Publications


Awards & Recognitions

Dr. Xiaoqi Liu was awarded a grant of $752,542 from the National Institutes of Health, National Cancer Institute for his project entitled, “Plk1 in chemoresistance of cancer.” (09/01/11-08/31/14)

Dr. Andy Tao is Co-PI with Dr. Daisuke (Biol) and Chiwook Park (MCMP) on a grant that has been awarded for $1,118,554 from the National Institute of Health for their project entitled, “Identification of protein-metabolite interactome.” (09/01/11-05/31/15)

New Faces

Teagen Quilichini joined the Chapple lab on September 16. She is a visiting fourth year Ph.D. student in the Department of Botany at the University of British Columbia. Her research is focused on understanding the composition and formation of sporopollenin, a highly resistant biopolymer that protects the surface of spores and pollen walls. During her 6-week visit, she will utilize the biochemical expertise and assistance available in the Chapple lab to investigate the nature of sporopollenin precursors *in planta*, through the use of known Arabidopsis mutants.

Inside this Issue

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Student News

Junior Gabe Rangel was one of two Purdue students selected this year to participate in the Exceptional Research Opportunities Program (EXROP), sponsored by Howard Hughes Medical Institute (HHMI). Find Gabe’s article under Undergraduate Summer Experiences.

Center for Cancer Research

Annual Scientific Retreat

This year’s retreat was held at the Wright Forestry Center on September 8. Biochemistry had five graduate students present posters.

Christie Eissler (Hall lab), “Cdc14 phosphatases selectively dephosphorylate Cdk sites containing phosphoserine.”

Kayla Harmeyer (Briggs lab), “Understanding the function of the yeast histone demethylase Jhd2.”

Shawn Liu (Liu lab), “A synthetic lethal interaction between Polo-like kinase 1 and Pten in prostate cancer.”

Bing Song (Liu lab), “Plk1 phosphorylation of Orc2 promotes DNA replication under conditions of stress.”

Paul South (Briggs lab), “Functional characterization of the domains of histone methyltransferase member Bre2 and human homolog ASH2L.”

Family Day 2011

The Biochemistry Department hosted a reception on Saturday, September 17 as part of Family Day, a campus-wide event scheduled each fall on the Saturday of a Purdue home football game. This event gives families the opportunity to visit with their sons and/or daughters, attend the football game, and participate in other special activities. Drs. Joe Ogas, Clint Chapple, Mark Hall and Xiaoqi Liu along with Undergraduate Program Coordinator Sherry Pogranichniy welcomed 20 guests to the department.

Undergraduate Summer Experiences

As a member of the HHMI EXROP biochemistry junior Gabe Rangel was able to work with Dr. Chris Plowe at the University of Maryland School of Medicine in Baltimore, MD, while living on the Johns Hopkins University Homewood Campus and being a part of the JHU Summer Internship Program. His research project focused on determining what effects a newly developed malaria vaccine had on the malaria parasite genome. In addition to lab work in Baltimore, he was able to travel to Bandiagara, Mali in West Africa to get involved in a small research project at the vaccine field testing site. Gabe reports that this summer experience was more beneficial than he could ever have imagined. Not only was he able to advance his scientific skills and techniques, but he was also able to develop in a personal sense. He was able to begin relationships with leaders in the field, get to know people directly affected by the disease, and develop lasting friendships with peers who were involved in the same programs. Gabe went into the program not knowing what he was going to do in the future, and he came out realizing that a career focused on researching neglected tropical diseases is exactly what he wants. Gabe says he is more grateful for this experience than he will ever be able to express!

http://www.ag.purdue.edu/biochem/department/Pages/newsletter.aspx

Continued on page 3....

SEPTEMBER 2011
This summer biochemistry sophomore Alexis Zobel interned at a local vet clinic in her hometown (Shelbyville, IN) where she learned a lot of surgical techniques. The vet taught her how to sterilize everything, even herself, before surgery. He also let her use the leftover suture materials for practicing the suture knots. She says it was a really great experience. She also worked at a local farm store. In between everything, she found time to go on vacations to Virginia, Pennsylvania, Washington D.C. and Colorado.

