

5-1-2011

## Biology Newsletter: May 2011

The College at Brockport

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### Recommended Citation

The College at Brockport, "Biology Newsletter: May 2011" (2011). *Biology Newsletters*. Book 5.  
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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

Volume 2, Issue 3

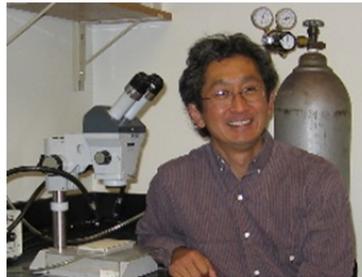
May, 2011

## The State of the Department

Another academic year has come to an end, as we sadly but fondly, say farewell to our graduates and wish them the best in all of their future endeavors. At the same time, we look forward to our returning students next fall. This has been a year of many accomplishments for our faculty and students. Our students have been accepted into prestigious graduate programs, medical and veterinarian schools, pharmacy schools, chiropractor schools, and physician assistant schools. Others are going onto jobs in research and other areas of biology. This year three of our faculty received important promotions within the university. Dr. Michel Pelletier received his first reappointment, Dr. Laurie Cook received her second reappointment, and Dr. Huey Hing received tenure and promotion to Associate Professor. Our congratulations go out to all of them. Our secretary, Lori Cornell, is out on medical leave. She will return in June, bionically enhanced, and bet-

ter than ever. This summer looks to be a busy one for our faculty. They will be teaching courses and conducting research. See Faculty Updates for more information on their activities. Again congratulations and best of luck to all our graduates, and to those returning, we will see you in the fall. Have a great Summer.

-Stuart Tsubota, Ph.D.  
Acting Chair



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### Special Notes:

***Congratulations to our graduating seniors! Have a wonderful summer and we'll look forward to a successful 2011-2012 academic year!***

## Paul and Agnes Bower Biology Research Scholarship Recipient for Summer 2011

The Bower Research Scholarship is intended to support and enhance the opportunity for undergraduate students to participate in valuable learning experiences beyond the classroom. The Scholarship is available to a student engaged in collaborative research with a faculty mentor during the summer and who continues that research into the academic year. The goal of the program is to foster undergraduate research experiences on campus, and to assist students who otherwise could not participate in summer research. The scholarship

supports an undergraduate student majoring in Biology to participate in research, scholarly and creative activities with a faculty mentor. Students who receive the scholarship are expected to carry out research for 40 hr/wk for 8 weeks of the summer and continue the research during the following academic year. Credit through independent study or research experience is available during the academic year. This year's recipient is a junior, **Emily Wexler**. She has been carrying out research under the mentorship of Dr. Hing for the last

year. During her studies at Brockport, Ms. Wexler has maintained a perfect 4.0 GPA. Emily will be attempting to identify the chromosomal location of a *Drosophila* behavioral phenotype using the procedure of genetic mapping. The mutant that Emily studies have an aberrant courtship behavior that is likely to be genetically determined. How genes control behavior is poorly understood. Identification of the genetic basis of the mutant behavior will shed light on the critical question of genes and behavior.

# Featured Biology Graduates



**Martin Bontrager**  
(B.S. '11)

My experience during the past two years that I've spent in the Biology department at Brockport has been incredibly rewarding. The labs and coursework were rigorous and challenging and I've developed friendships with fellow students that I expect to continue long after I receive my diploma. I've also spent a lot of time dedicated to independent research on mitochondrial genome stability in Dr. Rey Sia's lab. This fall I'll be entering into the Genetics PhD. Pro-

gram at the University of Wisconsin in Madison. One of the main reasons that I believe I was accepted was the strength of my research experience done as an undergraduate here at Brockport. I would encourage any student who is interested in pursuing a career in Biology to take advantage of the research opportunities in the department.



