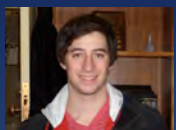


What's New in Biochemistry

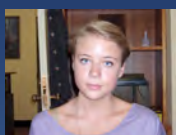
PERSONNEL NEWS:



Angela Italia left her Student Assistant position in Xin Jie Chen's lab for another position at SU.



Mal Phillip Homan is graduating from SU and leaving his Student Assistant position in Steve Hanes' lab.



Yelena Tolstopyatova is also graduating from SU and leaving her Student Assistant position in BN Singh's lab.



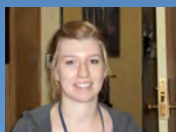
Elizabeth Hoffman is leaving her Instructional Support Assistant position in Wenyi Feng's lab to join the Biomedical Sciences Ph.D Program at the University of Virginia.



Kipling Tarsio has joined Xin Jie Chen's lab as a Student Assistant.



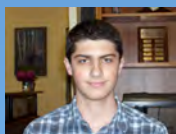
Kathrine Frega has joined Steve Hanes' lab as a Student Assistant.



Kelsey Monteith has returned to Michael Cosgrove's lab as a SURF student again for the summer. She is an undergrad at SU.



Laura Duclos has joined Wenyi Feng's lab as a SURF student. Laura is an undergrad at SUNY Geneseo.



Daniel Sawyer has joined Stewart Loh's lab as a SURF student. Daniel is an undergrad at Bard College at Simons Rock.



Mengyang (Vicky) Li has joined Patty Kane's lab as a SURF student. Vicky is an undergrad at Wheaton College.

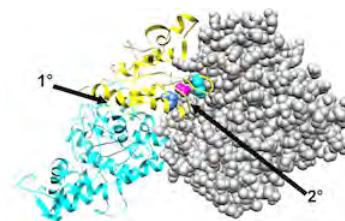


Swetha Devi Velivela has joined Patty Kane's lab as a Graduate Assistant.

Research Highlight

Attack of the Killer Severer

Graduate student Dimitra Aggeli, working in the Amberg lab, has discovered how to turn the small actin binding protein cofilin into an actin filament destroying machine. Building off the previous work by graduate student Mike Clark, Dimitra has been trying to understand why some of Mike's mutants are hyperactive for actin filament disassembly. Turns out these mutants disrupt one of the two actin binding sites (the secondary filament specific binding site) on cofilin (see Figure 1 below) thus allowing Dimitra to isolate and study the effects of the primary binding site on actin filament stability. Dimitra has found that normal cofilin actually promotes actin polymerization and this activity is completely lost by the mutants defective in the secondary binding site. In fact, the mutants rapidly disassemble pre-formed actin filaments. To understand the mechanism of filament destabilization, Dimitra used fluorescently labeled actin filaments to watch the process of filament destruction by the mutants under a microscope. What she found is that the mutants sever (break in the middle) the actin filaments. This is an activity of cofilin that is activated by the



protein Aip1p that was discovered by Dr. Amberg during his post-doc years. Dimitra's observations not only explain how cofilin severs, an answer long sought by many labs, but they also explain how cofilin severing is regulated and that is by disrupting the secondary binding site. Dimitra is currently writing a paper on her observations. This paper will include data from a previous graduate student of Stephen Wilkins', Erik Kish-Trier who during a brief stint in the Amberg lab solved the crystal structure of the three cofilin mutants; one at 1.90Å, one at 1.45Å, and the third at a stunning 1.10Å. Not bad for Erik's first foray into crystallography!

GRANT INFO:

Yaxin Liu, a PhD student in the Xin Jie Chen's lab, was awarded an American Heart Association Predoctoral Fellowship. The fellowship will be active from 7/1/2013 through 6/30/2015. She will be working on a project entitled "Mechanism of mitochondrial damage caused by adenine nucleotide translocase in cardiac and muscle diseases". Yaxin is an active member and supporter of the Upstate Cardiovascular Research Heart Walk Team.

PUBLICATIONS:

Congratulations to Naman Shah on his first 1st-author paper, published March 29, 2013: N. B. Shah, M. L. Hutcheon, B. K. Haarer, T. M. Duncan, F1-ATPase of *Escherichia coli*: The ϵ -Inhibited State Forms After ATP Hydrolysis, is Distinct from the ADP-Inhibited State, and Responds Dynamically to Catalytic-Site Ligands. *J. Biol. Chem.* **288**, 9383-9395.

Article online:

www.jbc.org/content/288/13/9383.full

Supplemental materials:

<http://www.jbc.org/content/288/13/9383/suppl/DC1>

AWARDS AND RECOGNITION RECEIVED:

Steve Hanes gave a talk entitled "Regulating CTD-interactions by Ess1-Dependent Prolyl Isomerization" at the American Society of Biochemistry and Molecular Biology, Experimental Biology Conference, Boston, MA, April 23, 2013.

David Amberg was promoted as of May 11th to Associate Vice President of Research Integrity. He retains the title of Research Integrity Officer and has gained an additional title of Research Conflict of Interest Officer.

Michael Cosgrove gave an invited seminar entitled "How does the MLL1 core complex work?" in the department of Genetics and Genome Sciences at Case Western Reserve Univ. in Cleveland, OH on April 17th.

Michael Cosgrove also gave an invited seminar entitled "Targeting a key protein-protein interaction for the development of inhibitors of the Mixed Lineage Leukemia core complex" at the 3rd Epigenetics in Drug Discovery Conference in Boston, MA on May 9th.

