics of cellular interactions. I hope to continue on for a Ph.D. in Biomedical Engineering and I know that a strong biology background will be a great benefit for that goal. I am working in Dr. Cook’s lab which I am enjoying immensely, from her very welcoming other M.S. students to the interesting research. I am having much more fun then I had anticipated. I am looking forward to two interesting and challenging years at Brockport!

**Amanda Diamond**
I received a bachelor’s of science degree in Biological Sciences with a concentration in pre-health studies as well as a minor in Spanish from the University at Buffalo, State University of New York. I am very passionate about science, especially physiology and health related fields. My goals for the near future will include graduating from the master’s program here at the College at Brockport, as well as continuing with my education to achieve a Ph.D or physician's assistant certification.

**Brittany Heathrington**
I am happy to be in the MS program in Biology at Brockport. My goals are learn more, and to get accepted to medical school or a physician’s assistant program. I graduated from Fredonia in May 2010 and will be working in Dr. Rich’s lab. This is the first time that I have done research. My project focuses on the role of 2 genes, kit ligand b and kit b, on the development of interstitial cells of Cajal in the zebrafish. These genes, and this cell type, are important for GI motility in humans.

**Alyssa Frainier**
I am happy to be in the M.S. program at Brockport. My goals are not yet fully developed and I am still exploring. I am most interested microbiology and genetics and, for now, I prefer research over health care. I graduated from SUNY Potsdam in May 2010. At Postsdam I did research in a genetics lab and worked with cyanobacteria, and also worked in a level 2 microbiology lab testing water samples for *E. coli* and *Salmonella*. My project here in Dr. Michel Pelletier’s lab is isolating lipin protein from *Trypanosome brucei*. I love horseback riding in the hunter jumper discipline and have been doing it for 12 years.
General Endocrinology has not been offered as an elective in this department for a number of years; not since Dr.’s Braningan and Chan were in residence. Dr. Laurie Cook will be reinstating this course as 400-level lecture elective this coming Spring, 2011. Dr. Cook did her graduate work in an Endocrinology laboratory and her research here at Brockport focuses on a peptide hormone responsible for regulating appetite and energy expenditure. Keep this course in mind as you prepare for Spring Registration!

Consider Giving the Gift of a Research Experience

In the last few years it has become increasingly difficult to provide authentic research experiences for students. If you live in New York State, or I guess any other, you recognize the economic disaster that has befallen us and State funds for SUNY in general, and Brockport in particular, have been cut drastically. Fortunately, our young faculty, as a group, have been more successful than any group of faculty in the past in securing grants from NIH and NSF to support research experiences for our students. All the grants include funds, to a greater or lesser degree, to purchase supplies, reagents, and provide small summer stipends for our students to do research, not only during the standard academic year, but also in the summer. In any given year there are between 70-80 students registered for research courses. With about 280 majors in Biology it is clear that every interested student is able to carry out meaningful, authentic scientific research. But those grants are not nearly sufficient to support the entire research program for students.

Please consider helping to support our students’ research opportunities by contacting Dr. Tom Bonner (tbonner@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
**Department Achievements — Faculty Updates**

**Dr. Laurie Cook** spent the summer working in the lab with **Katrina Haude**, who received a summer research fellowship from the Brockport Foundation, and two graduate students, **Danielle Feligno** and **Jay Moden**. They submitted abstracts to the American Society for Cell Biology Annual Meeting and look forward to presenting their data in Philadelphia this coming December as well as the Fall RAS Poster Session at RIT. Katrina has plans to present her findings at the National Council for Undergraduate Research Meeting next April. Dr. Cook also submitted a request for an equipment supplement to her NIH grant to purchase a $50,000 fluorescence plate reader.

**Dr. Rey Sia** spent the summer continuing his research on mitochondrial genome stability with his graduate student, **Christina Turcotte**, and three undergraduate students, **Martin Bontrager**, **Luke Krembs**, and **Jackie Walker**. Martin was funded by the Paul and Agnes Bower Summer Research Fellowship while Luke was funded by the Brockport Foundation Summer Research Program. Their work will be presented at the Rochester Academy of Sciences Annual Fall Meeting as well as at the National Conference on Undergraduate Research.

**Dr. Stuart Tsubota** performed with BIODANCE in New York, July 10, Smith Opera House. A dance that he performed in BIODANCE is on YouTube. The website is [http://www.youtube.com/watch?v=HdHC2JGB_kQ](http://www.youtube.com/watch?v=HdHC2JGB_kQ). He also wrote and submitted the following paper to the journal, Fly: Interactions between enhancer of rudimentary and Notch and deltax reveal a regulatory function of enhancer of rudimentary in the Notch signaling pathway in Drosophila melanogaster. Other authors include Alecia C. Vogel, Anthony C. Phillips, Suzanne M. Ibach, Nick K. Weber, Melissa Kostrzynski, and Susan A. Spencer. All authors are former students of Dr. Tsubota’s except for Susan Spencer, who is a faculty colleague at Saint Louis University.