**Jenn Strouse**  
(B.S. '09, M.S. '11)

Since her early days in the Brockport Biology department Jenn Strouse had one aspiration in mind; she was determined to gain acceptance into Veterinary School. Her hard work as both an undergraduate and a graduate student at Brockport has paid off. This fall, Jenn will pursue her dream of becoming a Veterinarian at Michigan State Veterinary School of Medicine. Although Jenn is anxious to get started, she knows that the

four year CBM program will be extremely rigorous and demanding. Nevertheless, she hopes to one day open her own practice working with small animals.

**What made you apply to Brockport's Maters program after you received your Bachelors of Science in Biology?**

I applied to the masters program at Brockport after completing my undergraduate degree because I wanted to strengthen my resume and make myself more marketable when applying to professional school. As a graduate student in the masters program I gained teaching experience, research knowledge and expanded my understanding in Biology by taking many more upper level courses.

**As a graduate student, what have you gained by working in a research lab and how has it strengthen you as a student?**

At first, I was a little apprehensive when I started working Dr. Rich's research lab. I think that is a common feeling shared among many students making the transition from undergradu-

ate to graduate level. In the beginning, working in a research lab can be overwhelming. There is so much information to understand. The opportunity I was given to work in Dr. Rich's research lab gave me an entirely new perspective on science. It allowed me to develop as a student; I was able to apply numerous concepts that I had learned previously in my coursework to my own research project. I would recommend working in a research lab to anyone that is interested in pursuing a career in biology.

**Do you have any advice for prospective graduate student?**

The biggest piece of advice that I can share with a prospective graduate student would be to work hard! But, I am a firm believer that you need to make time for yourself and enjoy life. I found it helpful to establish an efficient and effective study method right away. Once I was able to get myself of a regular study routine everything else fell into place.

*-Interview by B. Heatherington (M.S. '12)*

## A Sabbatical Update from Dr. Sia



First of all, I would like to congratulate all of the students who will be graduating. Great

job! If you haven't noticed, I've been on sabbatical this past semester at the University of Rochester, Dept. of Biology. I've been collaborating with Dr. Elaine Sia, Associate Professor and my wife. The major focus of our research is to identify nuclear-encoded proteins involved in mitochondrial DNA recombination and repair in budding yeast. My research over these past four months has fo-

cused on i) the localization of the base excision repair DNA polymerase homolog, Pol4p, to mitochondria; ii) the identification of an isoform of the Rad52p homologous repair protein that may be specifically targeted to the mitochondria; and iii) the role of the Clu1p protein in mitochondrial morphology and DNA recombination. These projects have allowed me to refresh my laboratory skills in the areas of site-directed mutagenesis, isolation of mitochondria, protein purification, Western Blot Analysis, and fluorescence microscopy to name a few. These projects have also provided inspiration for new laboratory exercises to be incorporated into Genetics and Recombinant DNA Lab.

They have also expanded the number of projects that independent study students can tackle in my research lab. The major benefit of my sabbatical is that it will provide me with time to investigate a brand new avenue of research. My wife and I will start research this summer on a pathogenic fungus, *Cryptococcus neoformans*. The goal will be to investigate the role of mitochondrial function as a possible virulence factor for this opportunistic pathogen. In closing, I'm thoroughly enjoying my sabbatical but I also look forward to seeing everyone when I return in August.

## Departmental Honors and Awards

- **Rebekah Edgell** was selected as the recipient of the **Elmer J. Cloutier Scholarship** for a junior or senior with potential for success in grad school or professional school. She is an Honors student with a 3.76 GPA.
- **Elizabeth Maslyn** is this year's recipient of the **Charles S. Thomas Memorial Scholarship** for the student with the highest average in BIO111.
- This year, **Matthew Haintz** was selected as the recipient of the **Francis Claffey Award**, which is awarded to a senior demonstrating academic excellence. Matthew is majoring in Biology and minor-ing in Chemistry holds a 3.91 overall GPA.
- **Sigma Xi Research Awards for Undergraduate Research** went to

**Rebekah Edgell, Ashley Popovich, Martin Bontrager, Jackie Walker, Michael Ceresaro, Dominic Motyl, Melanie Roth, Nicole Muehleisen, Jenna Wiemer, Jennifer McQuade, Amanda Martin, and Hannah Lipshutz.**

