



Biological Sciences at The College at Brockport, SUNY

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

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End of Year Update

The State of the Department

The end of the 2008-09 academic year is rapidly approaching. To those students who will be graduating, the faculty wishes you luck in your future endeavors. For those of you returning in the Fall, I'd like to tell you about the new faculty and equipment that has been added to the Department of Biological Sciences. If you haven't already heard, there will be a new faculty member joining the department in the Fall of 2009. Dr. Michel Pelletier will be leaving his postdoctoral position at the University of Buffalo and will join the Department as an Assistant Professor. Michel's expertise is in microbiology. He will be teaching Immunology in the Fall and Microbiology in the Spring. Michel will also develop a 400-level course in the area of microbiology

and will be starting his research lab next year. This will expand opportunities for students interested in gaining research experience.

I'd also like to mention the new pieces of equipment that the Department has recently acquired. These pieces of equipment will make your learning and research experiences more productive and fun. A new 52" LCD HDTV has been added to the introductory biology teaching lab. The TV will aid in the visualization of microscopic organisms and processes in the various introductory lab experiments. The Department has recently acquired a fluorescent dissecting microscope. Dr. Tsubota and his students are currently using it to examine the development

of fruit fly embryos that are tagged with a fluorescent protein (Green Fluorescent Protein). It's pretty amazing to see these embryos fluoresce under the microscope. Dr. Rich has added a new gel documentation system to his lab that has made taking images of agarose and Western gels more convenient for students. He has also acquired the use of a real-time PCR machine that allows for the measurement of gene expression. The faculty is committed to obtaining new technology that will benefit student research and learning. - Rey Sia, Ph.D., Assoc. Prof & Chair



Inside this issue:

UGs at Nat'l Meetings: A Perspective	2
Phone Tree	2
Med Tech Program	3
Summer Courses	3
Honors and Awards	4
Student Spotlights	4
Research Presentations	5

Special Notes:

- ♦ *Honors Society Inductees Announced*
- ♦ *Medical Technology School receives National recognition*
- ♦ *Keep in Touch Following Graduation!*

Biological Sciences Offers Two New Masters Programs

Pending SUNY Administration approval, two new Masters degree programs will be offered in the Department this fall semester. The first is a **Professional Science Master's degree** which combines rigorous science training with business courses. Brockport will offer a PSM in Cellular Biology and Biotechnology. The only other such program in NYS is at St. John's University.

Our graduates will have a competitive edge in the biotechnology market. In addition to normal coursework, students will be required to take on an internship in a biotechnology company in the local area. Admission requirements include a 3.0 GPA, satisfactory GRE scores, and positive letters of recommendation.

The second new Mas-

ters degree being offered is a 3+2 degree, allowing qualified students to obtain **both an undergraduate B.S. degree and a graduate M.S. degree in only 5 years.** Admission requirements include a 3.25 GPA in science/math courses through the end of the junior year, then a continuing 3.0 GPA to remain in the program. Admission is selective. Program requirements neces-

sitate the completion of a focused research project culminating in a thesis defense, as is typical of the Department's regular M.S. degree plan.

If you are interested in pursuing any Master's degree in the Biological Sciences, speak with your advisor to determine which path is right for you.

A National Meeting from an Undergraduate Perspective

One of the greatest opportunities for an undergraduate student is to experience a professional scientific meeting. I was lucky enough to have the opportunity to attend the 48th Annual Meeting of the American Society for Cell Biology in December of 2008. In addition to getting more free pens than I'll ever need, I got to hear two Nobel laureates speak, attend symposiums to learn about current research and visit vendor booths to see some of the awesome technology being used by companies and institutions.

