



Faculty and Staff Awards and Recognitions

Dr. Lee Hughes is the recipient of the American Society for Microbiology ("ASM") Carski Award for Undergraduate Education, which was awarded in June 2024 at the American Society for Microbiology Microbe 2024 meeting that was held in Atlanta, Georgia. The ASM Carski Award for Undergraduate Education recognizes an educator for outstanding teaching of microbiology to undergraduate students and for encouraging them to subsequent achievement. The award is given in memory of Theodore Carski (1903-2003). You can read more about this award at <https://asm.org/academy/asm-carski-award>



Dr. Lee Hughes



Dr. Rebecca Dickstein

Professor Emerita, **Dr. Rebecca Dickstein** is the recipient of the 2024 Fellow of American Society of Plant Biologists (ASPB) Award. Established in 2007, the Fellow of ASPB award is granted in recognition of distinguished and long-term contributions to plant biology and service to the Society by current members in areas that include research, education, mentoring, outreach, and professional and public service. Current members of ASPB who have contributed to the Society for at least 10 years are eligible for nomination. Recipients of the Fellow of ASPB honor, which is granted to no more than 0.2% of the current membership each year, receive a certificate of distinction and a lapel pin.



Kim Piccolo with Dean Dr. John Quintanilla

Kim Piccolo, Assistant Director and Instructional Lab Manager is the May 2024 recipient of the COS Excellence in Mastering Challenges Continuously ($E=mc^2$) Staff Award. This award recognizes staff for their distinguished track record of conscientious work supporting our faculty, staff, and students. She received a voucher for a free meal at Avesta from Dean John Quintanilla. More on Kim's award can be found at: <https://cos.unt.edu/news/kimberly-piccolo-receives-may-cos-emc2-award>

Student/Research Staff Awards and Scholarships

Kristina Fite, a graduate student working with Drs. Jason Bohenek and Ed Mager, is the recipient of the National Science Foundation Graduate Research Fellowship Program (NSF GRFP) Award. Kristina will be examining the impact of two chemicals, 6PPD and 6PPDQ, on amphibian larvae growth and development. The primary chemical, 6PPD, is used as an anti-degradant in vehicle tires. Its purpose is to extend the life of the tire. Approximately 98% of vehicle tire production use this chemical. Recent studies have shown that 6PPD degrades via UV exposure into other harmful chemicals such as 6PPDQ; 6PPDQ has been shown to be lethal to Coho Salmon populations. Her research will focus on non-game species, amphibians, unlike many other research articles that focuses on game species.



Kristina Fite



Marie Muniz

Marie Muniz, an Ecology for Environmental Science major, who graduated in 2024 with a BS degree, is the recipient of the National Science Foundation Graduate Research Fellowship Program (NSF GRFP) Award. Marie will start graduate studies to pursue a Masters of Science in Entomology at Penn State University.

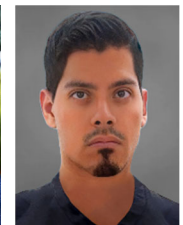
Fulbright U.S. Student Program Award: **Javier Garcia Vazquez** is the recipient of the Fulbright English Teaching Assistant Award to Taiwan, **Matthew Nguyen** was selected for the Fulbright English Teaching Assistant Award to Vietnam and **Michael Lewis** was selected for the Fulbright English Teaching Assistant Award to Mexico. Established in 1946, the Fulbright Program represents the flagship international educational exchange program sponsored by the U.S. government. The Fulbright U.S. Student Program provides about 2,100 U.S. citizens annually with the opportunity to study, conduct research, and/or teach in more than 130 countries around the world. Fulbright recipients are selected based on their academic and professional achievement, record of service, and leadership potential. Selected Fulbright recipient indicates exceptional academic accomplishments, dedication to education, and commitment to international service.



Javier Garcia

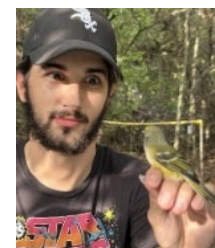


Matthew Nguyen



Michael Lewis

John Morrow, an Ecology for Environmental Science major (2024), was awarded the UNT Society for Ecological Restoration (SER) Service Award by majority vote of the UNT SER general membership.



John Morrow



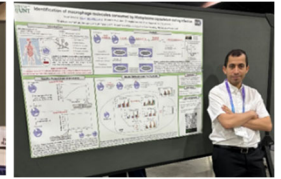
Adrian Heckart

Adrian Heckart, MS student in Dr. Ana Alonso's Lab, received the American Society of Microbiology (ASM) Student and Postdoctoral Travel Award (\$1,000). Sponsored by ASM and determined by the ASM Microbe Program Committee. This award recognizes outstanding abstracts submitted by students and postdocs advancing research in one of the eight ASM Microbe's scientific tracks. Additionally, Adrian received a UNT College of Science Graduate Student Travel Award (\$500), and a BioDiscovery Institute Travel Award (\$500) to attend and present at the ASM in June 2024.

