

Meet Chatham's Senior Science Majors

Chrissy Fiori will be graduating this Spring with a B.S. in Exercise Science. She plans to start in the Physical Therapy program at Chatham in the Fall of 2010, a two and a half year Doctorate degree. Her favorite memories of Chatham are, "All of the away trips with my soccer team." Her advice to future students is to, "Stay organized and manage your time well. Never schedule three labs in one semester, it's a killer. And never be afraid to ask a professor for help." Her tutorial topic is "In healthy women between the ages of 18-25, are sedentary smokers or sedentary nonsmokers more likely to display greater changes in VO_2 max (maximum oxygen uptake) after completing a six to eight week exercise program?"



Tierney Manning will be graduating this Spring with a B.S. in Environmental Science and a minor in Economics. When asked about her future plans she responded, "I'm moving to Chicago in June with the intentions of working for a year or two and then get some more education. What kind of education? - I'm not sure yet." Her favorite memories: "My favorite science memories are those when I'm arguing about electron orbitals on a number of occasions with many students and faculty." Her advice to future students is to "FIND A STUDY GROUP! Not only will you need it for academic support and mental support but it makes science so much more fun when you can laugh with other people about nerdy science jokes. Also, befriend your professors; you would be surprised with how they effect your life. It takes more time and energy than you think! I eagerly accept supportive hugs and pep-talks on a routine basis. 4 years is shorter than you think. Make sure you're able to prioritize your life. Be prepared to say "no, thanks" when you mean "no way" and "yes" when a surprisingly unexpected opportunity arises! Take some risks and push your boundaries but always making your sanity #1."

SURP at Chatham

Chatham University will conduct a ninth summer undergraduate research program (SURP) in 2010. This program will provide "hands on" research experience for students who are majoring in any discipline within the science division. Each student will spend at least ten weeks (400 hours) working on a research project that is mutually satisfactory to her and a faculty member. In addition to performing research on a full-time basis, each student will participate in a regular seminar in which the faculty and students collectively try to overcome any difficulties. This program may help students get a jump start on their tutorial, but in any event it should provide considerable insight into how real research is conducted. You should submit a letter describing your interests, academic record and background in the sciences. It should indicate which faculty member or members you wish to work with (it is best if you talk with this faculty member as soon as possible). This letter must be submitted electronically to viehland@chatham.edu by **January 22, 2010**.

Chatham's Science Seniors (continued)

Sowmya Narayanan plans to graduate this Spring with a B.S. in Biochemistry and a B.A. in English. Her future plans include pursuing a MD/PhD. When asked about her favorite memories, she responded, "Living in Buhl, O. Chem volleyball game with Dr. Stilts, eating Dr. Falconer's chocolate, exploring the chemical stock room, Buhl Olympics, and many, many more." She has the following advice to future students, "If you want to learn, then you can do that and more at Chatham. Do the work--it's really not that much, listen to your professors--they're fantastic, and you can go a long way." She also shared about her tutorial: "Tutorial is probably my favorite aspect of the science curriculum. I'm studying how the protein MUC1 contributes to the development of pancreatic cancer in mice at Dr. Finn's lab at the University of Pittsburgh under the guidance of Dr. Beatty." In conclusion she wanted to leave you with the following, "I would not have come to where I am today if it were not for my professors. Thank you to all my professors, especially Dr. Appasamy, Dr. Stilts, Dr. Lambert, Dr. Falconer, Dr. Weixel, and Dr. MacNeil."



Sarah Urick plans to graduate this Spring with a B.S. in Chemistry. "After graduating from Chatham I will have one more year at Carnegie Mellon to finish my bachelor's in chemical engineering. I also plan to attend graduate school and have a career in research and development. My favorite memories of the science department include living in Buhl with my fellow science majors, exploring the chemical store room, getting candy from Dr. Stilts and Dr. Falconer when long labs got stressful, and planning ridiculous outfits to wear for various science events." She offered the following advice to future students, "If something seems hard just do the work and put in the time and you'll get through it. Also, take advantage of having small classes; getting to know your professors and the other students is helpful and makes classes more enjoyable." Responding to news about her tutorial she said, "As a 3/2 engineering student I do not have a tutorial and I am now focusing on my chemical engineering degree. Because of my chemistry degree at Chatham, I have taken more science classes than most other ChemE majors and this has been beneficial in my classes at CMU." In conclusion, "I would like to thank Dr. Viehland for helping me figure out how to get through two schools and two degrees at once, Dr. MacNeil for helping me become more independent in my lab work, and Dr. Stilts and Dr. Falconer for the candy, advice, and an amazing trip to Russia. Also, I need to thank all of my friends here for making it a great four years, especially Sowmya and Jacqueline, you both were so much help and made the work fun."

