Awards and Recognitions

**Dr. Rajeev Azad**, Assistant Professor in Biological Sciences, is the recipient of an Early Career Award from the Mathematical Biosciences Institute (MBI). This award, which comes with a $20,000 grant, will enable Dr. Azad to spend the 2016 Spring Semester at MBI, where he will participate in the MBI emphasis program on Dynamics of Biologically Inspired Networks.

**Dr. Richard Dixon**, University Distinguished Research Professor, was elected Fellow of the National Academy of Inventors. Dr. Dixon also was named among the most highly-cited authors in the journals Plant Physiology and Plant Cell during the period 2009-2013.

**Dr. Rebecca Dickstein**, Professor in Biological Sciences, was appointed as an American Society for Biochemistry and Molecular Biology Education Fellow.

Congratulations to UNT Biological Sciences alumnus, **Dr. Joe Louis** (PhD 2011; former student of Dr. Jyoti Shah), Assistant Professor at University of Nebraska, who was recognized by the American Society of Plant Biologists with the Eric E. Conn Young Investigator Award for his significant contributions to the field of plant–insect interactions, and his demonstrated excellence in outreach, public service, mentoring and teaching.

**Dr. Jyoti Shah** was appointed University Distinguished Research Professor. This award recognizes tenured faculty at the rank of Professor at UNT who have achieved an exceptional record of creative activities and/or research productivity and who demonstrate a record of continued extraordinary productivity.

Kudos to **Garima Saxena** and **Ravi Shanker Pandey**, graduate students mentored by Drs. Stevens Brumley and Rajeev Azad, whose poster "Impact of horizontal gene transfer in the evolution of Galdieria sulphuraria 074W" was awarded the second prize in the graduate level poster competition at the Texas Branch Spring Meeting of the American Society for Microbiology, which was held in New Braunfels, TX (March 26 – 28, 2015).

Other News

**Dr. James Kennedy**, Regent’s Professor in Biological Sciences, spent a month in Antarctica as an international collaborator on the 51st Antarctic Science Expedition (ECA), organized/funded by the Chile Antarctic Institute (INACH) and a grant awarded by the Chilean funding agency FONDECYT. This research team was led by Dr. Tamara Contador (a former PhD student of Dr. Kennedy at UNT), University of Magallanes. This expedition, which was co-sponsored by the Chilean Navy aboard the AP-41 transport vessel Aquiles, conducted research in the South Shetland Islands and the northern section of Antarctica. On board the Aquiles where 40 Chilean and international scientists, who worked on 20 different projects focusing on the study of geology, entomology, microbites and plants in the area. The aim of the plant projects was to find and assess the potential applications for the pharmaceutical, textile, and food industries. Dr. Kennedy’s research focused on the Ecophysiology of the Antarctic Midge (Diptera: Chironomidae: Parochius steinени) as a long term monitor of climate change. This grant, which continues for another 2 years, will facilitate the return of Dr. Kennedy to Antarctica again next year to expand this research.

**Dr. Sam Atkinson**’s (Regent’s Professor in Biological Sciences) research was highlighted in the February 2015 issue of the UNT Research Magazine (Vol. 24, pp. 30-33) and on UNT’s website: [http://research.unt.edu/research-spotlight/aquatic-ecosystems](http://research.unt.edu/research-spotlight/aquatic-ecosystems).

Waters Corporation and the Center for Innovation for Metabolomics and Metabolic Signaling Research at UNT, held a meeting entitled “UPC² and Mass Spectrometry in the Modern Laboratory” on February 4, 2015 at UNT. **Dr. Vladimir Shulaev**, Professor in Biological Sciences, was a guest lecturer at this meeting. [http://www.waters.com/waters/eventInstance.htm?eiid=134827390](http://www.waters.com/waters/eventInstance.htm?eiid=134827390).

**Dr. David Hoeinghaus**, Assistant Professor in Biological Sciences, was appointed to the Editorial Board of Neotropical Ichthyology, the scientific journal of the Brazilian Society of Ichthyology.
Dr. Guenter W. Gross, Regent’s Professor in Biological Sciences, was invited by the Hindawi Publishing Corporation to be the lead Guest Editor for a new issue of the Journal of Computational Intelligence and Neuroscience under the title of "Internal Network Dynamic". Other guest editors are: Dr. Paolo Grigolini (UNT, Physics); Dr. Enric Claverol-Tinture, Director General of the Catalan Foundation for Research and Innovation, Barcelona, Spain, and Dr. Jaap van Pelt, VU University Amsterdam, The Netherlands.

Outreach Activities
Students from several DFW area elementary schools (Blanton Elementary, Butterfield Elementary, E.P. Rayzor Elementary, Highland Village Elementary, Newton Rayzor Elementary) and high schools (Ferris High School, Newman Smith High School) were hosted by Drs. Brian Ayre and Jyoti Shah during their visit to the Department of Biological Sciences in November/December 2014 and January/February 2015 to learn about Plant Sciences research at UNT and its contribution to sustainability. These trips were organized by UNT sustainability.

