

Molecular Matters

Department of Biochemistry

December 2023 / January 2024

Department News



CONGRATULATIONS!

BS Undergraduate/s



Megan Bradin
Next: Unknown

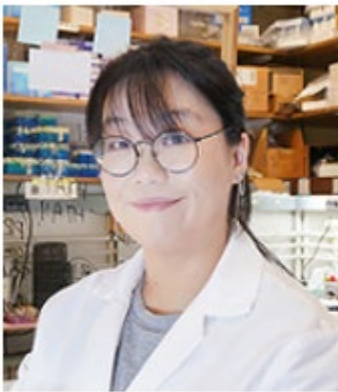
PhD Graduates



Andrew DeMarco
Next: University of Pittsburgh
Postdoctoral Research Fellow



Adam Hamdani
Next: Unknown



Jiaxin Long
Next: Purdue University
Postdoctoral Research Fellow



Kedric Milholland
Next: University of Chicago
Postdoctoral Research Fellow

Kate Eastman (Wisecaver Lab) received the 2024 CPB Travel Award for \$1,000 to attend the Maize Meeting in Raleigh, NC.

Nathan Watervoort (Wisecaver Lab) was awarded \$500 by the Purdue Office of Interdisciplinary Graduate Programs to attend and present at the Phycological Society of America meeting in Seattle, WA.

Timilehin Jeje (Wisecaver Lab) was awarded the Frederick N. Andrews Environmental Travel Grant worth \$1,500 to attend the Phycological Society of America meeting in Seattle, WA.

Katelin Burow (Wisecaver Lab) received the ASPB 2024 Travel Award for \$575 and discounted registration to attend and present 'Genetic Mechanisms Underlying Sex Determination in the Homosporous Fern *Ceratopteris richardii*' in Honolulu, HI.

NEW FACES...



Dr. Ben Carter, a 2016 Ph.D. graduate of the Purdue Biochemistry Department, came back to the department as an Assistant Clinical Professor on January 1, 2024. Welcome back Ben!

BIOCHEMISTRY IN THE NEWS...

The **Summer Science Program (SSP)** received a \$200 million donation from Franklin Antonio, an SSP alumnus. Antonio co-founded the chipmaker Qualcomm; he participated in the program in 1969. His donation is approximately 100 times SSP's \$2 million annual budget. **Mark Hall**, (picture left) with help from **Joe Ogas**, (pictured right) developed the curriculum and has taught the program for years.



Clint Chapple, sits on SSP's Board of Trustees. "I'm excited because I have the opportunity to make some kind of contribution to deciding how SSP will be able to reinvent itself and have an impact on even more students," he says. Please read the article [here](#).

Xing Liu and her lab are featured in the article, ***Breaking down the biochemical pathways of protein***. Read entire article [here](#).



The **Liu Lab** studies the pathway called ubiquitination. **Liu** and her postdoctoral trainee **Kankan Wang** (*pictured above*) have been studying the E3 ligases to unravel their role in protein specificity. Data in Liu and Wang's paper, published in *Nature Structural & Molecular Biology*, delves into interaction between CUL2 and CAND1.

GOING THE EXTRA MILE...

Kyle Cottrell presented a poster at the RNA Processing in Cancer Conference: From Bench to Bedside conference held in Houston, Texas from November 12 – 16th.

Natalia Dudareva gave a talk entitled "Plant Olfaction: The Lesson from Nature" at the International Symposium on Agricultural and Plant Synthetic Biology (ISAPSB), (online), Shenzhen, Guangdong, China, December 8 – 11.

Mark Hall traveled to Indiana State University on January 23, 2024 to deliver the Gram Microbiology Lecture in the Department of Biology. Title of the talk was "Invasive fungal diseases and the quest for new antifungal drug targets".

RECENT PUBLICATIONS...

