Biology Newsletter: May 2012

The College at Brockport

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It's the end of another academic year. I hope it was very successful for everyone. To those students who will be graduating, I trust you are viewing this change as very exciting. I urge you to use your experiences here at Brockport to guide your future career and personal decisions. For those of you returning in the Fall, I'd like to briefly tell you about the new faculty member joining the department in the Fall of 2012. Dr. Bernardo Ortega will be leaving his Research Fellowship position at the Dept. of Physiology at the University of Maryland, Baltimore and will join the department as an Assistant Professor. Dr. Ortega's expertise is in physiology. He will be teaching Anatomy and Physiology I in the Fall and a newly developed upper-level Physiology course in the Spring. Dr. Ortega will also be starting his new research lab next year. This will add another research opportunity for student's interested in gaining research experience. There have traditionally been many summer research opportunities for BIO majors across the country as well as here at Brockport. Now Medical Technology majors have been provided this same opportunity through ACM Medical Laboratory. This is the inaugural summer for this research internship. We anticipate that this opportunity will occur on a yearly basis for the next several years if not more. So, Med Tech majors should take full advantage of this opportunity. As you read on, you will learn about the many successes your Biology peers have attained. They range from a variety of college and departmental honors, summer research fellowships, presentations, career choices, and acceptances to graduate and professional schools. So for those of you returning, try to have a relaxing summer and the faculty look forward to seeing you in the Fall. To those that are moving on, the faculty wish you much luck and happiness. We hope your future endeavors provide you with a sense of fulfillment.

-Dr. Rey Sia, Assoc Prof & Chair

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Special Notes:

Congratulations to our graduating seniors! Have a wonderful summer and we'll look forward to a successful 2012-2013 academic year!

Paul and Agnes Bower Biology Research Scholarship Recipient for Summer 2012

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 Honors Student, Stacy Wicks. She has been carrying out research under the mentorship of Dr. Cook for the last semester. Ms. Wicks has maintained a 3.70 GPA with a Chemistry minor. Stacy will be using a novel red fluorescent analog of Melanin-concentrating hormone to study activation of a receptor that control appetite in higher mammals. Her experiments will be performed in live tissue culture cells that will be made to express receptors tagged with yellow fluorescent protein. This two-color imaging will facilitate tracking of hormone-bound receptor fate in cells and will shed light on how cells desensitize to this appetite signal.
Katrina Haude
(B.S. ’12)

There was no doubt in my mind that I wanted to major in Biological Sciences when I first began college. Figuring out what I wanted to do with my degree is what took some time and “soul searching.” Did I want to conduct research? Did I want to continue with my education and obtain a Ph. D.? The answer was unclear at first as I found myself selecting a different career from semester to semester. By junior year I finally discovered what career was meant for me, and it is all because of the opportunities given and the guidance received from the faculty in the Biology Department.

Many students come out of college not knowing what they want to do with their degrees. That is why I recommend taking opportunities when they come. I did a summer internship in the lab of Dr. Cook and continued this research through independent study. This opportunity allowed me to grow as a researcher, scientist, and individual. I obtained hands-on experience and presented my work at three conferences. I also learned that although I enjoyed my time in the lab, I as an individual am not meant to do this type of work for this rest of my life. Without this experience, I probably would have not realized this.

The support and assistance of the professors also helped me decide what I wanted to do after I graduated. In many colleges, the professors do not even know most of their students. In some colleges, each student is just known as a number. This is certainly not the case at Brockport. The faculty was always there to give advice when I needed it. Some individuals try to avoid talking with professors outside of the classroom, but if I had done this, I may have not obtained more information about my career choice.

By searching online and talking to professors, I came across the career Genetic Counseling. In a nutshell, Genetic Counselors provide information and support to individuals and families who are either at risk or have genetic disorders. In the fall, I will be attending University of Minnesota to obtain my M.S. in Genetic Counseling. Because of the enriching experiences I obtained at Brockport, I feel well-prepared and confident to take on graduate school.