Debasish Ghosh received the College of Sciences Summer Travel award, Toulouse Graduate School Summer travel award and IROA Technologies LLC travel award to present at the American Society of Mass Spectrometry annual meeting in Anaheim, CA. He is a graduate student in Dr. Vladimir Shulaev's Lab.



Debasish Ghosh



Dr. Salim Makni

Dr. Salim Makni, postdoctoral researcher in Dr. Ana Alonso's Lab, received a BioDiscovery Institute Travel Award (\$1,000) to attend and present at the ASM in June 2024.

Department of Biological Science's Outstanding Teaching Assistant Awards

Congratulations to the Department of Biological Sciences Outstanding Teaching Assistant (OTA) / Graduate Services Assistant Awardees of 2024. The OTA, which is awarded annually, recognizes the excellence of our graduate students employed as Teaching Assistants and/or Graduate Services Assistants for their outstanding service in our undergraduate laboratory courses and/or similar supportive role. These OTA's, who are nominated by the Teaching Lab Supervisors, participated in all aspects of the laboratory offering, including review of the manual, laboratory preparation, teaching in the labs, and proctor grading for the laboratory assignments and exams, as well as exams in the associated lecture course. The winners of the 2024 OTA: **Jolene Dunbar**, her Major Advisor and Faculty Supervisor is Jannon Fuchs. **Sanchi Dhinoja**, her Major Advisor and Faculty Supervisor is Pudur Jagadeeswaran. **Jose Robledo**, his Major Advisor and Faculty Supervisor is Pamela Padilla. **Saifun Nahar**, her Major Advisor and Faculty Supervisor is Pamela Padilla. **Manuel Ruiz**, his Major Advisor and Faculty Supervisor is Pamela Padilla.



Outstanding Teaching Assistant Awardees with their major professors



Photos from the Outstanding TA award luncheon

Spring 2024 Graduate Commencement

Congratulations to the students who earned their Ph.D. and walked at the Commencement. **John Evers**, his major professor was Dr. Brian Ayre, **Wendy Pace**, her major professor was Dr. Joseph Oppong, **Moon Twayana** her major professor was Dr. Jyoti Shah, **Weam Fallatah**, her major professor was Dr. Pudur Jagadeeswaran, **Jonathan (David) Elliott**, his major professor was Dr. Jannon Fuchs, **Supuni Thennakoon Mudalige Silva**, her major professor was Dr. Rudi Thompson and **Manuel Ruiz**, (not in the picture) his major professor was Dr. Pamela Padilla.



Spring 2024 Graduate Commencement attendees

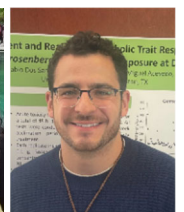
Thesis and Dissertation

Congratulations to our graduate students who successfully defended their thesis/dissertation.

Arya Mohanan successfully defended her MS thesis titled "Diversity Patterns of Chilean Tardigrades: Exploring Alpha and Beta Diversities at Multiple Spatial Scales". Her major advisor was Jaime E. Jiménez. Arya will be continuing her Ph.D. studies in Biology in the Department of Biological Sciences at UNT, with Dr. Juliana D'Andrilli as her major advisor.



Arya Mohanan



Cameron Emadi

Cameron Emadi successfully defended his Ph.D. dissertation titled, "Physiological Impacts of Anthropogenic-Induced Stressors on Freshwater Animals". His major advisor was Dr. Edward Mager. Cameron will be moving to Canada this Fall to do a Post Doc with Dr. Chris Wood and Dr. Colin Brauner at The University of British Columbia.

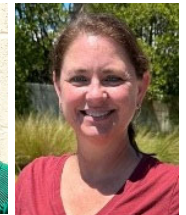
Ishani Mahawaththa successfully defended her MS thesis titled, "Diversity Patterns of Tardigrades Assemblages in Forested Landscapes of Southern Chile: Associations and Biogeographical Implications". Her major advisor was Dr. Jaime E. Jimenez. She will pursue Ph.D. in Biology at the Department of Biological Sciences starting Fall 2024.