Stephen Shinsky presented his work "**MLL2 Kabuki Syndrome Missense mutations define a SET domain surface that is crucial for the di-methylation of histone H3 lysine 4**" at the annual American Society for Biochemistry and Molecular Biology (ASBMB) meeting which is part of the Experimental Biology meeting. This occurred April 19-24, 2013 in Boston, MA. He received a \$1,000 travel scholarship from ASBMB to attend this meeting. His poster was chosen as the best poster in the theme: **Mechanisms of Gene Transcription and Regulation**. He will be receiving a **\$500** cash prize! Stephen also presented the same work at the 54th Annual National Student Research Forum held at the University of Texas Medical Branch in Galveston, Texas. This was April 25-27, 2013.

Stephen was also highlighted in "Meet some of Upstate's outstanding students and faculty". The article can be found at:

<http://blogs.upstate.edu/withdistinction/2013/05/24/graduate-student-wins-best-poster-award-at-national-meeting/>

Stephen Shinsky presented a poster at the Life Sciences Graduate Research Showcase at SU and won a best Poster prize.

Stephen Shinsky also completed a **Workshop on Hydrodynamic and Thermodynamic Analysis of Macromolecules with SEDFIT and SEDPHAT** on May 20–24, 2013 at the National Institutes of Health, Bethesda, Maryland.

The trivia team of Nick Stam, Stephen Shinsky, Samantha Miller, Andrew McCulley, Nilda Alicea-Velazquez, Ryan O'Dell, Cherry Ignacio, and Steve Barry won first place on Tuesday night (May 14th) at Coleman's.

Stewart Loh and SUNY College of Environmental Science and Forestry's project that uses new synthetic enzymes to create bioethanol has been selected to receive up to \$50,000 in funding from the SUNY Technology Accelerator Fund (TAF). Full article can be found at: <http://upstateonline.info/static/May30-June62013/blog/story-3/index.html>

AWARDS AND RECOGNITION RECEIVED cont:

Mark Schmitt has been appointed Dean of the College of Graduate Studies. Here is an email from Dr. Duggan on 6/12/13 making the announcement:

"It is with great pleasure that I announce the appointment of Professor Mark E. Schmitt as Dean of the College of Graduate Studies. Dr. Schmitt was enthusiastically recommended, and I am extremely pleased that he has agreed to serve in this vitally important role, effective June 17.

Professor Schmitt is a graduate of Cornell University and received his Ph.D in Biochemistry at Dartmouth College. Following a postdoctoral fellowship in the laboratory of Dr. David Clayton at Stanford, he joined the Department of Biochemistry and Molecular Biology at Upstate in 1994. He has since been a highly productive researcher, focusing on the biogenesis and structure of the RNase Mitochondrial RNA Processing (MRP) ribonucleoprotein complex, the control of the cell cycle by ribonucleases, and mitochondrial RNA import.

Dr. Schmitt has been well supported through extramural funding and has published widely. He has served as a manuscript and grant reviewer for numerous organizations and journals. He has served on study sections for both the NIH and the DOD, and is a member of several professional organizations. He was honored with the President's Award for Excellence in Research by a Young Investigator.

Dr. Schmitt has directed or taught in numerous medical and graduate school courses, and has trained several M.S. and Ph.D. students in his lab. He has been the Director of the Summer Undergraduate Research Fellowship Program (SURF) since 2004. He has contributed extensively to the University through service on a host of important committees.

Mark brings a passion for science, sound judgment, collegiality, and a strong commitment to student success to this position. I look forward to working with him for many years. Please join me in welcoming him to his new role."

PERSONAL NEWS:

Mark Schmitt's daughter, Summer, graduated from CBA and is going to Harvard in the Fall. She has not declared a major but is leaning towards the sciences. She was also



recruited to swim there. Last year the swim team finished ranked 19th in the country. Unfortunately, Ivies don't give athletic scholarships. She is obviously very excited.



Stewart Loh's son, Daniel, graduated from Fayetteville-Manlius High School and is going to Yale. His tentative major is biochemistry so apparently he can stand Jenny and

Stewart as parents. Stewart noted that they are accepting donations for tuition.

Sue Viggiano is a Grandma! Jack Ezra Saland was born at 6:38 pm on May 22, 2013. He weighed in at 8 lbs., 7 oz., and 21" long. As you can expect, it was love at first sight for Grandma Sue!!



PERSONAL NEWS cont:

Xinming Zhuo, graduate student with Barry Knox, is a father! It's a boy, Yiran Zhuo, was born June 7, 2013 at 4 pm. He weighed in at 7 lbs., 10 oz.



Huimei (Janet) Zheng, Graduate Assistant in Stewart's lab, married Khan Tran, First Lieutenant of the US Army (New York Army National Guard) on June 15th at Mirbeau Inn and Spa in Skaneateles.



Below is a photo of current and previous Loh lab members at the wedding (bottom left Meg Stratton, Janet Zheng, Jing Bi (Grad Student in Cell & Dev Biol), Jenny Ha, back left Diana Mitrea, Josh Karchin, and Stewart Loh).



"Interesting" photos of Stewart dancing at the wedding available upon request.

NEWS ABOUT ALUMNI:

Dr Wei Chung Ng, Patty's graduate student, has been offered a Postdoctoral Research Fellow position in the Bioprocessing Technology Institute (a government-funded research institute) in Singapore, to do research in the immunology group. He is excited since immunology has always been an area of science that interests him, and they are willing to take him in without prior experience in that field. From their perspective, they are also hopeful that his biochemical and molecular background can bring new synergies into the group of immunology-trained scientists.