July 2014 Issue

Publications


Awards and Recognitions
The Biochemistry Club was awarded an Outreach Seed Grant by the American Society for Biochemistry and Molecular Biology (ASBMB) to expand the scope of their outreach goals in the coming year. The club is a Chapter of the ASBMB’s Undergraduate Affiliation Network. Their proposal, compiled by club officers Kyle Robinson, Corinne Wilschke, Jacob Crosser and Ryan Louer, and guided by club advisor Orla Hart, focuses on expanding outreach activities in an efficient manner to middle- and high-school kids and includes an assessment strategy to measure impact.
Saying Goodbye

Heejin Yoo graduated and was featured in the May newsletter (Ph.D., Dudareva), but she was unable to provide her next stop at that time. She will leave the Dudareva lab on August 13 and begin a postdoc appointment with Dr. Xinnian Dong in the Department of Biology at Duke University in September.

Graduate Student News

Nick Anderson passed his Ph.D. defense on July 11.

Undergraduate News

The nine 2014 REU students participated in a poster session on July 25 as part of their summer experience.

The nine 2014 REU students participated in their final presentations on July 29 as a part of their summer experience.
Outreach

Experience Purdue
On July 21, Orla Hart (Coordinator for Teaching Labs) hosted 14 students during “Experience Purdue”, a University-wide event for high-ability high school seniors, for a lab session titled, “Getting the fuel out of biofuels: mushrooms are not just a pizza topping!” Students prepared extracts from different types of common mushrooms, and compared their cellobiase activity. As part of the lab, students had the opportunity to perform common biochemical techniques – enzyme kinetic assays and spectrophotometry, in addition to liquid handling.

HASA (July 13-26)
The Hoosier Agribusiness Science Academy (HASA) initiative is an effort developed to encourage Indiana students to get involved in one of Indiana’s cornerstone industries, agriculture. The Office of Multicultural Programs in the College of Agriculture held their annual “Tier III” event for 30 high school students. Students visited Biochemistry for a four-session mini-project with Orla Hart (Coordinator for Teaching Labs) under the theme of “Sustainability”, specifically looking at how GMOs are created. Abby Engelberth (ABE faculty) and Jacob Crosser (BCHM undergrad) were also involved. Students successfully transformed E. coli with pGLO, and generated inducible GFP expression system. They followed that up with purification of the GFP by both SDS-PAGE and hydrophobic-interaction chromatography. Spending two weeks on their own lab project was a very effective way of fostering their enthusiasm for biochemistry, and a number of the students plan to apply to the College of Agriculture in the next year as a result of their two-week experience here.

BCHM Renovation Projects

An update since February and/or May
The furniture for BCHM 105 classroom is due to arrive on August 13. Project is expected to be complete by the start of fall classes, August 25.

The 4,000 square foot third floor annex project is still in the “final study” phase with the architect.

The head-house growth chamber room adjacent to the new greenhouse will be completed August 15.

The renovation to laboratory space in BCHM 112 and 113 that is part of the “Big Moves” initiative and that will become a Plant/Synthetic Biology Teaching Lab was expected to begin this summer, but is now targeted to
begin in March 2015 and expected to be completed by the start of fall classes.

Contractor negotiations are underway to replace the current central house vacuum system located in the BCHM attic. The current system is a Venturi (steam and water) Vacuum system and it will be replaced with individual diaphragm pumps.

**New Projects**

The department now has a small kitchen located in BCHM 104 with an operational sink that is open for all to use. The kitchen will be used to prepare for department seminars, receptions and special events.

The BCHM building will be getting a new air handler in the attic that will service the 1st floor offices and conference rooms (111, 110, 110a, 109, 117, 118, 119, 120, 121, 121a). That work is targeted to begin in October.

**Going the Extra Mile**

Brett Bishop (Ogas lab) traveled to Chicago, IL, and presented a poster entitled, “The chromatin remodeler chd5 promotes head development during embryogenesis of *Danio rerio*” at the Cell Symposia: Transcriptional Regulation in Development. Brett was a recipient of a 2014 Beach Travel Award.

Clint Chapple traveled to Vancouver, Canada, to present a seminar entitled, “Transcriptional feedback mechanisms that impact lignin biosynthesis in Arabidopsis” at the 25th International Conference on Arabidopsis Research (ICAR 2014) University of British Columbia.

Natalia Dudareva traveled to Xiamen, China, and presented a talk entitled, “Plant aromatic amino acid network: what’s left to know?” at the 3rd International Conference on Plant Metabolism.

Humaira Gowher traveled to Nassau, Bahamas, and presented a talk entitled, “Modulators of DNA methylation” at the FASEB meeting on Biological Methylation.

Joe Kappock traveled to Waterville Valley, NH, and presented a talk entitled, “Acetic acid bacteria tweak primary metabolism to pass the acid test” at the Enzymes, Coenzymes & Metabolic Pathways Gordon Conference.

Yi Li and Jeong Im Kim (Chapple lab) traveled Holderness, NH, to attend the Plant Molecular Biology Gordon Conference. Yi presented a poster entitled, “4-coumarate: CoA ligase 3 (4CL3) has an important role in flavonoid biosynthesis in Arabidopsis thaliana” and Jeong Im presented a poster entitled, “Phenylpropanoid
accumulation in Arabidopsis thaliana is limited by indole glucosinolate biosynthesis”. Yi was a recipient of a 2014 Beach Travel Award.

Mark Hall traveled to Socorro, NM, for a site visit at the Summer Science Program (SSP) and to present a proposal for a new SSP curriculum entitled, “Using biochemistry and evolution to enable drug discovery”.

Mark Hall and his graduate students Michael Melesse and Liang Qin traveled to Steamboat Springs, CO, to attend the FASEB Yeast Chromosome Structure, Replication, and Segregation meeting. Mark presented a talk entitled, “Substrate selectivity of Cdc14 phosphatase” and Michael presented a poster entitled, “Towards the design of Cdc14 phosphatase inhibitors”. Michael was the recipient of the 2014 Weiner Travel Award.

Orla Hart traveled to Washington, DC, to attend the 16th Council for Undergraduate Research conference.

Beth Tran traveled to Newport, RI, and presented a talk entitled, “Connections between long non-coding RNAs, transcription induction and cellular adaption” at the Gordon Research Conference.

Joshua Widhalm (Dudareva lab) traveled to Alberta, Canada, and presented a talk entitled, “Export of phenylalanine from plastids is mediated by a cationic amino acid transporter” at the 4th Banff Conference on Plant Metabolism.

Birthdays
Ben Carter
Frederick Gimble
Dan Hall
Samantha Lee
Joe Lynch
Rachel McCoy
Chen Shao
Linda Siersema
Aamir Mir

Strictly Personals

Vikki Weake and her husband Daniel welcomed their first child on July 8. Alejandra (Allie) Danielle Leon weighed in at 8 lbs. 12 oz.

Upcoming Events
August 18 - Graduate Orientation begins
August 25 – Classes begin
September 1 – Labor Day (offices are closed)