Ishani Mahawaththa



Weam Fallatah



Jennifer Mittelhauser

Jennifer Mittelhauser successfully defended her Ph.D. dissertation titled "Effects of cattle disturbance on aquatic macroinvertebrates in Missouri farm ponds". Jennifer currently works at the University of Central Missouri in Warrensburg, MO as a Senior Instructor and coordinator of the Ecology Program in the Department of Biological and Clinical Sciences. Her major professor was Dr. James Kennedy.

Weam Fallatah successfully defended her Ph.D. dissertation titled "Studies on zebrafish thrombocytes". Her major advisor was Dr. Pudur Jagadeeswaran. She will be joining King Saud bin Abdulaziz University for Health Sciences (KSAU-HS) in Saudi Arabia as an Assistant Professor.

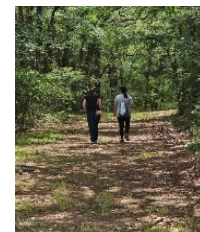
Vaidehi Pusadkar successfully defended her Ph.D. dissertation titled "Towards more robust metagenome profiling: modeling and analysis". She is currently working at Caris Life Sciences in Texas, a precision oncology-based industry as a Data scientist. Her major professor was Dr. Rajeev Azad.

Faculty and Staff News

The Department of Biological Sciences held its Faculty & Staff Retreat on May 3rd, 2024, at the Lone Oak Ranch & Retreat in Gainesville. At this retreat, which started with a meet & greet session and an update on the Science and Research Building Construction by VPRI Dr. Pam Padilla, 51 faculty & staff worked together on various topics, including steps to improve the Faculty Annual Review process and Staff Performance Evaluation, improve collaboration between faculty & staff, develop the department's next strategic plan, enhancing our Graduate Program and increasing opportunities for undergraduates to participate in research, the department structure and steps to expand interactions within the department.



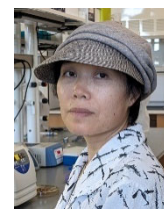
2024 Faculty and Staff May Retreat



2024 Faculty and Staff May Retreat at the Lone Oak Ranch & Retreat in Gainesville

Faculty and Staff Appointments

Lishuang Zhu has joined the Department of Biological Sciences as a Research Scientist I. She received her Master's degree in History from Peking University in China and briefly worked as an editor at a publishing house. Later, she worked as a Research Assistant at the University of Connecticut Health Center and as a Researcher I at Southern Illinois University School of Medicine. Lishuang is interested in researching the molecular mechanisms of synaptic transmission using the nematode *Caenorhabditis elegans* as a model organism.



Lishuang Zhu



Dr. Reena Sharma

Dr. Reena Sharma joined the Department of Biological Sciences and the BioDiscovery Institute (BDI) as a Postdoctoral Researcher in Dr. Brian Ayre's Laboratory where she will work on a USDA-funded project studying plant development. Dr. Sharma obtained her Ph.D. in Molecular and Biological Agricultural Sciences from Academia Sinica, Taiwan, and she has postdoctoral experience from the University of Tennessee, Knoxville, and the Brookhaven National Laboratory, New York. Her previous projects include transcriptomic analyses of bioenergy crops such as sorghum and poplar, plant-microbe interactions, and exploring transcription factors involved in iron biofortification and phytoremediation.

Dr. Samara (Sam) Cahill has joined the Department of Biological Sciences and the BioDiscovery Institute as a Proposal Manager. She received her BA from the University of Texas at Austin and her PhD from the University of Notre Dame. Dr. Cahill worked as a member of the research faculty in the School of Humanities at Nanyang Technological University, Singapore, for almost a decade. In addition to her academic publishing, grant writing, and editing in the Humanities, she most recently worked as a Research Development Officer supporting grant proposals for faculty associated with the Texas A&M University Engineering Experiment Station (TEES) and College of Engineering.



Dr. Samara Cahill

Outreach Activities

The **UNT Society for Ecological Restoration (UNT SER)** grew and installed aquatic plants in the Diamond Eagles Community Learning Area retention pond at Discovery Park. This effort was led by the Pond Plant Team, who received a grant (\$7,589.08) from the We Mean Green Fund for supplies.

UNT Bee Campus has been busy bees planting plants and installing native bee hotels around campus. We Mean Green Fund grants were used to purchase native Texas bee-supportive plants and hotel supplies. The Native Bee Initiative sites include areas around the ENV, Willis, DATCU Stadium, and the Pollinative Prairie. You can read more here <https://news.unt.edu/news-releases/cultivating-buzz-campus-bee-boxes>.



Aquatic plants installation by The UNT Society for Ecological Restoration (SER)



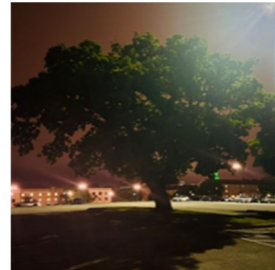
UNT Bee Campus planting plants and installing native bee hotels.

