I am pleased to present the first Newsletter for the BMB Department at UMass Amherst. This issue features accomplishments by BMB students and faculty as well as information about upcoming events.

We always want to hear from our alums and would like to include updates about you in future issues. Send your news to:

angelica@biochem.umass.edu.

We look forward to hearing from you!

Jennifer Normanly
Department Head

BMB Students Shine

The Henry Little Prize is awarded to the BMB senior with the highest GPA who has excelled in research. The Prize went to Amanda Clous-er in 2011. Amanda was a Commonwealth College scholar working on protein folding in the lab of Professor Lila Gierasch.

The Slakey Award was established by former BMB Department Head and Commonwealth College Dean Linda Slakey to support summer research for a BMB major. The 2011 awardee is Emily Schutsky, a Commonwealth College senior who is working on lysosomal storage diseases in the lab of Professor Scott Garman.
The Jessica Hayes Scholarship, made possible through the generosity of the Hayes family in memory of their daughter, Jessica Hayes, is granted to a sophomore or junior BMB major who has a GPA of 3.5 or above and is actively engaged in departmental activities. Importantly, the awardee shall have demonstrated boldness in pursuing non-traditional challenges, a wide breadth of interests, and either creativity, innovation, or initiative in pursuit of a goal that has a positive impact on others. One of the two 2011 Hayes Scholarship recipients is Claudine Mapa, a senior in Commonwealth Honors College who is conducting research in the lab of Assistant Professor Peter Chien on the developmental differentiation in the bacterium Caulobacter. Claudine is also president of the undergraduate Biochemistry Club, leads tour groups of prospective students through campus, and is active in the ballroom dancing club. (See profile on page 4.)

The second recipient, Rithika Kulathila, describes herself as “a biochemist by day and legal studies intern by night.” A senior now, she is a biochemistry major who not only does exceptionally well in her classes (she has been on the Dean’s List every semester since she arrived at UMass Amherst) but also conducts research on neurotoxic and behavioral effects of the drug ecstasy in the lab of Professor Jerry Meyer in the Psychology department.

Support our students! Your contribution to BMB promotes undergraduate and graduate research, innovative instruction, hands-on learning, and real-life experiences, including presenting research at conferences. Give online at www.umass.edu/give by selecting the College of Natural Sciences as your allocation and choosing BMB within the College on the dropdown menu. Thank you for your generosity!

BMB Club is a non-profit, student-driven, scientific and educational service organization dedicated to serving students in the biochemistry and other life sciences majors with respect to academics, research and careers.

The club’s purpose is to:

- Stimulate interest in biochemistry through informational presentations of the curriculum and highlighting opportunities for higher education and career options.
- Advance the science of biochemistry among students through the organization of formal undergraduate research presentations of thesis or Capstone projects.
- Prepare students for success in the professional world through workshops on resume writing, interview skills, and networking.
- Create a network connecting current students with alumni willing to serve as mentors.

BMB lab courses are taught in state-of-the-art space in the Integrated Science Building. BMB now offers a sophomore level intro lab that prepares majors for independent study research.

In January 2013, a number of BMB labs are moving to a new research building that brings together researchers from across campus to work on collaborative projects in integrated plant-microbe genomic systems, cellular engineering, and protein misfolding diseases.
BMB Faculty Briefs

BMB welcomes new faculty member Dong Wang. He joined the department as an assistant professor in September 2011. Professor Wang studies the mechanisms of intracellular symbiosis between eukaryotic legume hosts and nitrogen-fixing bacteria.

Professor Molly Fitzgerald-Hayes has written a book to accompany the very popular Gen Ed course that she developed. The course is for non-science majors at UMass Amherst who want to learn more about genes, DNA, and the human genome. The course also covers important current topics, such as human cloning and embryonic stem cell research.

Professor David Gross has written an e-book to accompany the physical chemistry course that he has been teaching for a number of years. He continues to pioneer instructional technology to give a small class feel to our expanding courses.

Research labs in Lederle are being renovated with NIH funds to support research at the Chemistry Biology Interface.