- **Sigma Xi Research Awards for Graduate Research** went to **Danielle Feligno, Jay Moden, Jenn Strouse and Hannah Cushman.**
- This year's **Departmental Scholar is Jacqueline Walker.**

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

## Graduate Student News

**Scott Portwood (B.S. '07)** received his M.S. in Biology.



The title of his thesis is: "Regulation of Actin Dynamics by Melanin-concentrating Hormone Potentiates Downstream Signaling to Extracellular Signal-regulated Kinase in Cultured Cells"

**Congratulations!**

## Summer 2011 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.

**5/31/11-7/1/11**

BIO 111 Principles of Biology  
BIO 285 Biology of Aging  
BIO 321 Anatomy and Physiology I

**7/5/10-8/6/10**

BIO 322 Anatomy and Physiology II  
BIO 323 Microbiology

# Department Achievements

## Faculty Updates

### Dr. Pelletier's Lab Attended the Molecular Pathogenesis Meeting in Buffalo



**Dr. Michel Pelletier** announces that 4 of his 7 undergraduate research students are graduating; **Nicole Muehleisen, Amanda Martin, Jennifer McQuade,** and **Hannah Lipshutz.**

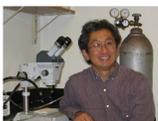
**Jenna Wiemer**

will begin her internship for Med. Tech. at RGH this summer. He sends a welcome to **Nicole Muehleisen, Amber Karpie,** and **Jonathan Kroeckel** who begin summer research on May 31st. His two M.S. students, **Alyssa Frainier and Dominic Munini,** are getting anxious about their oral exam scheduled for early June; good luck! On April 29th, Dr. Pelletier took the whole lab to the Molecular Pathogenesis meeting in Buffalo. Additionally, he received a Scholarly Incentive Award to support a student research assistant this summer and was awarded a UUP Individual Development Grant to help fund his research. You will find Dr. Pelletier this summer in the lab or teaching Microbiology from 7/5-8/6. He will also be busy writing a paper for submission early Fall and, hopefully get to play some golf!



**Dr. Laurie Cook** is looking forward to a productive summer in the lab! She would like to congratulate **Andrew Goodspeed** for receiving a summer undergraduate research

fellowship to study MCH receptor desensitization. He will be joining **Lauren Field** and **Robert Carroll.** Also, **Scott Portwood** successfully defended his M.S. thesis in March; way to go Scott! **Jay Moden** presented lab results at a SUNY Exposition in Albany and **Katrina Haude** presented her results at the Annual NCUR Mtg at Ithaca College. **Christine Sharlow, Mac Ceresaro, Jay Moden, and Danielle Feligno** prepare for graduation: the entire lab wishes them luck on their future endeavors!



**Dr. Stuart Tsubota** received a Scholarly Incentive Grant, which will support a collaborative research project with Mr. Steve Locke, a local high school science teacher, and Courtney Taylor, a junior at

Byron-Bergen Central School. Together, they will examine the genetic diversity within and between three closely related orchid species in the Bergen Swamp. Their study will be the first of its kind for these species

in this area. **Hannah Cushman** in Dr. Tsubota's lab will be putting on the finishing touches to her Master's thesis, which she hopes to finish this summer. Dr. Tsubota will be performing with BIODANCE at Our Lady of Mercy High School on May 13 as part of their Arts Festival