The 2nd Bi-annual From Dawn to Dusk was a fun-filled day of nature celebration at the Pollinative Prairie and Diamond Eagles Community Learning Area. Friends from **UNT Society for Ecological Restoration (SER)**, **UNT Bird Campus Committee (BCC)**, and **UNT Native American Student Association (NASA)** went on a bird walk, learned about Indigenous culture, installed three bird nesting boxes, & circled around for musical performances and guitar jam.



UNT SER, UNT BCC and UNT NASA went on a bird walk.

The **UNT Society for Ecological Restoration (SER)** & the **UNT Native American Student Association (NASA)** led multiple end-of-life celebrations for the three Post Oaks that will be harvested for the new Science and Technology Building. The largest diameter-breast-height Post Oak is among the trees to be removed. An art project team has received \$15,000 in funding to utilize the wood for public art.



End-of-life celebrations for the three Post Oaks by UNT SER and UNT NASA

UNT Society for Ecological Restoration (SER) Undergraduate Students News: Congratulations to UNT SER and Undergraduate Ecology for Environmental Science majors receiving internships or Research Experiences for Undergraduates (REU) this summer. **Nicholas Medina** received REU at USGS, **Faith LaBry** received internship at Great Plains Pollinator, **Jonothon Cantu** received REU at Rocky Mountain Biological Laboratory, and **Jada Martinez** received REU and The Native Plant Society of Texas (NPSOT) Scholarship at Morton Arboretum. **Calvin Nering** received internship at Fort Worth Parks and Recreation Natural Resources, **Reilly Chavous** received internship at Botanical Research Institute of Texas, **Anastasia Baron** received Begonia Photography Internship with the Fort Worth Botanical Gardens, and **Leena Rossel** received REU at Kansas State University. **Abbey Schedler** received REU at Wrigley Marine Science Institute, **Julian Moore** received internship at Fort Worth Botanical Garden, and **Kasidi Heiens** received internship at Tarrant Regional Water District.



Nicholas Medina



Faith LaBry,
Jonothon Cantu and
Jada Martinez



Calvin Nering and
Reilly Chavous



Anastasia Baron



Leena Rossel



Abbey Schedler



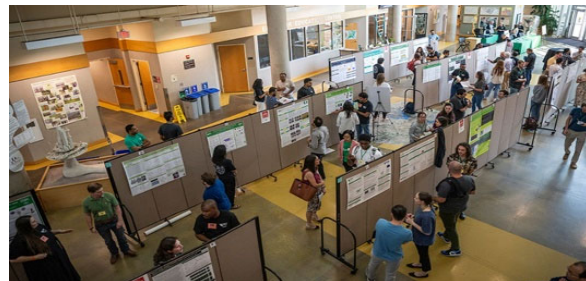
Julian Moore



Kasidi Heiens

Biology Research in the News

BIODISCOVERY RESEARCH EXPO. The BioDiscovery Institute (BDI) kicked off the summer break with its inaugural BioDiscovery Research Expo, which featured nearly 50 student researchers as well as professionals from the biotechnology industry. Plant-based alternative fuels, environmentally friendly sunscreen ingredients and better early diagnoses for Alzheimer's disease were just a few of the research topics showcased. Keynote speaker Dr. Joan Bennett, a Distinguished Professor at Rutgers University and a new BDI Executive Advisory Board member, focused on the underrepresentation of women in STEM fields and ways to change that. And an industry panel talked about what to expect in an industry job and gave interviewing tips. One very good piece of advice they shared: Learn how to explain a research project to people without scientific backgrounds. Read the full article and find out more about the research expo at <https://news.unt.edu/news-releases/unts-biodiscovery-institute-spotlights-sustainable-research-inaugural-event>



BDI Research Expo

Extramural Grants and Contracts

City of Corinth Blue-Green Infrastructure Undergraduate Internship. Jaime Baxter-Slye and Paul Hudak. Public Works Department. Provide internships to UNT undergraduates to construct green infrastructure and education. \$30,000.

Linking Ranch Management to Pollinator Conservation. Dixon Water Foundation PI: Lichtenberg, \$74,480.

UNT Vulture Cam! A UNT Bird Campus Committee live camera installation at Discovery Park to document breeding Black Vultures. We Mean Green Fund. Ashley Giron, John Morrow, Isabelle Sweatt, Mack Davis, Aquilla Buchanan, Breanna Ross, and Jaime Baxter-Slye. \$5,748

UNT Vulture Cam! A UNT Bird Campus Committee live camera installation at Discovery Park to document breeding Black Vultures. Audubon on Campus. Ashley Giron, John Morrow, Isabelle Sweatt, Mack Davis, Aquilla Buchanan, Breanna Ross, and Jaime Baxter-Slye. \$5,748.

