The Micelle Fall 2011

Micelle: (pronounced: my-cell) 1) Unit of structure built up from polymeric molecules as a molecular aggregate that constitutes a colloidal particle. 2) The Newsletter of Augsburg Biophysics

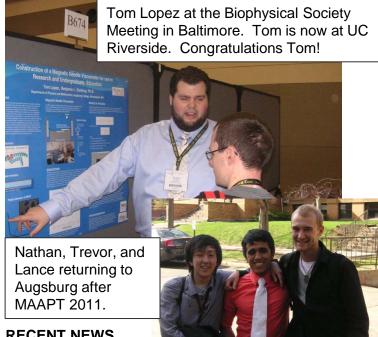
GREETINGS FROM THE LAB

Like every year, the summer keeps the lab and its members busy. In this issue we will take a little bit of time to capture some of the lab activity in images.





Lipid lab members presented three talks at the McNair Scholars Conference at the University of California Berkeley. The lab kept busy, we took in the sights like Sather Tower on the gorgeous UC campus, Dr. Victor Acosta (Augsburg physics alum) gave us a tour of the lab where he earned his PhD, and Trevor enjoyed a cruise of the Bay Area-artistic photo.



RECENT NEWS

- •Congratulations to Tom Lopez and Nick Ward! Tom and Nick will start graduate school in Mechanical Engineering at the UC Riverside and Electrical Engineering at UNC A&T, respectively.
- •Summer Researchers Nana Owusu, Trevor Rodriguez-Sotelo, and Gottlieb Uahengo all presented the results of their summer work at the 19th annual Ronald E. McNair conference at the University of California Berkeley.
- •Congratulations to Trevor for winning the best poster competition at the 2011 Minnesota Area Association of Physics Teachers Meeting this April.
- •The Augsburg Biophysics lab was honored to give a tour to Augsburg Alumni Peter Agre '70 (2003 Nobel Prize in Chemistry) and other distinguished alumni.
- Professor Stottrup and colleagues published the results of a live cell imaging study in Cytometry A. Lab alumni Ben Hoffmann and Alison Heussler were recognized for their contributions to this project.
- •Lab Alumni Alison Heussler is now working for the biotech start-up Nanocopoeia. Congratulations Alison!



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Professor Kevin Landmark began working at Augsburg in the Fall of 2010. In the summer of 2011 he joined the Lipids Lab.

When did you know that you liked science? Do you like science? I always liked Star Wars and science fiction. I enjoyed taking things apart and (sometimes) putting them back together. My favorite question was why? Why does something happen? I think this is what led me to physics. Modern Physics specifically was a catalyzing moment. I started as an electrical engineering major and had to take general physics and then one semester of Modern. I fell in love... Is that too cheesy? I knew I had to switch majors; there was too much cool stuff out there to be confined to EE.

Could you give us a sketch of your educational history? My undergraduate degree, a BS in physics, is from Michigan Technological University (Houghton, Michigan—it's in the Upper Peninsula). My PhD is from the University of Michigan. It is in Applied Physics; a lot of places call it Engineering Physics. My bias is towards applied science. I did a post-doc in chemistry at the University of Minnesota.

What sort of things do you research or study? I am interested in the properties and applications of nanostructured materials. My graduate research was in using magnetic nanoparticles as MRI contrast agents. Basically, we were trying to direct particles to cancer cells for earlier detection. The cancer theme continued in my post-doc where I was looking at nanoparticles as the vehicle for a therapeutic cancer vaccine.

How does your research inform your work as a teacher? I think that being able to share with other people the passion and the joy that come with understanding is a big part of doing good research as well as teaching. I was always interested in teaching. I tutored as a undergrad and was fortunate enough to get a teaching position. At Michigan, Applied Physics is a program not a department so I was fortunate to be able to teach as a graduate student.



How did you become associated with the Augsburg College Lipids Lab? My office is next to Ben's, so I am inside the *event horizon*... © I should also say there is a natural synergy of our research interests.

What advice would you have for students interested in careers in science? Find what it is that you like about science or some sort of inspiration. Don't just do science because of money or because it is expected or because you are smart/good at it. You need to embrace understanding nature on your own. When things get difficult, this becomes important to keep you going. Science is much more than laws and theories and equations. You have to be able to communicate your understanding. Have good ideas and apply and sell those ideas to be successful.

What is the favorite part of your day? Interacting with students. I love it when students ask me stuff that makes me think, or they share things that broaden my perspective.



Special Thanks To: Anonymous Donors, Augsburg College and URGO; Dean and Amy Sundquist; LSAMP, Research Corporation; The McNair Program; MN Space Grant; and the NSF DUE 0837182 & CHE 1040126.

GET INVOLVED! We have many great projects for students in the lab. If you're interested in becoming involved, please contact:

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