**Dr. Adam Rich** welcomes 2 new students, Victoria Cenzi and Isabelle Blair to his lab this summer. Tori is finishing her freshman year and Isabelle her sophomore

year. Thanks to the Brockport Foundation for summer fellowships for both students! They will work on cloning several genes that contribute to the regulation of coordinated gastrointestinal motility in the zebrafish. Eliza Ketchum will also join the lab and will be cryosectioning gastrointestinal tissues and contributing to in-situ hybridization studies. A BIG congratulations to Jennifer Strouse who will leave the lab with MS degree in hand, and travel to Michigan for Vet. School. Kevin Tylock will also leave the lab, BS degree in hand, to compete with the big dogs at the University of Rochester School of medicine. He can handle it! Congratulations to Brett Warren for completing his BS degree and for finalizing his post-BS plans. Amanda Diamond and Brittany Heatherington are studying and preparing for their oral defense. It is a nervous time and they are looking forward to working in the lab (I hope!), and having some rest and relaxation \*(well deserved), this summer. Last but not least Hannah Moyer deserves huge THANKS for such reliable and valuable help to teaching Bio 322 lab this semester. Hannah has a bright future! Finally, Jenn Strouse, Jessica Ouderkirk (currently at SUNY Upstate in a PhD program) and I presented a poster titled *Zebrafish ICC are anoctamin-1 positive* in Chicago at Digestive Diseases Week. This is a huge meeting entirely focused on gastrointestinal research and treatment, and is attended by 15,000 people. We had a pretty good time, and learned more than a few things about our research area. Oh yes, 1 more thing.... I'll be on sabbatical for all of next year and I am very excited. There is a lot to do, all research, and here in my lab.



**Dr. Huey Hing** announces that **Rebekah Edgell** presented at NCUR 2011 at Ithaca College, NY, from Mar 31 to April 2, 2011. The title of her presentation was "Genetic Mapping of the *bisexual* gene to Chromosome 2 in *Drosophila melanogaster*."

Dr. Hing presented at the Annual Meeting of the Association for Chemoreception Sciences, held in St. Petes Beach, Florida from April 13 to April 17. The title of his presentation was "Wnt5 and Drl Regulate Dendritic Targeting in *Drosophila* Olfactory Map For-

## Department Achievements

### Faculty Updates — continued

mation." **Emily Wexler** will be returning to the lab to do research in the summer funded by the Bower's Research Scholarship.



**Dr. Craig Lending** published an article in the JOURNAL OF MICROBIOLOGY & BIOLOGY EDUCATION, May 2011, entitled *Redesigning Introductory Biology: A Proposal*, along with three other authors. Three students

participated in research on plant cell ultrastructure in his lab this past semester: **Jason Toland, Jonathan Furmanek, and Michael Weisenburg**. Dr. Lending continues to as a Faculty Advisor to Pearson Publishing, and attended their National Sales Meeting in Scottsdale, Arizona in January, and has done several presentations to Biology faculty on the use and implementation of the Mastering platform, in Buffalo, Rochester, and Portland Oregon. He is also presenting on

and implementation of the Mastering platform, in Buffalo, Rochester, and Portland Oregon. He is also presenting on the Mastering Biology platform at the upcoming SUNY Conference on Instructional Technologies in Onenota at the end of May, and continues to serve as a member of the Faculty Advisory Council on Teaching and Technology, which reports to the SUNY Provost's Office. Dr. Lending has enjoyed meeting and advising all of the Med Tech students in the role he assumed from Dr. Bonner as Medical Technology Coordinator. The School of Medical Technology at Rochester General Hospital has updated their website. It includes a short slideshow (where you may recognize current and past Biology students). To view the page, go to [www.rochestergeneral.org](http://www.rochestergeneral.org). On the left hand side half way down, click on School of Medical Technology.