Cottrell, Kyle A, Andrews, Ryan J, Bass, Brenda L. The competitive landscape of the dsRNA world. *Mol Cell*. 2024 Jan 4;84(1):107-119. doi:10.1016/j.molcel.2023.11.033. Epub 2023 Dec19. PMID: 38118.541

Yang N, Wang Y, Liu X, Jin M, Vallebuena-Estrada M, Calfee E, Chen L, **Dilkes BP**, Gui S, Fan X, Harper TK, Kennett DJ, Li W, Lu Y, Ding J, Chen Z, Luo J, Mambakkam S, Menon M, Snodgrass S, Veller C, Wu S, Wu S, Zhuo L, Xiao Y, Yang X, Stitzer MC, Runcie D, Yan J, Ross-Ibarra
Two teosintes made modern maize. J.Science. 2023
Dec;382(6674):eadg8940. doi:10.1126/science.adg8940. Epub 2023
Dec 1.PMID: 38033071

Hegazy, Youssef A, Cloutier, SC, Utturkar, SM, Das, Suhadeep, Tran, EJ The Genomic Region of the 3' Untranslated Region of PHO84, rather than the Antisense RNA, Promotes Gene Repression. Nucleic Acids Res. 2023 Aug 25;51(15):7900-7913. doi:10.1093/nar/gkad579. PMID: 37462073

Patrick R, Huang X-Q, Dudareva N, Li Y. 2023. Rhythmic histone acetylation acts in concert with day-night oscillation of the floral volatile metabolic network. New Phytologist, (Online ahead of print)
doi:10.1111/nph.19447.

Kankan Wang, Stephanie Diaz, Lihong Li, Jeremy R Lohman, Xing Liu CAND1 inhibits Cullin-2-RING ubiquitin ligases for enhanced substrate specificity. Nature Structural & Molecular Biology
10.1038/s41594-023-01167-5 (2024)

Mensah IK, Emerson ML, Tan HJ, **Gowher H**. Cardiomyocyte Differentiation from Mouse Embryonic Stem Cells by WNT Switch Method Cells. 2024 Jan 11;13(2):132. doi: 10.3390/cells13020132.
<https://doi.org/10.3390/cells13020132>

Cynthia D. Jesudason, Emily R. Mason, Shaoyou Chu, Adrian L. Oblak, June Javens-Wolfe, Mustapha Moussaif, Greg Durst, Philip Hipkind, Daniel E. Beck, Jiajun Dong, Ovini Amarasinghe, Zhong-Yin Zhang, **Adam K. Hamdani, Kratika Singhal, Andrew D. Mesecar**, Sarah Souza, Marlene Jacobson, Jerry Di Salvo, Disha M. Soni, Murugesh Kandasamy, Andrea R. Masters, Sara K Quinney, Suzanne Doolen, Hasi Huhe, Stacey J. Sukoff Rizzo, Bruce T. Lamb, Alan D. Palkowitz, Timothy I. Richardson SHIP1 therapeutic target enablement: Identification and evaluation of inhibitors for the treatment of late-onset Alzheimer's disease. PMID: 38023622
PMCID: PMC10655782 DOI: 10.1002/trc2.12429

IMPORTANT DATES...

Please join us for the Department of Biochemistry Seminar Series.
All seminars will begin at 3:30 pm in WSLR 116, unless otherwise noted.

*****Please note that our joint **Frontiers in Biophysics** seminar on Wednesday, February 14 with Dr. Liz Kellogg replaces our normal Tuesday seminar. It will be held in MJIS 1001. There is no seminar on February 13.***

JAN 30	Dr. Siobhan Brady, UC Davis, Plant Biology Joint CPB
FEB 6	Dr. Lauren Metskas, Purdue University, Biological Sciences
FEB 14	** Dr. Liz Kellogg, St. Jude Research Hospital in MJIS 1001
FEB 20	Dr. Erich Grotewold, Michigan State University, Biological Sciences
FEB 27	Dr. Ricardo Martinez Zamudio, Rutgers University, Pharmacology
MAR 5	Dr. Arminja Kettenbach, Dartmouth University, Biochemistry & Cell Biology
MAR 12	NO SEMINAR - SPRING BREAK!
MAR 19	Dr. Berkley Walker, Michigan State University, Plant Biology

ATTENTION BCHM ALUMS...

We would love to hear from you! If you have any alumni news to share or had a change of address, please let us know! Updates can be sent to bchm-alumni-friends@purdue.edu.