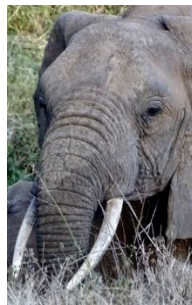
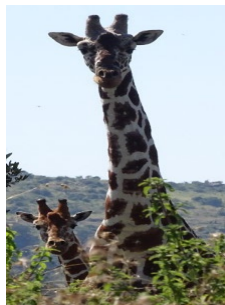




Awards and Recognition



Biological Sciences alum Dr. Ramiro Crego accepted a post-doctoral position at the Conservation Ecology Center with the Smithsonian Conservation Biology Institute. Dr. Crego is conducting an internship at the famous Mpala Research Center in Laikipia, Kenya. Lecturing on spatial modeling and wildlife management to local and international scientists; researching movement patterns of large game including elephants, giraffes, etc. Pictures by Dr. Crego.

Congratulations to **Dr. Vladimir Shulaev** on being named a 2018 Highly Cited Researcher by Clarivate Analytics (formerly Thomson Reuters). In addition, **Dr. Khadiza Zaman**, a recent PhD graduate from Dr. Shulaev's Lab took a Postdoctoral Research Associate position at the UNT Health Science Center in Fort Worth, TX. Dr. **Feroza Kaneez Choudhury**, another PhD graduate student from Dr. Shulaev's Lab, has joined Washington University in St. Louis as a Postdoctoral Research Associate, and **Dr. Manoj Ghaste** was hired as a Postdoctoral Research Associate at Purdue University. We wish them continued success in their career choices.

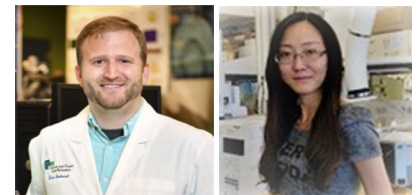


Dr. Vladimir Shulaev Heather Tunnell

Congratulations to **Heather Tunnell**, Advising Assistant in the Department of Biological Sciences, for receiving the 2019 UNT Star Performer Award. This competitive award recognizes staff members who have made outstanding contributions to the University in meeting its' strategic goals.

December 2018 Biology Graduates

Drew Sturtevant and **Yingqi Cai** both completed their PhD degrees in Regents Professor Dr. Kent Chapman's lab. Dr. Cai has joined Dr. John Shanklin's lab at the Brookhaven National Laboratory in Long Island, NY while Dr. Sturtevant is a post-doc in Helen Hobbs' lab at UT Southwestern. We will miss them and wish them both the best in their future careers. **Dr. Kelly Albus** has accepted employment within the Biology Department as an Adjunct Professor. The following students also graduated with PhD's: **Dr. Andrew Barker** in Drs. Wolverton & Venables Labs. **Dr. Lauren Jones** in Dr. Kunz Lab; **Dr. Divya Premraj** in Dr. Thompson Lab; **Dr. Jeffrey Whitt** in Dr. Johnson's Lab. In special recognition: **Hongyan Wang** who graduated with a MA in Biology. Congratulations everyone!



Dr. Drew Sturtevant

Dr. Yingqi Cai

Extramural Grants and Contracts

Development of resources and tools to improve oil content and quality in pennycress. DOE. PI: Ana Paula Alonso (University of North Texas, \$474,390); co-PIs: Grotewold (Michigan State University), Shah (The Ohio State University); \$837,154 total funding.

Systems approach to understanding and improving industrial oil biosynthesis in an emerging crop *Physaria fendleri*. USDA-NIFA. PI: Alonso. co-PI: Bates (Washington State University), \$198,316 total funding.

Recent Publications

Barros-Rios, J., Temple, S. and Dixon, R.A. (2018) Development and commercialization of reduced lignin alfalfa. *Current Opinion in Biotechnology* 56, 48-54.