In May, biochemistry junior Kate Alleva traveled with the Purdue Philharmonic Orchestra and Purdue Jazz Band as they toured through Eastern Europe. The philharmonic orchestra played a concert in every location visited: Krakow, Poland; Budapest, Hungary; Vienna, Austria; Kremsmuenster, Austria; and Prague, Czech Republic.

Krakow was by far her favorite place to visit. Kate says the Polish were extremely welcoming and inviting. Budapest was lovely and much bigger than Krakow, but nonetheless still beautiful. The orchestra played in an extremely ornate, beautiful church. The next stop was Vienna, which had so much to offer musically and the group played a benefit concert there. They also took a tour through Schoenbrunn palace. Kremsmuenster was very quaint. The orchestra and band played in a venue called Bad Hall, which was a retirement spa. Everyone they came in contact with loved their music. The last stop was Prague which, like Budapest, is a very big city. Their venue there was in the Czech Museum of Music, which was Kate’s favorite place they performed. This was a very memorable trip for Kate and one that she will definitely never forget.

Biochemistry junior Kayleigh Nyffeler participated in the SURF (Summer Undergraduate Research Fellowships) program, working in the Kappock lab. She reports that it went rather well, although the SURF program is very obviously tailored to engineering students. Kayleigh was able to enjoy her time in the lab and show off some actual chemistry and biology to a bunch of engineers.

Biochemistry junior Braden Wenndt worked at Tate and Lyle Ingredients North America at their headquarters in Decatur, IL. Tate and Lyle is known for manufacturing corn-based products like high-fructose corn syrup. They also created Splenda. Recently, they have been hoping to move into the bio-products market, and the area he worked in was involved in that research. Braden worked in a lab that ran 10 L fermentors that produced citric acid and 1,4-butanediol. The BDO was produced by a genetically modified strain of \textit{E. coli}. The overall goal of the lab was to take data from the fermenters and determine the viability of the process and the optimum conditions at which to run it. He worked as a laboratory technician and mainly took samples from the fermenters and tested pH, dextrose concentration, and optical density. He also helped clean the fermenters and prep them each week for the next run. The last few weeks, he designed an experiment to compare two different strains of the \textit{E. coli} to see if one was more productive than the other. The new strain (Moe) ended up giving a higher yield than the old strain (Monty).
Purdue has a whole host of IT related solutions that some of you may or may not be familiar with. Here are 3 of them that stand out.

Filelocker — Filelocker allows you to share files with other people both inside and outside of Purdue University. It is a temporary and secure storage system for sharing files and data. It was recently redesigned and is now even easier to use. You can find it here: [https://filelocker.purdue.edu/](https://filelocker.purdue.edu/)

Go Remote — Purdue’s Go Remote service offers users the chance to access software from any computer that has an internet connection and a browser. You can use specialized software like Photoshop CS5.5 for free. All software that is available on an ITaP lab computer is available via Go Remote. You can find it here: [https://goremote.itap.purdue.edu](https://goremote.itap.purdue.edu)

McAfee Antivirus — Purdue offers users free access to download and install McAfee Antivirus. If you do not have an antivirus solution for your home computer please consider taking advantage of this great offer. You can find it here: [http://www.purdue.edu/securepurdue/download/index.cfm](http://www.purdue.edu/securepurdue/download/index.cfm)

--Joe Levell

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Emeritus Professor Karl Brandt and his wife, Nancy, recently spent time with their newest granddaughter, Ryan Mildred Brandt. She is the daughter of Derek Brandt and Stephanie Lyons of Edwardsville, IL. Ryan Mildred was born August 21, 2011, weighing 8 lbs 7 oz, and measuring 21 inches long.

