

Molecular Matters

Department of Biochemistry

March 2024
Department News



CONGRATULATIONS TO...

Dr. Subhadeep Das, Tran Lab, received a 2023-24 Post Doc Travel grant from the Purdue Institute for Cancer Research for his proposal titled, *“Understanding the molecular mechanism of Supinoxin (RX-5902) on Small cell Lung Cancer Therapy.”*

Dr. Elizabeth Tran was selected as a senior scientist by MAVEN Institute.

Shannon Stirling, Dudareva lab, and Steven McKenzie, Puthiyaveetil lab, (pictured below) received first and second place awards respectively in the **“Best Talk by a Graduate Student”** category at the 2024 American Society of Plant Biologists Midwest Meeting held at Purdue March 16-17.



BIOCHEMISTRY IN THE NEWS...

Dr. W. Andrew Tao was recently featured in an article titled ***“Purdue researchers explore noninvasive method for sampling drug response.”*** “Purdue University-led experiments have successfully isolated drug-metabolizing enzymes from extracellular vesicles (EVs), which are widely secreted throughout the body for cellular communication. Tao and his associates have begun developing a patent-pending EV method for detecting proteins involved in drug absorption, distribution, metabolism and excretion (ADME). “If successful, this would be tremendously beneficial, especially for drug development companies,” Tao said. Please read the entire article [here](#).



Shannon Stirling, a graduate student in the Dudareva lab, was featured in an article titled ***“Decoding the plant world’s complex biochemical communication networks.”*** Her research required mastering a painstaking method for temporarily altering the levels of proteins of the petunia pistils to identify the signal-receptor protein interactions. This method involved injecting a certain species of bacterium into the stigma to introduce targeted genes, then isolating the resulting proteins. Please read the entire article [here](#).

GOING THE EXTRA MILE...

Dr. Natalia Dudareva evaluated poster presentations at the 2024 American Society of Plant Biologists Midwest Meeting held at Purdue March 16-17.

Dr. Sujith Puthiyaveetil served as an organizing committee member of the 2024 American Society of Plant Biologists Midwest Meeting held at Purdue on March 16-17. He also evaluated poster presentations.

Steven McKenzie, Puthiyaveetil lab, presented a poster entitled “Oxidative damage and phosphorylation mediate photosystem II disassembly in *Arabidopsis thaliana*”.

Matt Martin, Puthiyaveetil lab, presented a poster entitled “Phenotyping the *Arabidopsis* Chloroplast Sensor Kinase.”

GRANTS...

Dr. Ann Kirchmaier received a \$50,000 award from the Purdue College of Agriculture/College of Engineering Ag-Eng Pilot Grant for her proposal titled “Quantifying Fumarase Interactions in Single Cells” 1/2/24-1/17/25, (Co-PI Chongli Yuan)

Dr. Ann Kirchmaier received a \$50,000 award from the Purdue College of Agriculture/College of Engineering Ag-Eng Pilot Grant for her proposal titled “Quantifying Fumarase Interactions in Single Cells” 1/2/24-1/17/25, (Co-PI Chongli Yuan)

RECENT PUBLICATIONS...

Stirling SA, Guercio AM, Patrick RM, **Huang X-Q**, **Bergman ME**, Dwivedi V, **Kortbeek RWJ**, **Liu Y-K**, Sun F, **Tao WA**, Li Y, Boachon B, Shabek N, **Dudareva N**. 2024. Volatile communication in plants relies on a KAI2-mediated signaling pathway. *Science*, 383: 1318-1325.

Wei D, Sun J, **Luo Z**, Zhang G, Liu Y, Zhang H, Xie Z, Gu Z, **Tao WA**. 2024. Targeted Phosphoproteomics of Human Saliva Extracellular Vesicles via Multiple Reaction Monitoring Cubed (MRM 3). *Anal Chem* 96:1223–1231.

Wu X, Quan M, **Hadisurya M**, Hu J, **Liu Y-K**, **Zhuang Y**, Li L, Iliuk AB, Yang JJ, Kuang S, **Tao WA**. 2024. Monitoring drug metabolic pathways through extracellular vesicles in mouse plasma. *PNAS Nexus* 3:1–10.

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.

APR 2 Dr. Damian Krysan, University of Iowa
APR 9 Dr. Valeria O'Brien, Purdue University
APR 13 Spring Fest <https://ag.purdue.edu/springfest/> 9am – 4pm
APR 16 Dr. Ana Paula Alonso, University of North Texas
APR 23 Biochemistry Departmental Awards Ceremony

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.

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