Publications

Arias-Gaguancela O, Herrell E, Chapman KD. *Ex vivo* lipidomics reveal monoacylglycerols as substrates for a fatty acid amide hydrolase in the legume *Medicago truncatula*. *FEBS Lett.* 2024 Jun 3. <https://doi.org/10.1002/1873-3468.14944>

De R, Jani M, Azad RK. DICEP: An integrative approach to augmenting genomic island detection. *J Biotechnol.* 2024 Jun 10; 388:49-58. doi: 10.1016/j.jbiotec.2024.04.011. Epub 2024 Apr 17. PMID: 38641137

Emadi, C. M., Bean, P. T. & Mager, E. M. (2024). Swimming Performance Assessments of Fish Species of Greatest Conservation Need to Inform Future Stream Crossing Designs in Texas. *Fishes*, 9(6), 234. <https://doi.org/10.3390/fishes9060234>

Ferreira, S.S., Antunes, M.S. (2024) Genetically encoded Boolean logic operators to sense and integrate phenylpropanoid metabolite levels in plants. *New Phytologist*, 243(2): 674-687. <https://nph.onlinelibrary.wiley.com/doi/10.1111/nph.19823> (PMID: 38752334)

Cannon AE, Horn PJ. The Molecular Frequency, Conservation and Role of Reactive Cysteines in Plant Lipid Metabolism. *Plant Cell Physiol.* 2024 Jun 27;65(6):826-844. doi: 10.1093/pcp/pcad163. PMID: 38113384

Jara RF, Jiménez JE, Rozzi R. White-crested elaenias (*Elaenia albiceps chilensis*) breeding across Patagonia exhibit similar spatial and temporal movement patterns throughout the year. *PLoS One.* 2024 Apr 18;19(4): e0299954. doi: 10.1371/journal.pone.0299954. eCollection 2024.

Johnston CR, Horn PJ, Alonso AP. First draft reference genome and annotation of the alternative oil species *Physaria fendleri*. *G3 (Bethesda).* 2024 May 28; G3 Genes|Genomes|Genetics, jkae114, <https://doi.org/10.1093/g3journal/jkae114>

Lau N, Macias V. Transposon and Transgene Tribulations in Mosquitoes: A Perspective of piRNA Proportions. *DNA.* 2024; 4(2):104-128. NIHMSID: NIHMS2005567. doi: 10.3390/dna4020006.

Lima L, Berni M, Mota J, Bressan D, Julio A, Cavalcante R, Macias V, Li Z, Rasgon JL, Bier E, Araujo H. Gene Editing in the Chagas Disease Vector *Rhodnius prolixus* by Cas9-Mediated ReMOT Control. *CRISPR J.* 2024 Apr;7(2):88-99. doi: 10.1089/crispr.2023.0076.

Martinez-Baustia, G., Padilla, P., Burggren, W. (2024). Basis for morphological variation in the Zebrafish *Danio rerio*: Insights from a low heterozygosity line. *Fishes*. 9(5), 164. doi.org/10.3390/fishes9050164.

Skellam, E., Rajendran, S., Li, L. (2024) Combinatorial biosynthesis for the engineering of novel fungal natural products. *Communications Chemistry.* 7:89. <https://www.nature.com/articles/s42004-024-01172-9>

Song Y, Yu K, Zhang S, Li Y, Xu C, Qian H, Cui Y, Guo Y, Zhang X, Li R, Dixon R.A. and Lin, J. (2024). Poplar glutathione S-transferase *PtrGSTF12* contributes to reactive oxygen species scavenging and salt tolerance. *Plant Physiology and Biochemistry* 212: 108766.

Trimpin S, Inutan ED, Pagnotti VS, Karki S, Marshall DD, Hoang K, Wang B, Lietz CB, Richards AL, Yenchick FS, Lee C, Lu IC, Fenner M, Madarshahian S, Saylor S, Chubatyi ND, Zimmerman T, Moreno-Pedraza A, Wang T, Adeniji-Adele A, Meher AK, Madagedara H, Owczarzak Z, Musavi A, Hendrickson TL, Peacock PM, Tomsho JW, Larsen BS, Prokai L, Shulaev V, Pophristic M, McEwen CN. (2024) Direct sub-atmospheric pressure ionization mass spectrometry: Evaporation/sublimation-driven ionization is amazing, fundamentally, and practically. *J Mass Spectrom.* 2024 Jun;59(6):e5018. doi: 10.1002/jms.5018. <https://analyticalsciencejournals.onlinelibrary.wiley.com/doi/10.1002/jms.5018>

Oral Presentations

An effective strategy for improving hydroxy- fatty acid production by *Physaria fendleri*. BioDiscovery Institute (BDI) seminar series. University of North Texas, Denton, TX. April 15, 2024. Talk by Julius Ver Sagun (Post-doc).