Dr. David Krogmann recently attended and spoke at the Bill Ogren Lifetime Achievement Award Ceremony for Dr. Bill Ogren of the University of Illinois at Urbana-Champaign. Dr. Ogren was awarded The Rebeiz Foundation for Basic Research (RFFBR) 2010 Lifetime Achievement Prize for his ground-breaking discoveries in photosynthesis. Dr. Ogren has retired from the labor of the lab, but is active in the National Science Foundation. Dr. Krogmann was Bill Ogren’s Ph.D. advisor at Wayne State University in 1961. Dr. Krogmann was teaching night classes when he met Bill and asked him to consider post-graduate studies. Dr. Krogman was asked to recollect on Bill’s graduate student years.

Nick Anderson and Yi Li were married on August 6 in Carver, MN. After the wedding, they traveled to China where Nick met Yi’s extended family. They then honeymooned in the Maldives. Congratulations!

Jennifer Jacobi (M.S. 2011, Kirchmaier) and boyfriend of two and a half years, Nicholas Travia, recently became engaged. Nick received his Ph.D. from Purdue in May 2010 from the Department of Chemistry. The wedding is planned for August 2012 in West Lafayette, IN.
---Going the Extra Mile---

Dr. Elizabeth Tran presented a poster in late August at the Eukaryotic mRNA Processing Meeting in Cold Spring Harbor, NY, entitled, “DEAD-box RNA helicase Dbp2 functions at the interface of mRNA processing.”

---Upcoming Events---

October 4  
BCHM Seminar Series  
WSLR 116; 4:00 p.m.  
**Jim Forney**  
Department of Biochemistry, Purdue University  
*Unique Opportunities for Analysis of SUMOylation in Ciliated Protozoa*

October 10 & 11  
Fall Break

October 12 & 14  
First Rotation Presentations  
BCHM 101; 3:00 p.m.

October 18  
BCHM Seminar Series  
WSLR 116; 4:00 p.m.  
**Jason Lanman**  
Department of Biological Sciences, Purdue University  
*Three-dimensional Imaging of Virus Replication Inside the Cell*  
Host: Barbara Golden

October 24 & 25  
Beach Lectures  
**Hugo Bellen**  
Department of Molecular and Human Genetics  
Baylor College of Medicine  
(10/24) *Amyotrophic Lateral Sclerosis: Molecular Pathogenesis*  
(10/25) *Mitochondria and Neurodegeneration*  
Deans Auditorium (PFEN), 4:00-5:00 p.m.  
Host: Jim Clemens

---Safety Corner---

The department undertook its first weather emergency warning procedures drill on September 1. The storeroom staff was able to complete the call list in good time, about 10 minutes. The drill was beneficial in identifying a few holes in the policy.

---Birthdays---

Michelle Drennan  
KK Ho  
Sherry Honn  
Xiaoqi Liu  
Victor Rodwell  
Andy Tao  
Steve Widger
Michigan State University

PLANT GENOMIC/MOLECULAR BIOLOGIST

ASSISTANT/ASSOCIATE PROFESSOR POSITION:
The Department of Plant Biology at Michigan State University invites applications for a tenure-track position at the Assistant/Associate Professor level. MSU is world renowned in the plant sciences and we are seeking a plant biologist in molecular, cellular and/or genomic areas that complement on-going research in the department. Areas of interest include, but are not limited to, developmental, quantitative or population genetics, and functional or evolutionary genomics. The applicant should use molecular, genomic, and/or quantitative approaches in model, crop, algal, or ecological systems. Experience in computational, bioinformatic and statistical analyses is desirable. The successful applicant will contribute to undergraduate and graduate teaching and maintain an externally funded research program. Applicants should have a strong record of accomplishments and publications.

To Apply: Applicants should provide curriculum vitae, summary of research accomplishments and future research objectives, brief description of teaching philosophy and goals, and a list of three references in a single PDF document to Plantgenomicbiology@plantbiology.msu.edu. Candidates also need to submit an application for this position through the MSU Human Resources site at http://jobs.msu.edu/ (posting #5077). Note, that although the website indicates that materials be split and submitted in specific categories, one PDF file is preferred. Information about the Department of Plant Biology can be found at http://www.plantbiology.msu.edu. The review of applications will begin October 1, 2011 and continue until a suitable candidate is identified. Questions regarding this position may be addressed to Robin Buell at Plantgenomicbiology@plantbiology.msu.edu.

