

DECEMBER 2022 BIOCHEMISTRY NEWS



CONGRATULATIONS TO...



Congratulations to Dr. Andrew Mesecar, Walther Professor in Cancer Structural Biology and Interim Director of the Purdue Center for Cancer Research on the ratification of his appointment as Distinguished Professor in the Department of Biochemistry.

Dr. Mesecar received his B.S. in Chemistry from Purdue University and his Ph.D. in Biochemistry from the University of Notre Dame. He started his faculty career in Medicinal Chemistry & Pharmacognosy at the University of Illinois-Chicago where he was promoted to Full Professor, after which he was successfully recruited to Purdue University as the Walther Professor of Structural Biology and Deputy Director of the Purdue Center for Cancer Research.

Dr. Mesecar is an established intellectual leader in elucidating the molecular mechanisms and functions of key enzymes implicated in health and disease. His publications have influenced the direction of research in a wide range of fields, including particularly substantive impacts in the fields of cancer prevention and coronaviruses including SARS-CoV-2 which caused the COVID-19 pandemic. The impact and scope of Dr. Mesecar's research contributions are reflected in his publication and citation record, which include remarkable numbers such as an h-index of 66, an i10-index of 137, 151 total publications, and 14,036 total citations.

Congratulations to Distinguished Professor Mesecar on this well-earned recognition!



The Department of Biochemistry would like to congratulate **Professor Frederick Gimble** on his retirement after 17 years of service at the University. Professor Gimble earned his B.S. from Tufts University in Biology and Chemistry and his Ph.D. from the Massachusetts Institute of Technology. After completing post-doctoral training at the University of California, Berkeley, and the Baylor College of Medicine, he started his faculty career at the Institute of Biosciences and Technology, which is part of the Texas A & M University System Health Science Center. He joined the Purdue University Biochemistry Department as a faculty member in 2005.

Throughout his career, Professor Gimble has been particularly interested in DNA binding proteins, most notably, homing endonucleases, which can propagate their genes throughout a host population and between species.

Since their discovery, his investigations have contributed to the detailed understanding of the structure and function of this unusual class of endonucleases. Starting in the early 90's, his numerous publications have described the 3D structures, catalytic activities, evolution, and re-engineering of these molecules for novel applications in biotechnology. Professor Gimble used his laboratory research program to mentor many post-doctoral fellows, graduate students, and undergraduates, who have gone on to a variety of professional careers in academia and the biotechnology sector.

Professor Gimble taught several of the graduate and undergraduate courses in the department, including Macromolecules, taken by first-year graduate students from the Departments of Biochemistry, Biology, Medicinal Biochemistry, and Molecular Pharmacology, and from the PULSe interdisciplinary program, as well as by accelerated Biochemistry undergraduate students pursuing their Graduate Certificate in Biochemistry and Molecular Biology. Professor Gimble performed service for the department by acting as its representative on numerous University, College of Agriculture, and Department of Biochemistry committees. For several years, he served as the departmental mentor for the first-year Biochemistry graduate students prior to their joining permanent laboratories.

Please join us in thanking Professor Gimble for his outstanding contributions to his field and to the department through his 17+ years as we wish him well during his retirement.

December Graduates...

Ph.D. Graduates



Kortany Baker
Next Stop: Med Institute West Lafayette
Clinical Project Manager



Ryan Benke
Next Stop: Unknown



Srishti Chakravorty
Next Stop: Postdoc, Merck, San Diego CA.



Youssef Hegazy
Next Stop: Postdoc, Tran lab



Der-Shyang (Leo) Kao
Next Stop: Unknown

B.S. Graduates



Benjamin Caputo
Next Stop: Baylor University
Med school to work in a lab



Skylar Guffey
Next Stop: Unknown



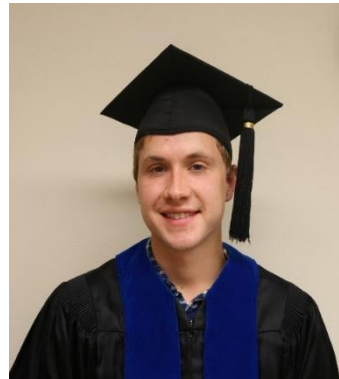
Cameron Matthews
Next Stop: Graduate School
at North Dakota State University



Bram Rasmussen
Next Stop: Unknown



Hannah Rodgers
Next Stop: Unknown



Caden Tuinstra
Next Stop: Attending med school

NEW FACES...



Traci Edmonds recently joined the Biochemistry Department as the Senior Graduate Program Administrator.

I am a double Alum of Purdue University. I received my Bachelor's in Spanish Language and Lit and received my master's in Leadership and Innovation in 2018. I have worked in Higher Edu for 6 years. I taught and developed content for a freshman seminar class and also for Computer science students to help them have a solid foundation to begin their college careers. I also am highly interested in MBTI and my personality type is INFJ. I spend some of my free time destigmatizing the word introvert and providing a better understanding of navigating introverted personality types. I also enjoy learning about different cultures and am an avid traveler. My favorite country I have visited thus far is Madrid, Spain. I live in Lafayette with my fur friend Drake who is an all-black majestic and mischievous cat who is 8 years old.

SAYING GOODBYE...