An effective strategy for improving hydroxy- fatty acid production by *Physaria fendleri*. BDI Expo. University of North Texas, Denton, TX. May 15, 2024. Talk by Julius Ver Sagun (Post-doc).

An evaluation of chironomid pupal exuviae technique (CPET) as an indicator of environmental quality in stormwater retention ponds along an urban gradient. Society for Freshwater Science Annual meeting, Philadelphia 2-7 June 2024. Invited Talk presented by Davis, Kaitlynn, Co-author Kennedy, James.

Carbon dioxide metabolism in the methanotroph *Methylococcus capsulatus* Bath, Denton, Texas. April 1, 2024, Seminar, BioDiscovery Institute Seminar by Yao-Chuan Yu.

Carbonic anhydrase expression improves carbon conversion efficiency in the biocatalyst *Methylococcus capsulatus* str. Bath, Denton, Texas. April 1, 2024, BioDiscovery Institute Seminar by Spencer Lee.

Enhancing the Production of Industrially-Relevant Fatty Acids in Alternative Crops through a Multi-Omics Approach. Plant Biology 2024, Honolulu, HI, June 22-26, 2024. Invited Talk by Dr. Ana P. Alonso. Co-authors: J.-C. Cocuron, E. Tsogtbaatar, A. Rasoul, J. LaChance, C. Johnston, J. Sagun.

ER-PM contact site regulate plasmodesmal localization of a green peach aphid resistance protein in Arabidopsis. BDI Expo, UNT, Denton, TX, May 15 2024. Talk by Dr. Anil Girija. Coauthors: Shreya Nair, Siddhartha Shah, Beatriz Alapatt, Jyoti Shah.

Functional and structural studies of an iron transporter from *Medicago Truncatula* that is essential for nodulation. 26th North American Symbiotic Nitrogen Fixation Conference. Burlington, Vermont. June 3-6, 2024. Invited Talk. Presenter: Antonella Longo

Genetically encoded Boolean logic operators to sense and integrate phenylpropanoid metabolite levels in plants. Plant Biology 2024 in Honolulu, HI, June 22-26, 2024. Concurrent symposium talk by Dr. Savio S. Ferreira. Co-author, Mauricio S. Antunes.

Greenhouse-based production of fungal-derived medicines. 4th Synthetic Biology of Natural Products Conference, Cancun, Mexico, May 10, 2024. Talk by Dr. Sanjeevan Rajendran. Co-authors, Sameera Jayasundara, Sanjeevan Rajendran, Antoine Gaelle Emilie, Amy Petros, Cai Yingqi, Chapman Kent, Skellam Elizabeth.

Interweaving Paths: Microbiology Education, Research, and Phages. Lee Hughes. American Society for Microbiology Microbe 2024, Atlanta, GA. June, 2024. Invited Talk for 2024 ASM Carski Award for Undergraduate Education.

Investigating the regulatory role of miRNA-encoded peptides in plant nutrient homeostasis, Denton, Texas. April 22, 2024, BioDiscovery Institute Seminar by Jesseca Hemminger.

Mapping the Biosynthesis of Industrially Relevant Fatty Acids: Insights from ¹³C-labeling in Alternative Crops. 2024 AOCs Annual Meeting & Expo, April 20-May 1, 2024. Invited Talk by Dr. Ana P. Alonso. Co-authors: J.-C. Cocuron, E. Tsogtbaatar, A. Rasoul, C. Johnston.

Mechanism of resistance to Fusarium head blight conferred by knockdown of 9-Lipoxygenase (9-LOX) in wheat, Denton, Texas. April 22, 2024, BioDiscovery Institute Seminar by Isha Mittal.

Lignin modification- problems around plant cell wall engineering for biomass utilization. Division of Plant Science and Technology, University of Missouri, Columbia. June 5, 2025. Invited talk by Dr Richard Dixon.

Mapping the Pathways Leading to Industrially Relevant Fatty Acid Synthesis in *Physaria fendleri*. USDA-Project Director's Meeting, Honolulu, HI, June 26-27, 2024. Talk presented by Dr. Ana P. Alonso.