I don’t exactly want to “preach to the choir” but there are a few pieces of advice that I believe are vital. To all of the undergraduate students, it is important what you do with your time here. Four years may seem like a long time, but before you know it, you will be walking across the stage and receiving your diploma. If you haven’t become involved, it is not too late. As Dennis Green said, “The secret to success is to start from scratch and keep on scratching.” Use your time to receive help from the professors. This is your time to become involved and discover what your true aspirations are.

Lisa Dishaw
(B.S. ’10, M.S. ’12)

After 6 years, 2 degrees and a heavy heart I will finally be leaving Brockport. The Biology department has made my experience as both an undergraduate and graduate student the best part of college. The facility has always been supportive and willing to help in any way they can.

I accepted a position at the Masonic Medical Research Laboratory in Utica, New York as a Molecular Biology Research Assistant. My job is in the stem cell center working with molecular biology techniques to research cardiac diseases especially those contributing to sudden death syndromes. The stem cell center is focused on the development of therapies and cures while the other half of the lab is focused on genetic testing for these diseases.

The job search can be a daunting task but as long as you stay motivated and ask for help when necessary you will be successful. Use your resources, talk to everyone you know and be confident in yourself. Always remember that the people you interview with are lucky to have you. Do your research on the company you are interviewing with and be prepared for any questions they could ask you. Ask intelligent questions about the position such as, what separates the successful from the unsuccessful.

I want to thank the entire Biology department for their support and kind advice over these years. I especially want to thank Dr. Tsubota, Dr. Sia and Dr. Rich for allowing me to work in their labs and teaching me the skills that made me successful today.

Graduate Student News

Jay Moden (B.S. ’09) received his M.S. in Biology.

The title of his thesis is: “An Investigation of Melanin-concentrating Hormone Receptor Internalization—or Lack Thereof”

Congratulations!
Nick Rizzo, M.S. ‘09

I’m in the Cell and Molecular Biology program at Duke University. It’s an umbrella program that incorporates faculty from many departments. I just finished my first year of classes and it was difficult for me to get used to since it was more than 3 years since I had taken any classes! It was different though than the typical class; the program requires you to take a module based course where you take 6, two-week sections on different topics. You get to choose the modules you take (there are 4 choices per section) and at the end you and a partner come up with a research proposal to present at the end of the year symposium in front of faculty and students that are in the class. Definitely a nerve racking experience, but valuable. The rest of the classes you take are based on interest/department requirements that you think you may join. I am probably going to join the University Program in Genetics and Genomics (UPGG).

My first rotation was in Amy Bejsovec’s lab, studying Wnt signaling in Drosophila (she’s an old friend of Stu’s, ask him about it!). I was looking at binding partners of a negative regulator of Wnt signaling, not having much success! My second rotation was with Debby Silver who studies the genetic and cell biological mechanisms of stem cells, neural development, and neurodevelopmental disorders. I was looking at a human specific transcript of an exon junction complex protein, Magoh. Magoh KO mice have defects in neural stem cell division, producing a microcephalic phenotype. I have contacted both Amy and Debby about joining their labs; Debby is my first choice. Currently I am in Steve Haase’s lab for my last rotation, who studies cell cycle oscillators with a systems biology approach. They recently showed the existence of a Cdk-independent oscillator that may time the initiation of early cell cycle events. I will be doing some microarrays looking at knockouts for some of the known TFs in the network and see how that affects periodicity of the oscillations. Very cool stuff, and I like the lab a lot, but I don’t think the science is for me. I think the program here is fantastic and has a number of great faculty. We have great people running the program (Rey’s old post doc adviser Danny Lew is one of them) acting as mentors for 1st years as well as many accomplished faculty (Bob Lefkowitz, the GPCR guru is here). We’ve had a number of great scientists come speak from Andy Fire to Tom Cech and recently had the director of the national cancer institute Harold Varmus. You definitely get exposed to different areas of science here. Other than that, I had season tickets to Duke basketball last season which is awesome, except for the way the season ended. Golf is an all year thing down here as well, and Duke has a great course with student discounts. Durham is a nice area, small, but sufficient. Chapel Hill is right down the road which is a fun area. All in all, I am very happy with my choice and the situation I’m in. The Master’s program at SUNY Brockport, prepared me very well for where I am now. Like anything, science is a progression, and with doing 2 years of research there, and working as a tech for a few years, I was very prepared to start grad school. Having such a small department, allowed me to talk to all of you privately and casually to ask questions and see things from your perspective. I know for a fact that had I not stayed for my Masters at Brockport, I wouldn’t be where I am now. Cheers,