Dr. Benjamin Dubansky, postdoctoral fellow in Dr. Warren Burggren’s research group, participated on a National Academy of Sciences (NAS) panel (December 2015) that was aimed at communicating science through art to evoke public interest in both fields, and at promoting discussion of scientifically relevant current issues. In addition, he gave a talk entitled, "A Natural Experiment" about his experiences following the Deepwater Horizon oil spill and the intersection of art and science.

Thesis and Dissertations
Jason Gibson successfully defended his MS thesis in March 2015. Thesis title: Neurotoxicity of the industrial solvent 4-methylcyclohexanemethanol: involvement of the GABA receptor. Dr. Guenter W. Gross, Regents Professor in Biological Sciences was his advisor.

Katelyn Holmes successfully defended her MS thesis in March 2015. Thesis title: Cytotoxicity and functional toxicity of mefloquine and the search for protective compounds. Advisor: Dr. Guenter W. Gross, Regents Professor in Biological Sciences was her advisor.

New Faculty/Staff Appointments and Visiting Scientists
Dr. Hailian Yang, Associate Professor, China Agricultural University, Beijing, is a visiting researcher in Dr. Richard Dixon’s lab on a one year fellowship from the Chinese government. She is working on biochemical pathways to the flavor compound vanillin in the vanilla orchid.

Recent Publications


**Patent Issued**


**Extramural Grants and Contracts**

**Biosynthesis, regulation and engineering of C-Lignin.** National Science Foundation-Integrated Organismal Systems. PI: R.A. Dixon (UNT); $833,772

**Experimental determination of host suitability for six state-threatened mussel species.** Texas Parks and Wildlife Department; PI: Hoeinghaus (UNT), Co-PI: Williams (UT Tyler); $73,660

**Modeling crop failure potential in Late Pueblo III Mesa Verde villages.** National Science Foundation. PI: L. Nagaoka; Co-PIs: S. Wolverton, F. Pan, and S. Atkinson (UNT); $116,206.

**Plant based sesquiterpenes.** Chromatin Inc, DOE-ARPAe. PI: S. Brumbley (UNT), Co-PI: R.A. Dixon (UNT); $728,000

**Targeting host defense mechanism for enhancing FHB resistance in wheat.** USDA-ARS and US Wheat and Barley Scab Initiative; PI: J. Shah, J. (UNT); Co-PI: H.N. Trick (Kansas State University); $43,732

**Transforming row crops to express condensed tannins.** Grasslanz Technology Ltd, New Zealand. PI: R.A. Dixon (UNT); $570,000
Seminars/Talks

An abietane diterpenoid as a signaling molecule in plant development and defense. Invited seminar by Dr. Jyoti Shah (UNT) in the Biochemistry and Molecular Biology Program, Michigan State University, East Lansing, MI; March 12, 2015.


Contribution of horizontal gene transfer to microbial evolution and pathogenicity. Department of Materials and Life Sciences, Sophia University, Tokyo, Japan. December 2014. Invited seminar by Dr. Rajeev Azad (UNT).


Integrating life-history and ecomorphology: towards a traits-based response and effect framework for freshwater fishes. XXI Encontro Brasileiro de Ictiologia (Bi-Annual Conference of the Brazilian Society of Ichthyology); Recife, Brazil. Invited seminar by Dr. David Hoeinghaus (UNT) as part of the Symposium 'Testing ecological concepts using traits-based approaches' February 2015.

Lipid signaling in plant response to biotic stress. Invited talk by Dr. Jyoti Shah (UNT) at the Gordon Research Conference: Plant Lipids: Structure, Metabolism, and Function Gordon Research, Feb 1-6, 2015, Galveston, TX. Co-authors: Louis, J., Sarowar, S., Katarzyna, L.-K., Behera, S., Keereetaweep, J., and Welti, R.

Lignin Bioengineering for advanced biofuel and bioproducts. Graduate School of Bioagricultural Sciences/School of Agricultural Sciences, Nagoya University, Nagoya, Japan. March 19, 2015. Invited seminar by Dr. Fang Chen (UNT).


Nerve cell networks on microelectrode arrays: quantification and medical application of network dynamics. 2014 IEEE Medical Device Symposium, University Texas at Dallas, Richardson, TX, November 7, 2014. Invited presentation by Dr. Guenter W. Gross (UNT).


Source/sink relations and pathways for carbohydrate transport and targeting in cotton. 2015 Beltwide Cotton Conferences, San Antonio, TX, January 5-7, 2015. Invited talk by Dr. Brian Ayre.

The influence of oil exposure history and population genetic variation on the sensitivity of Gulf killfish embryos to crude oil. The Gulf of Mexico Research Initiative Annual Conference-Coastal Ecosystems Four Years after the DWH Oil Spill: What's Changed? Houston, TX. February 19, 2015. Invited Talk by Dr. Benjamin Dubansky. Co-authors: Fernando Galvez, Christopher Green, Charles Brown and Warren Burggren


Conference Presentations