Mechanism of resistance to Fusarium head blight conferred by knockdown of 9-Lipoxygenase (9-LOX) in wheat. BDI Seminar, UNT, Denton, TX, April 2024. Talk by Isha Mittal. Coauthor: Syeda Alam, Jyoti Shah.

Metabolomic Analysis on *Histoplasma capsulatum* Reveals Pathogenic Mechanisms. BioDiscovery Institute Research EXPO, Denton, TX, May 15, 2024. Talk presented by Adrian Heckart. Co-authors Dr. Stephanie Ray, Jean-Christophe Cocuron, Dr. Chad Rappleye, and Dr. Ana Paula Alonso. *Best Oral Presentation for Biochemistry & Molecular Biology.

Multi-omics Approach to Enhance Oil Production in Alternative Crops. Department of Biochemistry, Purdue University, West Lafayette, IN, April 16, 2024. Invited Talk by Dr. Ana P. Alonso.

My life with lignin: a love-hate relationship with the world's second most abundant biopolymer, Denton, Texas. April 29, 2024, BioDiscovery Institute Seminar by Richard Dixon.

Presence in human-made Ponds Influences Insect-mediated MeHg Flux. Society for Freshwater Science Annual meeting, Philadelphia 2-7 June 2024. Talk Presented by Hannappel, Maddy. Co-Authors, Chumchal, Matthew, Drenner, Ray, Kennedy, James, Freeman, Lex, and Barst, Benjamin.

Reprogramming plant metabolism with synthetic transcriptional and post-transcriptional genetic circuits. Department of Biology, Texas Woman's University, Denton, TX. April 2024. Invited seminar by MS Antunes.

Survey of estrogenic endocrine disruption in an aquatic ecosystem by mass spectrometry-based proteomics using *Hyalella azteca* a s model organism. 40th Informal Meeting on Mass Spectrometry, Budapest, Hungary, May 2024.

Oral presentation by Marcel Prokai, a graduate student in Dr. Shulaev Lab. Co-authors: Khadiza Zaman and Vladimir Shulaev.

The Significance of Taxa resolution of Chironomidae in Urban Semi-Arid Stormwater Ponds. Society for Freshwater Science Annual meeting Philadelphia 2-7 June 2024. Invited Talk presented by Moore, Sabrina, Co-authors Kennedy, James and Kathryn Kline.

Understanding mechanisms allowing the infection of macrophages by *Histoplasma capsulatum*, Denton, Texas. April 15, 2024, BioDiscovery Institute Seminar by Salim Makni.

Using Chironomidae Genera to Distinguish Macroinvertebrate Responses to differing Habitat regimes in Restored SAV in Austin, Texas. Society for Freshwater Science Annual meeting, Philadelphia 2-7 June 2024. Invited Talk presented by Vasquez, Katie. Co-Author Kennedy, James.