Nick Rizzo
Duke University
CMB Graduate Student

Brockport’s Pre-Professional Club Activities

Brockport’s Pre-Professional Club has one goal: To help its members prepare for entry into a professional school, with focus on medical, dental, and veterinary medicine schools!

The Club provides a setting where students can discuss common goals with peers and build a relationship with student experienced in the intimidating process of professional school. The Club also works closely with the Pre-Health Advisory Committee, which also serves as a great resource in achieving your dream health career.

The Club also hosts informational seminars and presentations, including speakers in the health profession and admissions officials from professional health schools. Recently we have co-hosted an Army representative to talk about military healthcare scholarships. We also just held our 2nd Annual ‘Ice Cream without Borders’, which is our annual fundraiser for Doctors without Borders.
Brockport Biology Students at the 2012 NCUR Meeting in Utah

Recently I was honored to present my biology research at the National Conference for Undergraduate Research at Weber State University in Utah. This was truly an enriching experiencing as I was able to travel across the country to promote research performed at Brockport and to interact with other students from colleges all over the country. The research presented at the conference was very interesting and the setting in Utah was absolutely beautiful. A group of us even dared to hike one of the Rocky Mountains to its snow covered peak on our off day. Thanks to the college for supporting 19 students to go the conference which is the most any single school sent to NCUR this year! I fully recommend to all other students to take advantage of conferences and experiences such as this one when opportunities arise because it was a great experience and I wish I could go again.

submitted by Andrew Goodspeed, (B.S. ‘12)

Departmental Honors and Awards

• Kyle Walker 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. He is holds a 4.00 GPA and was accepted to Cornell Vet School.
• Heather Scheer is this year’s recipient of the Charles S. Thomas Memorial Scholarship for the student with the highest average in BIO111.
• This year, Nathan Scharf was selected as the recipient of the Francis Claffey Award, which is awarded to a senior demonstrating academic excellence. He is majoring in Biology and minoring in Chemistry holds a 3.91 overall GPA.
• This year’s Departmental Scholar is Luke Krembs.
• Hannah Cushman was selected as the School of Science and Mathematics Graduate Award recipient.

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

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.

5/14/12-6/3/12
BIO 285 Biology of Aging (online course)

5/29/12-6/30/12
BIO 111 Principles of Biology
BIO 321 Anatomy and Physiology I

7/2/10-8/4/10
BIO 322 Anatomy and Physiology II
BIO 323 Microbiology

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!

Please join us Saturday May 12th from 10:30 am until noon in the Lobby of Lennon Hall at a Graduation Brunch to celebrate our students’ successes!
RSVP to lcornell@brockport.edu

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!
Faculty Updates

Dr. Michel Pelletier writes: With the spring semester winding down, I am looking forward to a very busy Summer. I will put the finishing touch on 2 manuscripts that will be submitted by the end of the Summer. The first will present new data regarding the characterization of TbLpn, an enzyme involved in phospholipid biosynthesis in Trypanosoma brucei. The second manuscript is the result of a collaboration with Dr. James Haynes from Environmental Sciences, and describes the bacterial population found around San Salvador Island in the Bahamas. I will also have to find some time to submit 2 research grants. I will also be teaching BIO323 over the Summer to approximately 48 students.

On a personal note, my family and I will be moving to the Brockport area hopefully this Summer. After 3 years of commuting from Buffalo, we decided it was time to stop the madness and settle down closer to Brockport.

Congratulations to Kimberly Mahon, Jamie Galligan, Nathan Scharf, and Amber Karpie who are graduating this May. Amber also successfully defended her Honors thesis at Scholars Day. In addition, Alyssa Frainier and Dominic Munini are both finishing their Masters thesis and should defend by the end of May.