Iskander Ibrahim joined Puthiyaveetil laboratory in January 2017 as a postdoctoral research associate. At Puthiyaveetil laboratory, Iskander made key discoveries in light- and redox-regulatory pathways of photosynthesis. His contributions include the identification of the iron-sulfur-based redox sensory mechanism of Chloroplast Sensor Kinase, the involvement of phytochrome B in the regulation of plant photosystem I abundance, and the chloroplast gene targets of sigma factor 1. He was also involved in other research projects in the Puthiyaveetil laboratory, including multiple collaborative projects at Purdue. While at Purdue, Iskander has published nine peer-reviewed papers, three manuscripts are currently under review, and two are being prepared for submission. For his research

accomplishments, Iskander won the Department of Biochemistry 2020 Don Carlson Award and the best talk by a postdoctoral researcher award at the 2019 Midwest/Southeast Photosynthesis Conference. Iskander has also been a great mentor to undergraduate and graduate students. Three of his undergraduate mentees have coauthored papers with him. Iskander will be in his Purdue position until the end of January 2023 and is seeking a faculty position in his native UK and elsewhere.

ALUMNI IN THE NEWS...

Robert DiSilvestro, BS 1975, has been named to the editorial board of the *Journal Biological Trace Element Research*.

UNDERGRADUATE NEWS...

Students from BCHM 490, Undergraduate Seminar Poster Session



Two undergraduate students, **Calvin Schiff** and **Tyler Merrill**, the outreach officers for the Biochem club, have been awarded a \$500 grant from the ASBMB to support a new Outreach effort intended to engage high school students.

GOING THE EXTRA MILE...

Dr. Natalia Dudareva traveled to Michigan State University (East Lansing, MI) on November 28 and gave a talk at the Molecular Plant Sciences Seminar series entitled “Plant Volatile Emission: Beyond the Traditional View”.

Dr. Natalia Dudareva was invited by undergraduate students from Northern Michigan University (Marquette, MI) and gave a talk entitled “Sense of Smell: Plant Volatile Emission, Perception and Beyond” at the Medicinal Plant Chemistry Club on December 6th.

Steven McKenzie, Gilbert Kayanja, and **Dr. Sujith Puthiyaveetil** attended the 48th Midwest/southeast Photosynthesis conference at Turkey Run State Park on October 28-30th. Steven presented a poster titled “Post-Translational modifications Mediate Photosystem II Disassembly in Arabidopsis Thaliana”. Gilbert presented a poster titled “Ironing Out Diatom Blooms and Bust”.

SAFETY CORNER...

PURDUE UNIVERSITY Administration Services

WINTER WALKING TIPS

to Avoid Slip and Fall Injuries

- 1 START OFF ON THE RIGHT FOOT**
 Wear appropriate footwear to minimize traction in winter weather. When wearing ice cleats, remember to remove them indoors to avoid slipping. Wear gloves to keep your hands warm and out of your pockets for balance. Use a slow door or mat to provide stability when entering or exiting a vehicle.
- 2 PLAN YOUR ROUTE**
 Adjust your route to walk on cleared and treated surfaces. Walk through buildings or use pedestrian walkways and sidewalks. Exercise caution around traffic as vehicles may need increased stopping distances.
- 3 DON'T OVERDO IT**
 Avoid carrying heavy or awkward loads. Utilize elevator stairs or luggage and backpacks to keep your hands free for balance. Slow down and take shorter steps so you can react to a change in traction more easily.
- 4 BE SMART**
 Use handrails when using stairs or ramps. Consider using grab handles, if available, as outdoor stairs may also be wet. Falls on stairs can lead to severe injuries, especially when slippery conditions are present.

DEMONSTRATIVE VIDEO
 A 3-minute video demonstrating some of these winter walking techniques from the Wyzinging Walkdown Services is available within all Apps (i360) to Campus.

REPORTING UNSAFE CONDITIONS
 Building Services receives press from building entrances, ramps, stairs and sidewalks immediately adjacent to buildings. Please contact the Campus Department at 765-494-3307 regarding snow removal from loading docks, parking areas and main sidewalks.

RECENT PUBLICATIONS...

Simpson, J., **C. Chapple**. 2022. Tag you're it: Application of the stable isotope labeling and LC-MS to identify the precursors of specialized metabolites in plants. *Methods in enzymology*. **676**: 279-303.

Wang, P., L. Guo, J. Morgan, **N. Dudareva**, C. Chapple. 2022. Transcript and metabolite network perturbation in lignin biosynthetic mutants of Arabidopsis. *Plant Physiology* **190**(4): 2828-2846.

Yan, B., C. Wang, S. Chakravorty, Z. Zhang, S. D. Kadadi, Y. Zhuang, I. Sirit, Y. Hu, M. Jung, S. Sahoo, L. Wang, K. Shao, N. L. Anderson, J. L. Trujillo-Ochoa, S. Briggs, X. Liu, M. R. Olson, B. Afzali, B. Zhao, **M. Kazemian**. A Comprehensive single cell data analysis of in lymphoblastoid cells reveals the role of Super-enhancers in maintaining EBV latency. *Journal of Medical Virology*. Online ahead of print.

D.A. Canaria, M. G. Clare, B. Yan, C. B. Campbell, Z. A. Ismaio, N. L. Anderson, S. Park, A. L. Dent, **M. Kazemian**, M. R. Olson. IL-1 β promotes IL-9-producing Th cell differentiation in IL-2-limiting conditions through the inhibition of BCL6. *Frontier in immunology*. eCollection 2022.

Svoboda, V., H.M.O. Oung, H. Koochak, R. Yarbrough, S. D. Mckenzie, **S. Puthiyaveetil**, H. Kirchhoff. 2022. Quantification of energy-converting protein complexes in plant thylakoid membranes. *Biochimica et biophysica acta Bioenergetics*. **1864**(2):14895

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.

December 23-January 2 Winter Break, University is closed

January 12*- Dr. Eyal Maori, University of Cambridge, Department of Biochemistry

January 17- Dr. Mark Hall, Purdue University, Department of Biochemistry

January 24- Dr. Seema Matto, Purdue University, Department of Biological Sciences

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

*This is a joint seminar with Entomology, seminar will be in PFEN 241