Chen, F. and Dixon, R.A. (2018) *Vanilla planifolia*- the source of the unexpected discovery of a new lignin. In: Handbook of Vanilla Science and Technology, Ed. Havkin-Frenkel, D. and Belanger, F. Wiley. <https://doi.org/10.1002/9781119377320.ch25>

Choudhury FK, Devireddy A, Azad R, Shulaev V, Mittler R. (2018) Local and systemic metabolic responses during light-induced rapid systemic signaling. *Plant Physiol.* 2 doi: 10.1104/pp.18.01031. <http://www.plantphysiol.org/content/178/4/1461.long>

Cocuron, J-C., Casas, M.I., Yang F., Grotewold, R., Alonso, A.P. (2018) Beyond the wall: High-throughput quantification of plant soluble and cell wall bound phenolics by liquid chromatography tandem mass spectrometry. *J Chromatogra A*.doi:10.1016/j.chroma.2018.12.059

Crego, R.D., Jiménez, J.E. & Rozzi, R. (2018) Macro- and micro-habitat selection of small rodents and their predation risk perception under a novel invasive predator at the southern end of the Americas. *Mammal Research* 63: 267-275. DOI: 10.1007/s13364-018-0361-5

Crego, R.D., Jiménez, J.E. & Rozzi, R. (2018) Potential niche expansion of the American mink invading a remote island free of native-predatory mammals. *Plos One* 13: p.e0194745 DOI: 10.1371/journal.pone.0194745

Crego, R.D., Ward N., Jiménez, J.E., Massardo, F. & Rozzi, R. (2018) The eyes of the tree: perceiving, monitoring, understanding, and countering biological invasions in times of quick bio-cultural homogenization. *Magallania* (Chile) 46:137-153.

Davis, G., Lucero, J., Fellers, C., McDonald, J.D., Lund A.K. (2018) The effects of subacute inhaled multi-walled carbon nanotube exposure on signaling pathways associated with cholesterol transport and inflammatory markers in the vasculature of wild-type mice. *Toxicology Lett.* 296:48-62. <https://www.sciencedirect.com/science/article/pii/S0378427418316813?via%3Dihub>

Dixon, R.A. (2018) Vanillin Biosynthesis-still not as simple as it seems. In: Handbook of Vanilla Science and Technology, Ed. Havkin-Frenkel, D. and Belanger, F. Wiley. <https://doi.org/10.1002/9781119377320.ch25>

Jun, J.H., Xiao, X., Rao, X. and Dixon, R.A. (2018) Functional differentiation of two related dioxygenases determines starter and extension units of proanthocyanidins. *Nature Plants* 4, 1034-1043.

Longo A, Miles NW, Dickstein R. (2018) Genome mining of plant NPFs reveals varying conservation of signature motifs associated with the mechanism of transport. *Front Plant Sci.* Dec 4;9:1668. doi: 10.3389/fpls.2018.01668.

Sarowar, S., Alam, S.T., Makandar, R., Lee, H., Trick, H.N., Dong, Y., and Shah, J. Targeting the pattern-triggered immunity pathway for enhancing resistance to *Fusarium graminearum*. *Mol. Plant Pathology.* 2018 Dec 30 doi: 10.1111/mpp.12781.

Stone, M.L., Anderson, E.M., Meek, K.M., Reed, M., Katahira, R., Chen, F., Dixon, R.A., Beckham, G.T. and Román-Leshkov, Y. (2018) Reductive catalytic fractionation of C-lignin. *ACS Sustainable Chemistry and Engineering* 6, 11211–11218.

Zúñiga, A.H. & Jiménez, J.E. 2018 Activity patterns and habitat use of pudu deer (*Pudu pudu*) in a mountain forest of south-central Chile. *Journal of Natural History* 52: DOI: org/10.1080/00222933.2018.1510995

Proceedings

Alam, S., Tyagi, N., Trick, H.N., and Shah, J. (2018) Host-induced gene silencing (HIGS) for enhancing resistance to *Fusarium graminearum*. In: Canty, S., A. Hoffstetter, B. Wiermer and R. Dill-Macky (Eds.), Proceedings of the 2018 National Fusarium Head Blight Forum (p. 63). East Lansing, MI/Lexington, KY: U.S. Wheat & Barley Scab Initiative.

Alam, S., Chabra, B., Rawat, N., and Shah, J. (2018) Targeting wheat genes associated with susceptibility to *Fusarium graminearum* for enhancing FHB resistance. In: Canty, S., A. Hoffstetter, B. Wiermer and R. Dill-Macky (Eds.), Proceedings of the 2018 National Fusarium Head Blight Forum (p. 64). East Lansing, MI/Lexington, KY: U.S. Wheat & Barley Scab Initiative.