Dr. Laurie Cook is looking forward to a productive summer in the lab! She is submitting a manuscript to the Journal Peptides this month will be busy writing her NIH Grant for submission in June. She will be traveling to the “Cheese State” of Wisconsin for the Annual Graduate Women in Science Meeting where she will be presenting a poster. She will also be traveling to California for an NSF-sponsored meeting on Undergraduate Research and is planning a family trip to Myrtle Beach!

Dr. Cook would like to congratulate Nico Covello and Colin King for receiving the Brockport Foundation summer undergraduate research fellowship to study MCH receptor desensitization. Stacy Wicks received the Bower Fellowship from the Biology Department to perform summer research as well. They will be joined by two M.S. students, Bryan Pratt and Andrew Goodspeed and one undergraduate, Derek Bernacki. Congratulations to Jay Moden who successfully defended his M.S. thesis in January; way to go Jay!! Katrina Haude is finishing her Honors Thesis and Lauren Field will move to Maryland to begin working on her Ph.D. in Biomedical Engineering shortly after her defense this spring. Robert Carroll is also actively applying to Ph.D. programs. Congratulations to all lab members who presented at Scholar’s Day, especially the “Simple Green Crew” of Matt Morasco, Austin Olek, Casey Donovan and Andrew Goodspeed who are all graduating this May.

Dr. Rey Sia was back from his semester-long sabbatical this spring semester. He would like to congratulate Kyle Walker who was accepted to Cornell University College of Veterinary Medicine. Kyle is doing his Honors research in the lab. Dr. Sia is also mentoring his Honors Thesis on The Benefits of Preventative Medicine in Zoos. He presented his Thesis project at Scholar’s Day – “The Benefits of Preventative Medicine in Zoos: A Retrospective Study of Mammalian Mortality at the Seneca Park Zoo from 2001 to 2011.” Congratulations also to Luke Krembs, also a graduating Honors student completing his Honors Thesis research in the lab. His Scholar’s Day presentation of his thesis work was titled: “Nuclear Encoded Proteins Important in Mitochondrial Genome Stability”. He will be applying to medical school this summer. Melissa Colon is being considered for a summer medical technology internship program at ACM Medical Laboratory. Good luck Melissa! Dr. Sia also published a manuscript in Genetics with two Brockport alums: Laura Schiraldi, a former undergrad researcher who is finishing medical school and Garry Coles has just finished his second year of a PhD program at URMC. The title of the paper is “Mitochondrial Genome Maintenance: Roles for Nuclear Nonhomologous End Joining Proteins in Saccharomyces cerevisiae.”

Dr. Stuart Tsubota would like to announce that Lisa Dishaw will be getting her Masters in Biology this May. She is currently employed as a Molecular Biology Research Assistant in the Stem Cell Center at the Masonic Medical Research Laboratory in Utica, NY. Congratulations to Ted Ryan who received a Summer Research Internship from the Research Foundation and will be working in the lab this summer. Both Lisa and Ted presented their research at Scholar’s Day 2012. Hannah Cushman received the top Graduate Student Award in the School of Science and Mathematics this year, Congratulations! She also presented at the Master’s Graduate Research Conference in April. Dr. Tsubota also mentored Jessica Martin, Elise Cade, Kathryn Yaeger, and Joey Trimbo who presented the work of the students of the Fall 2011 BIO 201 class at Scholars Day. Additionally, Dr. Tsubota received a Provost’s Post-Tenure Fellowship to continue his laboratory research.
Student Successes