BMB Student Profiles

Claudine Mapa, Class of 2012

I came to UMass with an interest in biochemistry and medicine. I knew that I was looking for a program with strong academics, a dedicated faculty, and a passion for research. I found all of this in the Department of Biochemistry and Molecular Biology. The classes I have taken have been both exciting and challenging, stimulating my interest in this field. Not only are the staff and faculty encouraging and easily approachable but they are genuinely committed to helping their students develop a strong understanding of the material.

Outside of class, I found that there are many opportunities to surround myself with others who are enthusiastic about learning and who want to broaden their intellectual skills in science and other fields.

This is my third semester conducting independent research, and my experience in Professor Peter Chien’s lab has been one of the most rewarding experiences at UMass Amherst. I am working on two of my own projects—one of which involves studying the metabolic conditions that induce a replication quiescent state in swarmer cells of Caulobacter crescentus. It is exciting to be able to apply what I have learned in class in an actual research setting, and it gives me a great feeling of accomplishment to be able to present my work to my fellow lab mates and peers. During my time in the BMB department, I have developed a plethora of different skills that will be valuable as I pursue a career in research.

Rachel Sweet, Class of 2011

I became a BMB major during my junior year at UMass Amherst after previously changing my major from undeclared to Biology/Pre-Med my freshman year, then to Plant and Soil Sciences my sophomore year. I knew the major was right for me as soon as I started taking classes. The professors are unbelievably knowledgeable in their field and were able to answer any questions I had relating to the material we were learning. Many of them also provided their advice on steps to take for planning our future careers. Laboratory classes are so crucial for the future of a biochem undergrad and the curriculum here at UMass is certainly successful at teaching many of the techniques one needs to be familiar with.

Coming Soon …
New BMB website premieres spring semester 2012. Watch for it at:
www.biochem.umass.edu
for a career in a research lab. There are also many opportunities to get more hands-on experience by joining a research lab on campus and working side-by-side with a professor in an academic research environment. Overall, I am extremely satisfied with the curriculum and the faculty of the BMB program. The only thing I regret is not changing my major sooner!

Jerome Rogich, BMB MS ’11

As a fledgling biochemist and frustrated student, I plopped down for the start of my first Biochemistry class. I had recently transferred from the biology department with the hope that BMB would provide more insight into the problems related to human disease and the treatments associated with them. Dr. Garman gave an impassioned presentation on his work with Fabry Disease, a lysosomal storage disease. His passion for the topic was infectious. For the first time, I was exposed to the power of science in elucidating the mechanisms of human disease and its capacity to provide the answers I was looking for.

As I left class, I immediately contacted someone who worked in his lab to ask if there were any openings. I soon found myself working on a number of independent projects that utilized primarily protein expression and purification techniques.

With graduation fast approaching, I realized that there was much more to learn about x-ray crystallography. The Master’s Program seemed like an excellent opportunity to study under Dr. Garman and am thankful for his guidance and support throughout my career here. (Jerome is currently working at the Ragon Institute of MGH, MIT, and Harvard, conducting research on HIV pathogenesis in the lab of Dr. Xu Yu.)

Daniel Kita, PhD Candidate

As an undergraduate I developed a foundation in biochemistry and molecular and cellular biology, which gave me an exciting glimpse of the intricacy and complexity of these disciplines. Studying at the graduate level has allowed me to broaden and grow upon that foundation. I knew that the PhD program at UMass Amherst would provide me with the skills and knowledge necessary to become a successful and competitive scientist; therefore, the decision to pursue a PhD was a logical one. This conclusion was based on many well thought-out factors, the most important of which being the desire to continue a very interesting and rewarding project, the learning and training experience that will prepare me to lead rather than follow in my future endeavors, and the pride in obtaining such a prestigious degree.

BMB wants to hear from you!

Please keep us updated about what you are doing; we want to include your news in upcoming newsletters. Pictures are welcome, too. Send your information to the address on the front cover of this newsletter or email us at: angelica@biochem.umass.edu.