Meet our Newest Science Adjunct Faculty

Heather R Mangieri is a registered dietitian and a board certified specialist in sports dietetics. She received her BS degree in Nutrition from The Pennsylvania State University and her MS degree in Wellness and Human Performance from The University of Pittsburgh. She is the owner of Nutrition CheckUp, LLC, a private nutrition practice in Pittsburgh specializing in sports nutrition, health and wellness through counseling, writing and speaking. Heather's interests include working with athletes to help them understand how proper fueling and meal timing can work to maximize their sport performance and working as an industry consultant on a variety of nutrition topics. She is on faculty at the University of Pittsburgh in the Department of Sports Medicine and Nutrition and is currently teaching EXS 252, Exercise and Nutrition at Chatham.



Science Seminars

Our first Science Seminar of the Spring 2010 semester was held Monday, Jan. 11. The seminar featured Dr. Connie Tompkins, faculty candidate, giving a talk entitled; "*The Protective Effects of Physical Activity on Childhood Obesity and Components of the Metabolic Syndrome.*" Current genetic and environmental factors resulting from increased caloric intake and decreased physical activity have resulted in more obese youth. Dr. Tompkins' research focuses on children with insulin resistance, many who are diagnosed with Type 2 diabetes. Her research focuses on the children prior to the onset of puberty. These obese patients have a greater insulin production and thus develop an insulin resistance. High levels of insulin effects carbohydrate and fat metabolism. Fat balance plays a critical role in the regulation of body weight. An important method to increase fat oxidation is to increase physical activity. Dr. Tompkins believes physical activity is a cure-all for metabolic health such as improving blood lipids, blood pressure, insulin sensitivity, capacity for fat oxidation by skeletal muscle, and lowering fasting insulin levels. Little is known about origin of insulin sensitivity and resistance in children and may be a problem even before clinical diagnosis of type 2 diabetes. Studies have shown a positive relationship between physical activity in obese children and insulin sensitivity and/or glucose metabolism. Dr. Tompkins' future research goals include focusing on physical activity and overweight children as well as cardio-respiratory fitness (CRF). When compared to physical activity alone, CRF provides greater protection against all causes and cardiovascular mortality rates. She's also interested in the developmental aspects of obese children such as looking at whether expectant mothers who experience a stress or anxiety during their pregnancy are more at risk for metabolic factors.

Scholarship Opportunities

Fox Chapel Association of American University Women (AAUW) whose mission is “advancing equity for women and girls through advocacy, education and research” will be presenting up to three **\$1000 awards** to graduating Chatham STEM majors. Applications are available in the Chatham College for Women Office (Mellon Hall, First Floor). The completed award application, statement of plan, names and contact information for three references (two of which must be Chatham faculty members), a resume, and a preliminary proposed budget must be turned in either electronically to freed@chatham.edu or delivered to Chatham College for Women Office (First Floor Mellon Hall) no later than February 12, 2010 at 5:00 p.m.

National Oceanic and Atmospheric Administration (NOAA)

- Undergraduate Scholarships (for students who are currently sophomores): Educational Partnership Program Undergraduate Scholarship: http://www.epp.noaa.gov/ssp_undergrad_page.html Application deadline is 2/17/10 and Ernest F. Hollings Undergraduate Scholarship Program: http://www.oesd.noaa.gov/Hollings_info.html Application deadline 1/29/10.
- Graduate Scholarships (for seniors who are applying to graduate school and current graduate students): Graduate Sciences Program: http://www.epp.noaa.gov/ssp_grad_sciences_page.html Application deadline 1/22/10 and Dr. Nancy Foster Scholarship Program: <http://www.fosterscholars.noaa.gov/> Application deadline is 3/31/10.

Research Experiences for Undergraduates (REU)

American Chemical Society International Research Experiences for Undergraduates Program (ACS-IREU) for students majoring in Chemistry, Biochemistry, Materials Science, or Chemical Engineering will be awarding 21-25 sophomores and juniors with one semester or summer of prior research experience to conduct research during the summer of 2010 at selected institutions in Germany, France, Italy and the UK. Detailed information and online application and recommendation forms can be found on our web site www.acs.org/ireu.

The **Cornell Center for Materials Research** is offering a special summer REU program with a stipend and additional funds for travel. During the 10-week period from June to August, students will work with Cornell faculty on interdisciplinary materials research projects involving chemistry, physics, materials science and engineering. Students will also participate in an organized program of lectures, mini-courses (e.g. electronics, microscopy), laboratory visits and recreational activities. For more information go to <http://www.ccmr.cornell.edu/reu>

Additional opportunities can be found at the Science Department News Site on Moodle.

Editor: Dr. Christy Heid *To suggest articles for future issues or for general inquiries, please contact cheid@chatham.edu.*