**Dr. Michel Pelletier** applied for a NIH AREA grant this summer entitled “Functional Characterization of Tblpn and Its Role in Lipid Biosynthesis in Trypanosoma brucei”. Also, four students performed research in his lab: **Jenna Wiemer**, **Hannah Lipshutz**, **Joanna Almeter**, and **Jeff Sattora**. Jenna presented her work at the Ronald E. McNair Program Conference held in Niagara Falls, NY in June. Jenna received a scholarship from the Brockport Foundation Summer Research Program. This semester, **Jenna Wiemer**, **Ashley Popovic**, **Amber Karpie**, and **Ashley Dungan** are doing research in his lab.

**Dr. Tom Bonner** spent much of the summer revising Biology 1, BIO 201, including adopting a new text for the class. Also, he started introducing a graduate student of Dr. Cook’s, **Danielle Feligno**, to electron microscopy.


**Dr. Adam Rich** and **Jennifer Strouse**, a MS student, collaborated on refining real time PCR to measure relative expression levels of 6 genes that may regulate development of pacemaker cells in the gastrointestinal tract. We also worked with **Dr. Pelletier and Jessica Muller** to verify the sequence of the PCR products, and more importantly, to develop western blot techniques to quantify protein expression levels for these genes in the zebrafish GI tract. Kevin Tylock, a researcher in the lab, was a Summer Scholar in Dr. Craig Morrell’s lab at the Cardiovascular Research Institute at the University of Rochester Medical School. Kevin’s project focused on the putative roles for Von Willebrand factor, a plasma glycoprotein involved in blood clotting, in inflammation. We welcome 2 new undergraduates to the lab, **Kirstin Wade** (a freshman) and **Brett Warren** (a senior). Kirstin’s goals are to learn all that she can about research and career possibilities and Brett is working on a project examine the effects of diet on zebrafish gastrointestinal motility patterns. We also welcome two new MS students, **Amanda Diamond** and **Brittany Heatherington**. Both are primarily interested in clinical careers. Amanda’s project will examine the role of diet on the development of the GI tract and Brittany is examining the role of kit ligand b and kit b on the development of GI motility. Last but not least the new Zeiss Laser Scanning confocal microscope is now working in B18 Lennon!
Dr. Stuart Tsubota and his wife, Katherine Weston, bought a building in Brockport earlier this year and are turning it into an art center. The building, located at 27 Market Street is a pre-Victorian, two-story structure that they are currently renovating. With a grant from the Brockport Historic Preservation Board, they are restoring the facade to its 1890's look. There are four parts to the art center project: 1) a shop selling high-quality and unique crafts from artists all over the U.S., 2) a studio for holding workshops and classes, 3) an art gallery that will highlight contemporary art from primarily upstate NY artists, 4) studio space on the second floor to be rented to artists. The center is called “A Different Path Gallery.” The name underscores the fact that the shop and the gallery will provide a unique vision that is presently not found in Brockport, and the fact that Brockport is on the Erie Canal Tow Path. The first three parts of the project are nearing completion. The shop has been open since June, and on July 21 the first workshop was taught in the studio. The gala opening of the gallery was on August 27 and showcased artists from the Rochester-based Arena Art Group (http://www.arenaartgroup.com/events.html). The website for “A Different Path Gallery” is http://www.differentpathgallery.com/index.html. There you can find more details about the project and the current schedule for the exhibitions. There is a lot of excitement in town about the project. Stuart and Kathy keep getting comments concerning the novelty of the center, and the need for something like it in Brockport. Another hope for the gallery is that it will help bridge the gap between the town and The College at Brockport. The Chair of the Art Department, Phyllis Kloda, is excited about the possibility of a local venue for her students and faculty to display their work. Two Brockport graduates, Christina Laurel and Jolene Beckman, and Sandra Cain, the costumer for the Dance Department, will be exhibiting in the gallery in the coming year. Another plus for the project is its contribution to the rejuvenation of the downtown area. Brockport is a charming little town, and the more draws to bring people in, the better. Katherine Weston is an artist, specializing in printmaking and mixed-media. She is a member of the Arena Art Group, the Print Club of Rochester, and the Rochester Art Club. She has displayed with these groups and on her own. This past summer she displayed at the Dyer Arts Center at RIT and at The Little Café.