

Department of Mathematics and Natural Sciences

Dr. Sandra Leal



Associate Professor

LealS@hssu.edu

(314) 340-3522

HGA 317

Degrees

Doctor of Philosophy

Saint Louis University
Cell and Molecular Biology

Bachelor of Arts

Trinity University, San Antonio, TX
Biology Major, English Minor

Biography

A Texas native by birth, but proud St. Louisan since 1988, I have received excellent scientific training from talented physicians and scientists in the local St. Louis metropolitan area from both Washington University and Saint Louis University. I am also grateful for the experience I received as a scientist and educator at the University of Southern Mississippi (USM) where I pursued my first independent position as an Assistant Professor in the Biological Sciences Department. At USM, I taught Developmental Biology, a Developmental Biology Laboratory course, and Neurobiology. As an Associate Professor at HSSU, I recently added Developmental Biology (formerly Developmental Anatomy) and a Developmental Biology Laboratory to the new course offerings listed in the 2017-2018 course bulletin. I am inspired by the dedicated HSSU undergraduate researchers whom I am mentoring and look forward to enjoying their professional success in the future. I enjoy teaching and pursuing research with equal levels of passion. As such, I manage a difficult balancing act, but I wouldn't have it any other way. It is a great day to be a Hornet and a member of a university family that cares so much for the welfare of its students and most importantly, strives to provide students a high-quality education.

Courses

BIO 0141 Principles of Biology for Non-Majors
BIO 0152 Biology Survey Laboratory
BIO 0202 Principles of Cellular Biology
BIO 0310I Human Anatomy and Physiology - Part I
BIO 0319 Human Anatomy and Physiology Lab - Part I
BIO 0310II Human Anatomy and Physiology - Part II
BIO 0321 Human Anatomy and Physiology Lab - Part II
BIO 0318 Urban Health and Science

Publications Most Recent

Neckameyer, W.S. and Leal, S.M. 2016. Biogenic amines as circulating hormones in insects. In, "Hormones, Brain, and Behavior", Academic Press, D. Pfaff, A. Arnold, A. Etgen, S. Farbach, R. Moss, and R. Rubin, Eds.

Chen, Q.B., Das, S., Visic, P., Buford, K., Zong, Y., Buti, W., Odom, K., Lee, H. and Leal, S.M. 2015. The Drosophila T-box transcription factor Midline functions within Insulin/Akt and c-Jun-N-terminal kinase signaling pathways to regulate interommatidial bristle formation and cell survival. *Mechanisms of Development* 136:8-29.

Das, S., Chen, Q.B., Saucier, J.D., Drescher, B., Zong, Y., Morgan, S., Forstall, J., Meriwether, A., Toranzo, R. and Leal, S.M. 2013. The Drosophila Midline T-box transcription factor functions within the Notch-Delta signaling pathway to specify sensory organ precursor cell fates and regulates cell survival within the eye imaginal disc. *Mechanisms of Development* 130:577-601. COVER

Presentations Most Recent

Powell, D. and Leal, S.M. The effect of coconut oil-induced stress conditions on Drosophila behaviors and viability. Midwest Drosophila Conference, Monticello, IL, November 12-13, 2016.

Powell, D., Jacobs, C., Pitchford, M. and Leal, S.M. An undergraduate biomedical research initiative at Harris-Stowe State University: beginnings and rainbows. The NAAHP Research Symposium, Nashville, TN, October 29-November 1, 2016.

Pitchford, M. and Leal, S.M. Identification of a new gene that regulates central nervous system and heart development in Drosophila melanogaster. The ATGC Undergraduate Research Symposium, Harris-Stowe State University, St. Louis, MO, February 27, 2016.

Anders, L., Lee, H., and Leal, S.M. The effects of oxidative stress on Drosophila Oregon-R and midline mutant flies. The ATGC Undergraduate Research Symposium, Harris-Stowe State University, St. Louis, MO. February 27, 2016.

Leal, S.M., Chen, Q.B., Visic, P., and Buford, K, Deciphering the function of Midline within Insulin/dAKT and c-jun-N-terminal kinase signaling pathways during larval CNS and eye development. The 56th Annual Drosophila Research Conference, Chicago, IL, March 4-8, 2015.

Certifications Ford Foundation Scholar; Awarded a Ford Foundation Postdoctoral Fellowship to pursue independent studies in the laboratory of Dr. James Skeath in the Department of Genetics at Washington University Medical School from 2006-2007.

Received the NIH Individual National Research Service Award (NRSA) to complete postdoctoral studies in neuropharmacology and behavior in the laboratory of Dr. Wendi Neckameyer in the Department of Pharmacological and Physiological Sciences at Saint Louis University Health Sciences Center from 2001-2003.

Awards **2016:** Selected to attend the PKAL Summer Leadership Institute for STEM Faculty, Association of American Colleges and Universities, Adamstown, MD.

2014: Received the Aubrey Keith Lucas and Ella Ginn Lucas Endowment for Faculty Excellence Award, University of Southern Mississippi, Hattiesburg, MS.

2013: Received the Pivotal Faculty Award IMAGE: Increasing Minority Access to Graduate Education, Louis Stokes Mississippi Alliance for Minority Participation, University of Southern Mississippi Student Chapter, Hattiesburg, MS.