There were approximately 8,000 attendees, 500 posters and over 350 vendor booths. As an undergraduate this was both inspiring and intimidating. A lot of the science was simply over my head. Some of the technology I can't even imagine what it might be used for. At the same time it was exciting, stimulating and positively motivating to see all the different opportunities that an education in biology can provide. From academia to industry to sales to research the possibilities seemed endless. I've never been happier

with my decision to major in biology. After returning from the meeting, I couldn't wait to get back into the lab and continue my research. I had never felt so excited about the start of the semester and new classes. Hopefully if I attend the 2009 meeting I can understand a little more of the science going on around me. This meeting all but cemented my decision to continue to a PhD program and I'm already getting prepared for the next meeting!

-Laura Shum, BIO major

Biology Majors Recruit Accepted Students in Phone Tree

Last February, BIO Majors were given the chance to volunteer one night to be representatives of the Department of Biological Sciences at The College at Brockport. Dr. Sia, the Biology Advisor, had organized the event in hopes that the current biology students could help accepted freshman know more about Brockport for their college decisions. Dr. Sia had the master list of all accepted freshman that declared biology as their major for the incoming fall semester. Each student volunteer was given a copy of the list which included the freshman's names, phone numbers, and locations. For the next hour, each student took about ten high school

student numbers, and spoke to each student about Brockport as a school and the benefits of the biology department. There was a guideline of questions for each caller to ask the students, as well as a short survey to fill out for each of their responses. Questions included the student's future career goals, reasons for picking the school, and any other activities they hoped to find in Brockport. Although there were only around ten callers, the small room of telephones in the Brown building was filled with chatter of education, doubts, dreams, and gratitude. The callers spoke not only to the high school students, but to their parents as well who wanted to know if

Brockport would be a good fit for their child. Overall, the night was a success with many friendly voices on the opposite ends of telephone lines as our current biology students gave the possible freshman of Fall 2009 the support and answers to feel comfortable in choosing Brockport as a place to pursue their goals in the field of Biological Sciences.

- Amber Karpie, BIO major



Facebook: Connecting the Lives of Brockport Biology Students

Nearly everyone on college campuses around the nation has either heard of or uses Facebook, a social networking website that allows people of high school ages and above to create a free profile for themselves on the internet. Some people tend to think that Facebook is a dangerous business associated with unprotected websites such as MySpace, but it appears that in this college generation, Facebook has become a big deal on Brockport's campus. Facebook exists for the sole purpose of connecting people in a way much more reliable and accessible than communication by cell phone or

email. On Facebook, students are able to display messages on profiles, send private messages, create groups, and even chat to online friends. Facebook has become a key role in students' lives because information is able to be relayed from person to person just by a few clicks on the computer. Students can create groups for campus activities, like the **Brockport's Pre-professional Club** group, in which any student associated with the SUNY Brockport network can join. Events can be created by anyone, and the group creator can invite others to join while providing infor-

mation concerning the event. Even professors in the biology department can be found on Facebook, giving educators an edge on the lives of their students. Facebook helps the communication of Brockport biology students and staff, while maintaining privacy of individuals by optional privacy settings located on its website. Facebook has evolved over the past few years and had two major renovations for its millions of users, making it one of the most visited websites on the internet today.

- Amber Karpie, BIO major

Medical Technology - Among the Best

Students majoring in Medical Technology at Brockport spend their senior year at our affiliated School of Medical Technology at Rochester General Hospital (RGH). We at Brockport are very proud and honored with our association with the RGH School of Medical Technology. While we have always held the School in high esteem, this year a major per-reviewed journal, *Medical Laboratory Observer*, declared RGH Department of Pathology and Laboratory Medicine, the home of the School of Medical Technology, the second best Medical Laboratory in the country. The journal wrote:

"MLO's First Runner-Up for this year's Medical Laboratory of the

Year 2009 is the Department of Pathology and Laboratory Medicine at Rochester General Hospital (RGH), part of the Rochester General Health System. This is the home of the hospital's School of Medical Technology — the second longest program running in the country — is celebrating its 75th year in 2009 with a total of 665 MT graduates as of July 2008. The accredited program was founded in 1934 with the express purpose of educating qualified students in the profession of medical technology/clinical laboratory science. Today, the program draws students from 11 academic affiliates."