## Student Successes

- **Gary Drimmer ('70)** traveled to Mozambique in April to work as a volunteer consultant in the Farmer to Farmer program of the US government. He was working with an organization of several thousand farmers. Gary attended Brockport as part of the Peace Corps training program.
- **Nick Rizzo (M.S. '09)** has been accepted into a Ph.D. program in Cell and Molecular Biology at Duke University.
- **Karen Howard ('09)** received her M.S. degree at Roswell Park/UB this month and has accepted an offer to begin an MD/PhD program at SUNY Upstate Medical Center.
- **Michael-John Beltjar ('10)** will begin working towards his MD/PhD at the University of Rochester Medical Center this fall.
- **Matt Haintz ('11)** accepted an offer to attend Pharmacy School at the University of Buffalo.
- **Kevin Tylock ('11)** accepted an offer to attend a Ph.D. program in Cellular and Molecular Pharmacology and Physiology at the University of Rochester Medical Center.
- **Regina Harrison ('11)** accepted an offer as a lab technician at ACM Laboratories.
- **Jackie Walker ('11)** accepted an offer to attend Cornell Veterinary School.
- **Martin Bontrager ('11)** will begin a Ph.D. program in Genetics at the U Wisconsin Madison campus.
- **Michael Ceresaro ('11)** was offered acceptance to Western University of Health Sciences College of Osteopathic Medicine in Pomona, CA.
- **Jenn Strouse ('09, M.S. '11)** will attend Michigan State University Veterinary School
- **Danielle Feligno ('09, M.S. '11)** accepted an offer of employment at ACM Laboratories.
- **Andrew Goodspeed ('12), Victoria Cenzi ('14) and Isabelle Blair ('13)** were awarded the Brockport Foundation Summer Research Fellowship.

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



**Laura Pankowski  
Matthew Haintz  
Danielle M. Feligno  
Kyle Walker  
Melissa Colon  
Christine Sharlow**

### 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!**

## Student Reflections and Notes of Appreciation

I am attending Cornell Vet School this fall and I plan to become a small animal veterinarian. I would like to thank Dr. Sia for being an awesome academic advisor, my honor's thesis advisor, and for letting me work in his lab! Thanks to the pre-professional health committee, especially Dr. Logan and Dr. Godleski, for writing my letters of recommendation for vet school. I had a great experience at Brockport, so thanks to the science faculty and all the people that were a part of it!

- **Jackie Walker**

I officially accepted admission to the U of R CMPP program! I will be starting in July with a summer rotation with Alan Smrcka (Fall is likely to be David Yule, Winter is Bob Dirksen). I would like to thank you (Dr. Cook) again for your help and for writing me a strong letter of recommendation!! This experience has been great for me here at Brockport. Of course, I would also like to thank Dr. Rich for giving me the opportunity to research in his lab (since Summer 2009) and for pushing me, along with Dr. Sia, to apply for the Summer Scholars Program at the U of R and getting my foot in the door. The guidance and mentoring from all faculty here at Brockport is outstanding! I am

confident that a motivated student can succeed in any field of Biology with a degree from Brockport. I will be graduating with a B.S. in Biology and minor degrees in both chemistry and mathematics.

- **Kevin M. Tylock**

I am a senior student and member of the Biology program. I will be leaving in May to continue post graduate studies and wanted to take a moment and provide my honest feed back regarding the program here at SUNY Brockport.

SUNY Brockport was not my first experience at college life. I had previously obtained a bachelor's degree in engineering from the University of Puerto Rico. After being successful for some time as an engineer and then as a manager, the country was faced with a terrible recession that forced many members of the workforce, including myself, to reinvent themselves. I chose to pursue a new career in the dental profession and decided that SUNY Brockport was the university to help me fulfill the necessary requirements.

I came to this university with an open mind and was pleasantly surprised at the quality education that is provided within the Biology program. The professors were all

well qualified, friendly, and motivated to help the students succeed. It was very encouraging to study in an environment where the priority is not to make sure that the students pass their respective courses, but that they learn as much as they can in their journey towards being successful professionals.

Come August 4th, I will begin my post graduate studies at the University at Buffalo School of Dental Medicine. This would not have been possible if not for the contribution of the following professors: Dr. Maggie Logan, Dr. Thomas Bonner, and Dr. Michel Pelletier. I want to thank them for their guidance during my stay at SUNY Brockport, for the excellent recommendations given, and for providing me with the quality education needed to obtain excellent scores in the Dental Admissions Test (all of these were needed to enter a very competitive career choice). I thank them from the bottom of my heart and I sincerely hope that they continue to impact other students the way they did me. Thank you for allowing me the opportunity to share my experience with others and I wish all the staff members and fellow students the very best!

- **Eduardo Aguilar-Padilla**

## 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 stu-

dent. 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**