Conference Poster Presentations

- Alatoum, M., Shah, J. Abietane diterpenoids contribute to the induction of systemic acquired resistance in plants. Poster presented by Mohammad Alatoum at the BioDiscovery Institute Expo, UNT, Denton, TX; May 15, 2024
- Alonso, A.P., Cocuron, J.-C., LaChance, J., Sagun, J. (2024) Enhancing the Production of Industrially-Relevant Fatty Acids in Alternative Crops through a Multi-Omics Approach. Plant Biology 2024, Honolulu, HI.
- Longo, A., Cai, J., Dickstein, R. (2024). Functional and structural studies of an iron transporter from *Medicago Truncatula* that is essential for nodulation. 26th North American Symbiotic Nitrogen Fixation Conference. Burlington, Vermont. June 3-6, 2024.
- Ghosh, D, Zaman, K, Prokai, L, and Shulaev, V (2024) Understanding early proteomic response of *Saccharomyces cerevisiae* to different oxidants using label-free comparative proteomics analysis. 72nd American Society of Mass Spectrometry Annual Meeting, Anaheim, CA, June 2-6, 2024
- Ghosh, D, Shulaev, V, Beecher, C, de Jong, F. (2024) MSTUS sample-to-sample normalization has an interesting anomaly, yielding better normalizations. 72nd American Society of Mass Spectrometry Annual Meeting, Anaheim, CA, June 2-6, 2024
- Ghosh, D, de Jong, F, Beecher, C, Shulaev, V. (2024). An improvised method for simplified simultaneous quantitation of the constituents of a chemically complex mixture. 72nd American Society of Mass Spectrometry Annual Meeting, Anaheim, CA, June 2-6, 2024
- Ghosh, D, Zaman, K, Liegmann, K, Shofran, B, Prokai, L, and Shulaev, V. (2024) Improved workflow for global comparative proteomics by LC-MS/MS after automated high-pH reversed-phase peptide fractionation using solid-phase extraction cartridges. 72nd American Society of Mass Spectrometry Annual Meeting, Anaheim, CA, June 2-6, 2024
- Ghosh, D, de Jong, F, Beecher, C, and Shulaev, V. (2024). An improvised method for simplified simultaneous quantitation of the constituents of a chemically complex mixture. Metabolomics 2024, the 20th Annual International Conference of the Metabolomics Society, Osaka, Japan, June 16-20, 2024
- Heckart, A., Ray, S.C., Cocuron, J.C., Rappleye, C.A., Alonso, A.P. (2024) Metabolomic Analysis on *Histoplasma capsulatum* Reveals Pathogenic Mechanisms, BioDiscovery Institute Research EXPO, Denton, TX.
- Heckart, A., Ray, S.C., Cocuron, J.C., Rappleye, C.A., Alonso, A.P. (2024) Metabolomic & Transcriptomic Analysis on *Histoplasma capsulatum* Reveals Pathogenic Mechanisms, American Society of Microbiology Microbe 2024, Atlanta, GA. *Selected for Poster Spotlight Presentation.
- LaChance, J., Antunes, M., and Alonso, A.P. (2024). Unraveling Metabolic Patterns in Developing *Physaria fendleri* Embryos, a Promising Alternative Oilseed Crop Rich in Hydroxy Fatty Acids. BioDiscovery Institute Research EXPO, University of North Texas, Denton, TX.
- Makni, S., Ray, S., Cocuron, J.C., Rappleye, C., and Alonso, A.P. (2024). Identification of the macrophage molecules consumed by *Histoplasma capsulatum* during infection. BDI Research Expo, University of North Texas, Denton, Texas.
- Makni, S., Ray, S., Cocuron, J.C., Rappleye, C., and Alonso, A.P. (2024). Identification of the Macrophage Molecules Consumed by *Histoplasma Capsulatum* During Infection. American Society for Microbiology 2024, June 13-17, Atlanta, Georgia.
- Mittal, I., Alam, S., Berg, K., Dong, Y., Trick, H. N., Kolomiets, M., Scofield, S., Shah, J. Dual RNA-sequencing to decipher the molecular mechanism underlying the Lpx3-knockdown-conferred resistance against *Fusarium graminearum*. Poster presented by Isha Mittal at the BioDiscovery Institute Expo, UNT, Denton, TX; May 15, 2024
- Okororie, I., Trujillo Soto, L., Verma, T., Hunt, R., Sulaiman, A., and Hughes, L.E. (2024). Isolation and Characterization of Three Phages infecting *Streptomyces baarmensis*. Poster. 16th Annual SEA-PHAGES Research Symposium (Virtual).
- Porter, S., Reyes, N., Lundy, P., Johnson, C., Sulaiman, A., and Hughes, L.E. (2024). Isolation, Characterization, and Genome Annotation of North Texas *Streptomyces baarmensis* bacteriophages ElGato, Jevington, and Samora. Poster. 16th Annual SEA-PHAGES Research Symposium (Virtual).
- Rajendran, R., Dankwah, N., Skellam, E. (2024). Investigation of Mycosporine-like Amino Acid Biosynthesis in *Aspergillus clavatus*. BDI Research Expo 2024, BioDiscovery Institute, University of North Texas.
- Rasoul, A., Johnston C., Alonso, A.P. (2024). Pennycress Powerhouse: Tailoring Fatty Acids for Jet Fuel Production. Biodiscovery Institute Research Expo, University of North Texas, Denton, Tx, United States of America.
- Sagun, J.V., LaChance, J., Wallace, M., Guzha, Chapman, K.D., and Alonso, A.P. (2024). An effective strategy for improving hydroxy- fatty acid production by *Physaria fendleri*. BioDiscovery Institute Research EXPO, University of North Texas, Denton, TX, May 15, 2024.
- Shugart, James, Vasquez, Katie and Kennedy, James. Chironomid-Plant Relationships in Response to Revegetation in Lake Austin and Lady Bird Lake. Society for Freshwater Science Annual meeting, Philadelphia 2-7 June 2024
- Shulaev, V. Ghosh, D. Faden, G, andFaden, E (2024) Targeted metabolic profiling of tryptophan, tyrosine and branched chain amino acid metabolism. 72nd American Society of Mass Spectrometry Annual Meeting, Anaheim, CA, June 2-6, 2024

BIOsphere is a quarterly newsletter of the Department of Biological Sciences, University of North Texas

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