

## JANUARY 2023 BIOCHEMISTRY NEWS



### CONGRATULATIONS TO...



Congratulations to **Dr. Seema Mattoo**, Associate Professor, of Biological Sciences, who received the College of Science Leadership Award. Dr. Mattoo received the award for her work promoting the field of microbiology across campus, as Executive Chair for the Microbiology, Immunology & Infectious Diseases Training Group within the PULSe Graduate Studies Program, as a member of the Purdue Institute of Inflammation, Immunology and Infectious Disease Leadership Team, and as Deputy Convener for the Microbiology, Immunology and Infectious Diseases (MIID) Research Area.



**Cameron Matthews**, a December Biochemistry graduate, participated in the 2022 Fall Undergraduate Research Expo and was awarded 1<sup>st</sup> place for his research talk "Laboratory Screening of Sorghum Lines for Incompatibility, a Post attachment Resistance Mechanism to the Parasitic Weed *Striga hermonthica*".

## NEW FACES...



Please join us in welcoming our new faculty, **Dr. Kyle Cottrell**, Assistant Professor of Biochemistry.

Dr. Cottrell joins us from Washington University, St. Louis MO where he completed his Ph.D. in Molecular Cell Biology and his Postdoctoral Research in the laboratory of Dr. Jason D. Weber in the Department of Medicine.

Dr. Cottrell's Lab studies RNA editing and post-transcriptional regulation in normal physiology and in cancer. Within that broad research interest, there are three areas of focus for the lab: 1) The therapeutic potential of targeting factors involved in post-transcriptional regulation, 2) Interplay between RNA editing and post-transcriptional regulation, 3) Dysregulation of post-transcriptional events in cancer. Of particular interest to the lab is the RNA editing enzyme ADAR. ADAR carries out adenosine-to-inosine editing within RNA. This function of ADAR plays an important role in preventing activation of innate immunity pathways by endogenous double-stranded RNAs. For many cancer cells, loss of ADAR leads to activation of those pathways and cell death – making ADAR a potential therapeutic target for many cancers. ADAR has great potential as a therapeutic target for treating triple-negative breast cancer, the deadliest type of breast cancer, and a type that lacks effective targeted therapies. Dr. Cottrell's lab is investigating how ADAR is regulated in cancer, especially breast cancer and is engaged with identification of a small molecule inhibitor of ADAR. In parallel, Dr. Cottrell's lab also studies how A-to-I editing affects other forms of post-transcriptional regulation in cancer, with the goal of finding novel therapeutic targets for breast and other forms of cancer.

## GOING THE EXTRA MILE...

**Dr. Natalia Dudareva** traveled to the Leibniz Institute of Plant Genetics and Crop Plant Research (IPK), Gatersleben, Germany to give a Gatersleben Lecture titled "Fascinating world of plant volatiles: Beyond the traditional view" on December 13, 2022. She also traveled to Katholieke Universiteit (KU), Leuven, Belgium to give a talk titled "Sense of smell: Plant volatile emission, perception and beyond" at the Department of Biosystems (BIOSYST) of the Division of Crop Biotechnics on December 16, 2022.

**Marco Hadisurya** received a travel stipend award to attend the US Human Proteome Organization (HUPO) 2023 in Chicago Illinois, March 4-8.

**Dr. Mark Hall** attended the FASBE Protein Phosphatases conference in Palm Springs, CA this past December. He gave a talk titled "Exploring Cdc14 Phosphatase as an Antifungal Drug Target".

## SAFETY CORNER...

If you pour a (hazardous) chemical/soap/household cleaner etc. from a bulk bottle into a smaller bottle then you MUST use:

*Globally Harmonized System of Classification and Labeling of Chemicals (GHS)*

- REM has a short video - [https://www.purdue.edu/ehps/rem/training/ghs/Purdue\\_Secondary\\_Container\\_LabelingHTML5.mp4](https://www.purdue.edu/ehps/rem/training/ghs/Purdue_Secondary_Container_LabelingHTML5.mp4)
- And REM provides a customized label for such containers. Karyn and Larry will stock these GHS labels in the Storeroom. The information to use to fill out these labels can be found on the SDS for the chemical/ product.