Washington State University – St. Louis
Department of Biology (2 positions)

ASSOCIATE PROFESSOR POSITION: The Department of Biology (http://www.wubio.wustl.edu) and the International Center for Advanced Renewable Energy and Sustainability (I-CARES) (http://i-cares.wustl.edu) at Washington University in St. Louis invite applications for a tenure-track faculty position at the Associate Professor level for a Named Professorship in Microbial Biochemistry. We seek an innovative and accomplished scientist whose research addresses fundamental biological processes in microbes at the molecular level. Specific areas of interest include but are not limited to: bioenergy, synthetic biology, metabolic analysis, pathway manipulation, structural biology and microbial biochemistry & physiology. Research that investigates either prokaryotic or eukaryotic microorganisms independently, in association with other organisms or in natural ecosystems is strongly encouraged.

This Associate Professor position is a tenured, named professorship affiliated with I-CARES. As one of several new positions that are part of I-CARES, a university-wide initiative in global energy and environmental issues, an interest in forming and promoting cross-disciplinary interactions is essential. Resources that could contribute to the successful candidate’s research program include cross-disciplinary interactions with colleagues in Biology, other departments in Arts & Sciences, and at Washington University Schools of Engineering and Medicine, the Donald Danforth Plant Science Center and the Missouri Botanical Garden.

The successful candidate’s primary appointment will be at the rank of Associate Professor in the Department of Biology. Contributions to both undergraduate and graduate teaching and research mentoring are essential. Teaching duties will be in the general areas of biochemistry and/or microbiology. Duties will also include conducting research, applying for funding opportunities, writing for publication, mentoring both graduate and undergraduate students and serving as a formal advisor to select students, participating in departmental committees and university service. Qualifications include a PhD degree and strong research, mentoring and teaching credentials. Candidates for this Associate Professor position are expected to have a research program that is already externally funded and internationally recognized. Competitive start-up funding, laboratory development resources and ancillary support commensurate with the candidate’s qualifications and needs are available with this position.

Consideration of applicants will begin on September 30, 2011 and will continue until the position is filled. To Apply: Applicants should submit the following application materials in pdf file format: cover letter; current curriculum vitae; statement of research and teaching interests; and the names and contact information of three individuals who can serve as references upon request. Application materials must be submitted electronically to: icares.search@biology2.wustl.edu. Questions regarding the search process should be directed to Robert Blankenship (Blankenship@wustl.edu), Chair of the Search Committee.

ASSISTANT PROFESSOR POSITION: The Department of Biology at Washington University in St. Louis (http://www.wubio.wustl.edu) invites applications for a tenure-track faculty position at the Assistant Professor level in Microbial Biochemistry. We seek an innovative and accomplished scientist whose research addresses fundamental biological processes in microbes at the molecular level. Specific areas of interest include but are not limited to: bioenergy, synthetic biology, metabolic analysis, pathway manipulation, structural biology and microbial biochemistry & physiology. Research...
that investigates either prokaryotic or eukaryotic microorganisms independently, in association with other organisms or in natural ecosystems is strongly encouraged. The successful candidate will have an appointment at the rank of Assistant Professor in the Department of Biology. Contributions to both undergraduate and graduate teaching and research mentoring are essential. Teaching duties will be in the general areas of biochemistry and/or microbiology. Duties will also include conducting research, applying for funding opportunities, writing for publication, mentoring both graduate and undergraduate students and serving as a formal advisor to select students, participating in departmental committees and university service.

Qualifications include a PhD degree and strong research, mentoring and teaching credentials.

Competitive start-up funding, laboratory development resources and ancillary support commensurate with the candidate’s qualifications and needs are available with this position. To Apply: Applicants should submit the following application materials in pdf file format: cover letter; current curriculum vitae; statement of research and teaching interests; and the names and contact information of three individuals who can serve as references upon request. Application materials must be submitted electronically to: icares.search@biology2.wustl.edu. Questions regarding the search process should be directed to Robert Blankenship (Blankenship@wustl.edu), Chair of the Search Committee.

Biochemistry Research Retreat
September 24, 2011

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