The Medical Technology students from Brockport have made significant contributions to the quality of the Lab at RGH both as students and as working medical technologists. Currently, six (6) Brockport students are finishing their senior year at RGH and several will be starting their senior year in July, 2009.

Information on Medical Technology can be obtained from:

Dr. Thomas Bonner

585-395-2633

tbonner@brockport.edu

Where Are Brockport's Biology Graduates Going?

- **Joy Hagan** will begin a Dental program at the University of Buffalo.
- **Garry Coles** will begin a Ph.D. program at the University of Rochester Medical Center.
- **Melissa Carey** has accepted a technical position in Daniel Garrigan's laboratory at the University of Rochester.

Please keep us informed of your successes! You can contact Dr. Laurie Cook at lcook@brockport.edu with your name, new contact information and employment/education status. We also occasionally seek former students to share their workplace experiences with our majors.

Summer 2009 Course Selections

The Department of Biological Sciences 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.

6/1/09-7/2/09

BIO 201 General Biology I

BIO 321 Anatomy and Physiology I

7/6/09-8/8/09

BIO 322 Anatomy and Physiology II

BIO 323 Microbiology

WE ARE LOOKING FOR

NEW RECRUITS!

If you are interested in joining the Departmental Newsletter Staff, please contact Dr. Laurie Cook, 217 Lennon Hall, 395-5757, lcook@brockport.edu

Departmental Honors and Awards Announced

- This year's **Departmental Scholar is Joy Hagan!** Each year this award goes to our top student. Joy holds an outstanding 3.96 GPA and will be attending Dental School at the University of Buffalo following graduation this May.
- This year, **Patrick Donohue was selected as the recipient of the Elmer J. Cloutier Scholarship** for a junior or senior with poten-

tial for success in grad school or professional school. He holds a 3.94 GPA and is applying to medical schools this coming fall.

- **Michelle Smith** is this year's **recipient of the Charles S. Thomas Memorial Scholarship** for the student with the highest average in BIO111.
- This year, **Kayla McGahey was selected as the recipient of the Francis Claffey Award**, which is

awarded to a senior demonstrating academic excellence. Kayla holds a 3.97 overall GPA.

- **Sigma Xi Research Awards for Undergraduate Research** went to **Laura Bahr, Hannah Cushman, and Joy Hagan**
- **Sigma Xi Research Awards for Graduate Research** went to **Melissa Carey, Garry Coles, Scott Portwood and Angie Schwingel.**

Undergraduate Student Spotlight: Danielle Feligno

Danielle Feligno is a SUNY Brockport senior in the Medical Technology program who is graduating this semester. The core curriculum for this program at Brockport is identical to that of the pre-professional track, and can take either four or five years to complete. Students in the Medical Technology program will complete courses at Brockport for three years, then they must ap-

ply and be accepted to a rigorous one-year internship at Rochester General. According to Feligno, the internship consists of ten weeks of student lab/lecture series by module (Hematology, Microbiology, etc.). Then, student clinical rotations take place, at 4 to 10 weeks per rotation. Feligno describes the internship as requiring two exams per week for a full year, then a final clinical-based

research with board presentation to follow. After a two-week review for boards, the student takes the board exam for national certification through the American Society of Clinical Pathology. Feligno is expected to graduate this May from Brockport and is already being offered technical positions.

- Christina Turcotte, UG BIO major

Graduate Student Spotlight: Garry Coles

Garry Coles is a graduate student in the Biological Sciences department, completing his Masters degree this semester. Coles is a familiar face in Lennon Hall, as he is completing his second year of independent research in Dr. Rey Sia's laboratory. Coles has recently been accepted to two different PhD programs at the University of Rochester, one in the Department of Biology, and the other at the U of R Medical Center

in Genetics, Genomics and Development. When asked how his undergraduate and graduate experience at Brockport helped to prepare for application and acceptance into PhD programs, Coles claimed that the independent research experience has been invaluable. Prior to his two years in Dr. Sia's lab, Coles also worked for two years in research in the Chemistry Department. Coles stated that his re-

search experience has instilled a personal work ethic, as well as critical thinking skills and experience in analyzing data. Moreover, Coles' research at Brockport has provided him with personal confidence in his work as well as experience with presenting his work to others.