Product: _____
Signal Word: <b>WARNING</b> <b>DANGER</b>
Hazard Statement: _____


Example of a type of cleaner often poured into another container for use:



- The Windex shown above will still require us to use consistent labeling, but it will not have a signal word, and it will not have any hazard statement or stickers left to show the type of hazard (since the SDS states "this product does not contain hazards").

<p><b>Safety Data Sheet</b> according to Hazard Communication Standard; 29 CFR 1910.1200</p> 	
<p><b>WINDEX® CLEANER ORIGINAL</b></p> <p>Version 1.3 <span style="float: right;">Print Date 03/09/2018</span></p> <p>Revision Date 01/23/2018 <span style="float: right;">SDS Number 350000014153</span></p>	
<p><b>1. PRODUCT AND COMPANY IDENTIFICATION</b></p> <p><b>Product information</b></p> <p><b>Product name</b> : WINDEX® CLEANER ORIGINAL</p> <p><b>Recommended use</b> : Hard Surface Cleaner</p> <p><b>Restrictions on use</b> : Use only as directed on label</p> <p><b>Manufacturer, importer, supplier</b> : S.C. Johnson &amp; Son, Inc. 1525 Howe Street Racine WI 53403-2236</p> <p><b>Telephone</b> : +1-800-558-5252</p> <p><b>Emergency telephone number</b> : 24 Hour Medical Emergency Phone: (866)231-5406 24 Hour International Emergency Phone: (703)527-3887 24 Hour Transport Emergency Phone: (800)424-9300</p>	
<p><b>2. HAZARDS IDENTIFICATION</b></p> <p><b>Classification of the substance or mixture</b></p> <p><b>Globally Harmonized System (GHS) Classification</b> This product does not meet the criteria for classification in any hazard class according to regulation OSHA 29 CFR 1910.1200.</p> <p><b>Labelling</b></p> <p><b>Precautionary statements</b></p> <p><b>Other hazards</b> : None identified</p>	
<p><b>3. COMPOSITION/INFORMATION ON INGREDIENTS</b></p> <p>This product does not contain hazardous chemicals at or above a reportable level as defined by OSHA 29 CFR 1910.1200</p> <p>For additional information on product ingredients, see <a href="http://www.whatsinsidescjohnson.com">www.whatsinsidescjohnson.com</a>.</p>	

## GRANTS...

**Kyle Cottrell** received \$224,100 from National Institute on Minority Health and Health Disparities for his proposal "Identifying determinants of ADAR-dependency in triple-negative breast cancer".

**Brian Dilkes** received \$ 105,304.00 from Donald Danforth Plant Science Center for his proposal titled "Harnessing regulatory variation to elucidate drought resilience mechanisms in sorghum".

## RECENT PUBLICATIONS...

Widhalm, J. R., M.L. Shih, J. A. Morgan, **N. Dudareva**. 2022. Two-way communication: Volatile emission and uptake occur through the same barriers. *Molecular Plant*. **16**(1) 1-3.

Zhang, H., G.Y. Zhang, W.C. Su, Y.T. Chen, Y.F. Liu, D. Wei, Y.X. Zhang, Q. Y. Tang, Y.X. Liu, S.Z. Wang, W.C. Li, A. Wesselius, M.P. Zeegers, Z.Y. Zhang, Y.H. Gu, **W. A. Tao**, E. Y. W. Yu. 2022. High Throughput Isolation and Data Independent Acquisition Mass Spectrometry (DIA-MS) of Urinary Extracellular Vesicles to Improve Prostate Cancer Diagnosis. *Molecules (Base, Switzerland)*. **27**(23):8155.

Kao, D.S., Y. Du, A. G. DeMarco, S. Min, **M.C. Hall**, J. C. Rochet, **W. A. Tao**. 2022. Identification of Novel Kinases of Tau Using fluorescence Complementation Mass Spectrometry (FCMS). *Molecular & Cellular Proteomics: MCP*. **21**(12):10044.

## 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.

January 31- Dr. Chris Lane, University of Rhode Island, Department of Biological Sciences

February 7- Dr. Kyle Cottrell, Purdue University, Department of Biochemistry

February 14- Dr. Andrzej Wierzbicki, the University of Michigan, Department of Molecular, Cellular, and Developmental Biology

\*\*February 22, Dr. Anthony Fitzpatrick, Columbia University, Zuckerman Institute.

February 28- Dr. Peter Beal, University of California, Davis, Department of Chemistry