- Katrina Haude ('12) accepted an offer to attend the University of Minnesota M.S. Genetics Counseling Program.
- Jackie Walker ('11) will be spending the summer in Africa at an elephant orphanage.
- Amber Karpie ('12) will begin a M.S. program in Biochemistry at the University of Buffalo.
- Ben Turkovitz ('11) is working at Ortho Clinical Diagnostics, Johnson & Johnson.
- Patrick Donohue ('10) will begin Medical School at the University of Buffalo this fall.
- Lauren Field (M.S., '12) will begin a Ph.D. program in Biomedical Engineering at the University of Maryland.
- Kyle Walker ('12) will begin working on his DVM at Cornell Veterinary School.
- Jenny Avedisian ('12) will begin working on her DVM at Ohio State Veterinary School.
- Christina Gliwa ('11) will begin Dental School at the University of Buffalo.
- Nate Scharf ('12) will begin a Ph.D. program at the University of Michigan.
- Lisa Dishaw (M.S. ‘12) accepted a position Masonic Medical Research Laboratory in Utica, New York as a Molecular Biology Research Assistant.
- Melissa Kostrzebski ('10) is employed at the University of Rochester as the Clinical Research Coordinator of Surgical Oncology.
- Nico Covello, Ted Ryan, and Colin King were awarded the Brockport Foundation Summer Research Fellowship.
- Stacy Wicks was awarded the Bower Biology Summer Research Fellowship.
- Hannah Lipshutz ('11) accepted a position as a Microbiologist at Baush & Lomb.
- Jennifer McQuade ('11) accepted a position at Johnson & Johnson.

Medical Technology Program News

Summer Graduates! From Rochester General Hospital:
Wesley Ferguson, Matthew Nolan, Michael Weisenburg, and Jenna Wiemer.

From WCA Hospital in Jamestown:
Laura Kobielski

The following students were formally accepted into the 2012-2013 Medical Technology Clinical Year at Rochester General Hospital:
Julia Fesyuk, Robert Gregory, Matthew Morasco, Igor Semaniv

Student Co-authored Publications
**Student Reflections and Notes of Appreciation**

I will be attending The Ohio State University’s College of Veterinary Medicine! I want to thank all of the professors in Biology and Chemistry for their help and support. You were always there for me when I needed the extra help and supported me every step of the way. I couldn’t have done it without you! With my utmost sincerity and appreciation, **Jenny Avedisian**

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**A Taste of Independent Research**

As my time at Brockport as an undergraduate student is coming to an end I look back at one of the most rewarding experiences that I have encountered as a student at Brockport, independent “group” research with Casey Donovan, Matt Morasco, and Andrew Goodspeed in Dr. Laurie Cook’s laboratory. Our research project was an extension of a laboratory exercise from BIO 301, Cell Biology last Spring. We divided the work and met at odd hours to organize our experimental design to determine the toxicity of a common household cleaning product, Simple Green on mammalian cell cultures. We presented our work at the Rochester Academy of Science Fall Paper Session at MCC and put together a grant application to the Rochester Academy of Sciences that was ultimately partially funded. Our Spring semester research experience culminated in our presentation at Scholar’s day. Working in the laboratory outside a class experience opened our eyes to the scientific world. We were forming hypotheses, collecting, organizing, and transforming data, and this really helped us see and experience the scientific process first hand. It showed how we had all grown as scientific students throughout these past few years and I give a lot of credit to the Biology department and Dr. Cook for teaching us so much without us consciously recognizing our growth. I highly recommend any students remotely interested in working in a laboratory or interested in research in general to just get out there and do it! It is one of the most interesting things I’ve done and I’m so glad that I took the time and put in the effort.—Submitted by Austin Olek (B.S. ’12)

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**Biology Honors Club**

The Biology Honors Club has successfully completed our first academic year! We are excited about our increase in membership, and also that many others have expressed interest in applying. Academically, some of us have begun independent research, while others are preparing for the fall by seeking a faculty mentor and observing research methods. This semester, we also organized a T-Shirt sale to begin establishing funds for our future members. A big thank you to everyone who bought a shirt. We hope to do a community service project and a bake sale next year. We are also considering a club trip or inviting a guest speaker. Thank you to Dr. Cook, Dr. Pelletier, and all the Biology faculty who have encouraged and supported us this year. We are looking forward to a successful fall semester!

*If you are an undergraduate Biology student interested in applying, see Dr. Cook for more information.*

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**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 student excellence and student success. 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 supporting the next generation of biology students.

Donations of any amount will help us to provide significant and meaningful research experiences for student. 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](https://www.brockport.edu/giving/online/gift.php)