Seminars/Talks

A career in plant science- key decisions, funding, and a few life lessons! Beijing Forestry University, December, 2018. By Dr. Richard Dixon

Elucidating the cellular machinery for lipid storage in plants. U.S. Department of Energy Physical Biosciences Research Meeting, U.S. Department of Energy, Gaithersburg, MD, October 31, 2018. Invited talk by Kent D Chapman

Engineering old and new pathways for plant bio improvement. Physiological and Molecular Plant Biology seminar series, University of Illinois at Urbana Champaign, October 2018 by Dr. Richard Dixon

Engineering old and new pathways for plant biomass improvement. Institute of Animal Science of Chinese Academy of Agriculture Sciences, December, 2018. by Dr. Richard Dixon

How can metabolomics and fluxomics guide us to build the crops of tomorrow? University of Georgia, Plant Center 2018 Fall Retreat, Unicoi State Park & Lodge, Helen, GA. Invited talk by Dr. Ana Paula Alonso

Investigating the natural variation of pennycress metabolome, an emerging crop for aviation biofuel applications. UNT BioDiscovery Institute, December 3rd, 2018. Seminar by Dr. Cintia Arias. Co-authors: Tyler Swanson, Fan Yang, Ana Paula Alonso

Lipidomics from a spatial perspective: What can lipid location tell us about triacylglycerol metabolism in oilseeds? 4th Australian Lipidomics Meeting, University of Sydney- Sydney, Australia, November 29, 2018. Keynote/Plenary Address by Kent D. Chapman

Neuroprotective effect of 17 β -Estradiol (E2) on rat brain. Oregon State University Center for Genome Research and Biocomputing Fall Conference, Corvallis, OR, October 12, 2018. Invited lecture by Dr. Vladimir Shulaev

New functions for old enzymes in lignin and proanthocyanidin biosynthesis. Frontiers in BioAgricultural Research: 20th Anniversary Conference of the Agricultural Biotechnology Research Center, Academia Sinica, Taipei, Taiwan October 2018. B Dr. Richard Dixon

Structural insights into the evolutionary divergence of acylethanolamide signaling. Institut de Biosciences et Biotechnologies (BIAM) Seminar Series, Lecture, Commission for Atomic and Alternative Energies, Cadarache, France, October 4, 2018. Invited talk by Kent D. Chapman

The bioanalytical facility. UNT BioDiscovery Institute, November 12th, 2018. Seminar by Jean-Christophe Cocuron. Co-author: Ana Paula Alonso

The inter-nesting interval in sea turtles: Could it be limited by desalination capacity? UNT Postdoctoral Research Symposium, Oct 31, 2018. Talk by Edwin Price

Conference Presentations

Alam, S., Chabra, B., Rawat, N., and Shah, J. Targeting wheat genes associated with susceptibility to *Fusarium graminearum* for enhancing FHB resistance. US Wheat and Barley Scab Initiative Forum, St. Louis, MO, December 2-4, 2018.

Alam, S., Tyagi, N., Trick, H.N., and Shah, J. Host-induced gene silencing (HIGS) for enhancing resistance to *Fusarium graminearum*. US Wheat and Barley Scab Initiative Forum, St. Louis, MO, December 2-4, 2018.

Alonso, A.P., Cocuron, J.C., de Souza, A.P., Neves Andrade, L.S., Oliveira, L., Grandis, A., Jara, C., Buckeridge, M. (2018). Physiology and Metabolic Responses of Soybean Plants to Global Climate Changes. The 17th Biennial Conference on the Molecular and Cellular Biology of the Soybean, Athens, GA. August 26-29, 2018.

Arias, C., Moretti, A., Cocuron, J.C., Alonso, A.P. Towards 13C-Metabolic Flux Analysis of developing Thorne Embryos. The 17th Biennial Conference on the Molecular and Cellular Biology of the Soybean, Athens, GA. August 26-29, 2018.

