

MAY 2023
BIOCHEMISTRY NEWS



CONGRATULATIONS TO...



Dr. Clint Chapple, Distinguished Professor of Biochemistry, attended the 160th Annual Meeting of the National Academy of Sciences in Washington DC, where he signed the Registry of Membership as a new member of the National Academy of Sciences.

Dr. Natalia Dudareva, Distinguished Professor of Biochemistry, has been named a Fellow of the American Society of Plant Biology. This award is granted in recognition of distinguished and long-term contributions to plant biology and service to the Society in areas that include research, education, mentoring, outreach, and professional and public service.



Dr. Jim Forney, Professor, was chosen by the IU School of Medicine Class of 2023 for the Outstanding Teaching of Basic Science Award for the West Lafayette campus, (2nd year in a row!). This award recognizes outstanding contributions to the class of 2023 to help make them knowledgeable and compassionate physicians.



Dr. Seema Mattoo, Associate Professor of Biological Sciences, courtesy appointment in Biochemistry, received the College of Science Leadership Award. The award recognizes leadership in CoS departments and units. Demonstrates initiative, and innovation, and provides leadership within the department. Encourages and motivates by example, the development of other staff members and serves as a mentor and resource person. Promotes a welcoming and positive environment for all faculty, staff, students, and visitors.

Dr. Hana Hall received a Showalter Trust Research Award for her proposal “m6A as a regulator of R-loop homeostasis and genome stability in Alzheimer’s disease”.



Stellar performances by Biochemistry graduate students land top prizes at the 8th Annual Hitchhiker’s Guide to the Biomolecular Galaxy. Congratulations to **Isaiah Mensah** (Dr. Gowher’s lab) who took first place out of 15 presentations in the oral presentation category and to **Sydney Beechboard** (Dr. Mesecar’s lab) and **Sarah Stanhope** (Dr. Vikki Weake’s lab) who tied for first place out of 51 posters! With only one award plaque to give out, an intergalactic battle of paper-rock-scissors broke out between Sarah and Sydney in front of the audience. Though Sydney emerged victorious with the infamous paper-covering rock maneuver, Sarah’s plaque will be beamed down to her soon. (Pictured: Left; Isaiah Mensah middle; Sarah Stanhope right; Sydney Beechboard). – *by Andy Mesecar*

For more information on this year’s symposium, see;

<https://purduegalaxy.science.purdue.edu/2023/about/About%20the%20Symposium.html>



DEPARTMENT AWARDS...

Congratulations to our department award recipients! In April the department gathered in person for the annual awards ceremony. Click the link below to see all the award winners.

[Biochemistry Awards 2023.pdf](#)

GOING THE EXTRA MILE...

Dr. Natalia Dudareva, Distinguished Professor, gave an invited talk at the Department of Botany and Plant Sciences, UC-Riverside on April 26th, titled "Sense of Smell: Plant Volatile Emission, Perception, and Beyond".

She also gave a talk to the Scripps Institution of Oceanography at the Natural Products Affinity Group (NPAG), a joint seminar between Salk Institute, UC San Diego, and Scripps Institution of Oceanography, on April 28th titled "Perception of Volatiles: The Lessons from Nature".

Dr. Humi Gowher, Associate Professor, traveled to the University of California, Riverside to give a seminar titled "Regulation of DNMT Activity in Development and Disease" on May 2, 2023.

RECENT PUBLICATIONS...

Conart, C., D. P. Bomzan, X.Q. Huang, J.E. Bassard, S. N. Paramita, D. Saint Marcoux, A. Rius-Bony, G. Hivert, A. Anchisi, H. Schaller, L. Hamama, J. L. Magnard, A. Lipko, E. Swiezewska, P. Jame, G. Riveill, L. Hibrand-Saint Oyant, M. Rohmer, E. Lewinsohn, **N. Dudareva**, S. Baudino, J.C. Caissard, B. Boachon. 2023. A cytosolic bifunctional geranyl/farnesyl diphosphate synthase provides MVA-derived GPP for geraniol biosynthesis in rose flowers. *Proceeding of the National Academy of Sciences of the United States of America*. **120**(19) epub.

Song, S. R. Jin, Y. Chen, S. He. K. Li, Q. Tnag, Q.Wang, L. Wang, M. Kong, **N. Dudareva**, B. J. Smith, F. Zhou, S. Lu. 2023. The functional evolution of architecturally different plant geranyl diphosphate synthases from geranylgeranyl diphosphate synthase. *The Plant Cell*. **35**(6):2293-2315.

Hadisurya, M., Z. C. Lee, Z. Luo, G. Zhang, Y. Ding, H. Zhang, A.B. Iliuk, R. Pili, R. S. Boris, **W. A. Tao**. 2023. Data-independent Acquisition Phosphoproteomics of Urinary Extracellular Vesicles

Enables Renal Cell Carcinoma Grade Differentiation. *Molecular & Cellular Proteomics: MCP* **22** (5):100536. Online ahead of print.

Zhou, J., X. Cheng, Z. Guo, M.M. Ali, G. Zhang, **W.A. Tao**, L. Hu, Z. Liu. 2023. Epitope Imprinting of Phospholipids by Oriented Assembly at the Oil/Water Interface for the Selective Recognition of Plasma Membranes. *Angewandte Chemie (International ed. In English)*.**62**(19). Epub

Hadisurya, M., L. Li, K. Kuwarananchaoen, X. Wu, Z.C. Lee, R. N. Alcalay, S. Padmanabhan, **W. A. Tao**, A. Illiuk. 2023. Quantitative proteomics and phosphoproteomics of urinary extracellular vesicles define putative diagnostic biosignatures for Parkinson's disease. *Communications medicine (Lond)*.**3**(1):64.

Stanhope, S. C., T. Brandwine-Shemmer, H. R. Blum, E.H. Doud, A. Jannasch, A. L. Mosley, B. Minke, **V. M. Weake**. 2023. Proteome-wide quantitative analysis of redox cysteine availability in the *Drosophila melanogaster* eye reveals oxidation of phototransduction machinery during blue light exposure and age. *Redox Biology*. Online ahead of print.

Escobedo, S. E., S. E. McGovern, S.C. Stanhope, P. Anik, K. Singhal, R. DeBernardis, **V. M. Weake**. 2023. Targeted RNAi screen identifies transcriptional mechanisms that prevent premature degeneration of adult photoreceptors. 2023. *Frontiers in Epigenetics and Epigenomics*. Online ahead of print.