- Christina Turcotte, UG BIO major

Please join us on Saturday, May 16th in the Lobby of Lennon Hall from 10:30 to 11:30 am for a Brunch Courtesy of the Department of Biological Sciences in Honor of our Graduates!

Congratulations!

National Council for Undergraduate Research Participants

On April 16th – 18th, 2009 about 20 Brockport students, including many Chemistry and Biology undergraduates attended the National Conference on Undergraduate Research (NCUR) in La Crosse, Wisconsin. The annual conference was held on the University of Wisconsin-La Crosse campus, which students described as similar to SUNY Brockport in that it was a small friendly community. The conference consisted of poster, oral, and performing arts sessions. NCUR displays undergraduate research in various areas including; science, literature, performing arts, education, and more. The students of SUNY Brockport learned a great deal, were exposed to research opportunities in other disciplines, and had a good time. Senior biology major Hannah Cushman said, "It was a great experience, I would recommend the trip to everyone!" - Jen Strouse, UG BIO major

- **Trevor O'Leary** gave an oral presentation titled: Synthesis and Evaluation of Telluride Antioxidants for the Study and Prevention of Oxidative Damage to Mitochondrial DNA
- **Laura Shum** gave a poster presentation titled: MCH Signals to Actin in 3T3-L1 Pre-adipocytes
- **Kevin Ray** gave a poster presentation titled: In-silico Functional and Structural Comparison Between Human and Zebrafish Intestinal Genes That Control ICC Growth and Development
- **Samantha Lomber** gave a poster presentation titled: ICC Distribution in Sparse Mutant Zebrafish
- **Laura Bahr** gave a poster presentation titled: Effect of SNP and L-name on Gastrointestinal Motility in Zebrafish Larvae.
- **Natalia Filip** gave a poster presentation titled: Gastrointestinal Transit Assay: Fed versus Fasted
- **Hannah Cushman** gave a poster presentation titled: Combined Mutations of Notch and Enhancer of Rudimentary in *Drosophila*

2009 Scholar's Day at The College at Brockport Student Presentations

On April 15th, 2009 The College at Brockport held its 26th Annual Scholar's Day. While classes were not in session, students were highly encouraged to attend and support their fellow peers, who presented on a variety of topics. Five of our own students presented on their research. One presentation, given by Jacqueline Tibbett, was based off research she conducted at the University of Rochester Medical Center on neuronal survival. Garry Coles, Angie Schwingel and Scott Portwood are all graduate students who presented on their thesis research. And, Philip Bailey spent a semester in Dr. Tsubota's lab learning about how genetic mutations influence fly development. Congratulations to all on a job well done!

- **Philip Bailey** gave an oral presentation titled: Effects of Notch and Enhancer of Rudimentary Mutations on *Drosophila* Viability.
- **Garry Coles** gave an oral presentation titled: The Role of Non-Homologous End-Joining in Mitochondrial Genome Stability and Repair
- **Scott Portwood** gave an oral presentation titled: Cross-talk Between MCH Receptors and Actin Filaments as a Potential Regulator of Adipocyte Migration and Expansion.
- **Angie Schwingel** gave an oral presentation titled: The Role of RAD52 Epistasis Group in Mitochondrial Genome Stability
- **Jacqueline Tibbett** gave an oral presentation titled: Impact of Hypoxia on Axonal Outgrowth in Mouse Cortical Neurons.

Brockport's Omicron Chapter of the Alpha Chi Honor Society Inductees

Patrick Donohue
Kayla McGahey
Jessica Ouderkirk

Brockport's Omega Upsilon Chapter of the Beta Beta Beta Biological Honor Society Inductees

Garry Coles
Joy Hagan
Hannah Cushman
Nicole Sosnoski

