

Notes & News from the Biology Department

Notes from the Chair

As I write this brief reflection on the semester, the leaves have fallen from the trees, the air is cool and crisp, registration for spring courses is nearly done, and we are one week from Thanksgiving Break. The most intense time of the semester is approaching (or is here...or has been here for several weeks already, depending on your perspective!). The semester has been an exciting one, so far. We welcomed two new colleagues, Dr. Joy Dorsten and Dr. Susan Villarreal. Joy is visiting for two years and is teaching Biol 220, Comparative Physiology, and a non-major's course on Nutritional Biology. Susan is our new tenure-track colleague, whose specialty is insect behavior and ecology. She is currently teaching The Biology of Insects and will jump into Biol 220 in the spring. In other exciting news, it was Biology's turn to host the Anderson Science Lecture, and we were thrilled to host Dr. Elaine Hsiao, a Neuroscientist and Microbiologist at UCLA. She interacted with several courses, both majors and non-majors, and gave an excellent talk about the connection between the microbiome, the nervous system, and disease. As we make our way through each semester, we think of all our alumnae and former faculty colleagues often. Please never hesitate to reach out and let us know how you're doing - we love hearing from you! ~Rebecca Homan





Assistant Professor **Susan Villarreal**, I earned my Ph.D. in Entomology at Cornell University, despite not actually finding insects all that appealing until two years into my B.S. degree at Truman State University, when I happened to take Invertebrate Biology. This class inspired me to join an insect-focused lab where I developed a passion for field research. At Cornell University, I studied the mating behaviors of a local katydid, discovered a new type of mate guarding behavior, and found out I enjoy teaching behavior and entomology to undergraduate researchers. As a postdoctoral fellow, I went on to gain molecular tools to understand the impact of mating proteins on female behavior in a medically important mosquito. After completing my postdoctoral work, I spent three years at Grinnell College sharing my expertise in insect biology and animal behavior, and developing a new research aim in insect community ecology. At Denison, I will work with undergraduate students to explore the impact of habitat fragmentation on insect communities, as well as apply my expertise to various insect models to understand the mating behavior of important Ohio insects. At Denison I will teach Biology of Insects, Animal Behavior, and Multicellular Life.







I am excited to be at Denison as a visiting faculty for the next two years. Among the courses I will be teaching while I am here are Comparative Physiology, Multicellular Life and a non-majors course, Nutritional Biology. My past research experience is in the field of developmental biology where I studied how axons are guided to the correct target during development of the *Drosophila* nervous system. Currently, I am interested in using *Drosophila* as a model organism to understand the effects of low levels of poly-unsaturated fatty acids (PUFAs), which include omega-3 and omega-6 fatty acids, on nervous system development. Because low levels of omega-3 fatty acids may be a risk factor for several neuropsychiatric disorders associated with altered dopamine signaling (Parkinson's disease, attention-deficit and hyperactivity disorder, schizophrenia and possibly depression), I am especially interested in understanding the role of omega-3 fatty acids in dopaminergic systems in the fly.



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Department of Biology 2019-2020 – Front row: Laura Romano, Jessica Rettig, Ayana Hinton, Jenny Etz; 2nd row: Clare Jen, Susan Villarreal, Andy McCall, Lina Yoo; 3rd row: Cristina Caldari, Eric Liebl, Geoff Smith, Chris Weingart, Rebecca Homan, Heather Rhodes; Back row: Jed Dioguardi, Warren Hauk, Jeff Thompson, Whitney Stocker, Joy Dorsten



The Haubrich Study Space Got A Little Bit More Interesting!

This painting hangs in the study space, keeping a watchful eye on our students!

Donated by the Dr. John B. Iverson family in recognition of the positive collaborations between the biology departments at Denison University and Earlham College. Dr. Iverson's son Peter Iverson was a biology major at Denison (class of 2006) thus the family knew about Denison's notorious buzzards when they bid on the painting at a charity auction. Collaborations between Earlham and Dension include multiple research trips to the Bahamas to study endangered iguanas with students and professors from both colleges and trips to survey turtle populations in northern Indiana, again involving students and faculty from both institutions. Additionally, several professors from Denison have served as external interviewers for Earlham's senior comprehensive exams in biology.







Anderson Lecture, Dr. Elaine Hsiao

In October, the Department of Biology hosted Anderson speaker, Dr. Elaine Hsiao. We had a full schedule for her as she met with faculty, non-major and general microbio classes, neuroscience students, and attended BLASS -Black-LatinX-Asian Science Society and ASU-Asian Student Union meetings followed by dinner at the Granville Inn with invited facutly & students. The lecture in Swasey was on microbes, the nervous system, and human health.



Anderson Lecture 2019-20 Hosted by Department of Biology

Minding Our Microbial Symbionts: Interactions between the microbiome and nervous system in health and disease

Dr. Elaine Hsiao

Neuroscientist and Microbiologist at UCLA Swasey Chapel 7:30 pm

Monday, October 7, 2019

Dr. Hsiao seeks to understand how the microbes inhabiting our bodies affect human behavior, neural development, and neurological disorders.

Where Are They Now?

- Hello all! I have had an amazing year as the 5th grade Science teacher at Champion Middle School. In the spring I received the Environmental Education Council of Ohio K-12 Educator of the Year. This fall I made the final 4 in the Ohio Teacher of the Year program. Then I received word that I will be receiving the North American Environmental Education Councils K-12 Educator of the Year at their conference in Kentucky. I will also be presenting at the National Science Teacher Association conference in Cincinnati Ohio in November. Best wishes to all. Dave Murduck '83
- I was accepted into University of South Carolina for the masters in genetic counseling program. I have been selected for the LEND fellowship, meaning that outside of the regular coursework I am focusing on neurodevelopmental disorders. Naomi Barker '17
- Rochell Issa '18 was accepted into U Toledo Med School.

Busy Ronneberg Lecture Series this Semester!





"Neuroepigenetics:

The Role of Chromatin in Behavior" **Katherine C. Palozola '09**, **PhD**, The Korb Lab,
Epigenetics Institute, Perelman School of Medicine,
University of Pennsylvania



Clintoria Williams, PhD, Wright State University Boonshoft School of Medicine, lectured on renal pathophysiology in Dr. Cristina Caldari's Pathophysiology class.