Berkunsky, I., P. Quillfeldt, D.J. Brightsmith, M.C. Abbud, J.M.R.E. Aguilar, U. Alemán-Zelaya, R.M. Aramburú, A. Arce Arias, R. Balas McNab, T.J.S. Balsby, J.M. Barredo Barberena, S.R. Beissinger, M. Rosales, K.S. Berg, C.A. Bianchi, E. Blanco, A. Bodrati, C. Bonilla-Ruz, E. Botero-Delgado, S.B. Canavelli, R. Caparroz, R.E. Cepeda, O. Chassot, C. Cinta-Magallón, K.L. Cockle, G. Daniele, C.B. de Araujo, A.E. de Barbosa, L.N. de Moura, H. Del Castillo, S. Díaz, J.A. Díaz-Luque, L. Douglas, A. Figueroa Rodríguez, R.A. García-Anleu, J.D. Gilardi, P.G. Grilli, J.C. Guix, M. Hernández, A. Hernández-Muñoz, F. Hiraldo, E. Horstman, R. Ibarra Portillo, J.P. Isacch, J.E. Jiménez, L. Joyner, M. Juarez, F.P. Kacolis, V.T. Kanaan, L. Klemann-Júnior, S.C. Latta, A.T.K. Lee, A. Lesterhuis, M. Lezama-López, C. Lugarini, G. Marateo, C.B. Marinelli, J. Martínez, M.S. McReynolds, C.R. Mejia Urbina, G. Monge-Arias, T.C. Monterrubio-Rico, A.P. Nunes, FdP Nunes, C. Olaciregui, J. Ortega-Arguelles, E. Pacifico, L. Pagano, N. Politi, G. Ponce-Santizo, H.O. Portillo Reyes, N.P. Prestes, F. Presti, K. Renton, G. Reyes-Macedo, E. Ringler, L. Rivera, A. Rodríguez-Ferraro, A.M. Rojas-Valverde, R.E. Rojas-Llanos, Y.G. Rubio-Rocha, A.B.S. Saldenberg, A. Salinas-Melgoza, V. Sanz, H.M. Schaefer, P. Scherer-Neto, G.H.F. Seixas, P. Serafini, L.F. Silveira, E.A.B. Sipinski, M. Somenzari, D. Susanibar, J.L. Tella, C. Torres-Sovero, C. Trofino-Falasco, R. Vargas-Rodríguez, L.D. Vázquez-Reyes, T.H. White Jr, S. Williams, R. Zarza & J.F. Masello. Current threats faced by Neotropical parrot populations. Presented at the 27th Annual Meeting of the International Ornithological Congress, Vancouver, Canada. August 19-26, 2018.

Jara, R.F., R.D. Crego, F.J. Arellano, T.A. Altamirano, J.T. Ibarra, R. Rozzi & J.E. Jiménez. *Breeding strategies of passerines in the world's southernmost forests.* Presented at the 27th Annual Meeting of the International Ornithological Congress, Vancouver, Canada August 19-26, 2018.

King, S.D., Schmitt, K., Gray, C.F., Bautista, N.M., Padilla, P.A. (2018) Sphingolipids/Ceramides are localized to embryonic P granules and have a role in germline function in *Caenorhabditis elegans*. American Society of Cell Biology and European Molecular Biology Organization International Annual Meeting, San Diego, CA. December 8-12, 2018.

Robertson, M.W., Russo, N.J., McInnes, S.J., Goffinet B. & Jiménez, J.E. (2018) Live tardigrades recovered from faeces of White-bellied Seedsnipe (*Attagis malouinus*). Presented at the 14th International Symposium on Tardigrada, Copenhagen, Denmark July 30-August 3, 2018.

Ruiz, M.A., Nahar, S., Padilla, P. A. (2018). Epigenetics: Use of *C. elegans* to Examine How a Glucose Diet Impacts Transgenerational Phenotypes. American Society of Cell Biology and European Molecular Biology Organization International Annual Meeting, San Diego, CA. December 8-12, 2018.

Russo, N.J., M.W. Robertson, R. MacKenzie, P. Arce, B. Goffinet & J.E. Jiménez. Consumption of bryophytes by montane Sub-Antarctic Birds. Presented at the 27th Annual Meeting of the International Ornithological Congress, Vancouver, Canada. August 26-29, 2018.

Sanchez-Ruiz, J., S. Moore, T. Contador, G. Graham, J. Kennedy & J.E. Jiménez. Assessing the effects of invasive salmonids on aquatic and riparian arthropod communities in the Robalo, a sub-Antarctic river in southern Chile. Aquatrop Conference, Tropical Aquatic Ecosystems in the Anthropocene, Quito, Ecuador. July 23-26, 2018.

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