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Philip J. Sweet

EDUCATION

Bachelor of Science

University of Pittsburgh (*Spring 2016)*

- Major: **Molecular Biology** Cell and Developmental Track
- Minor: Applied Statistics Minor
- Minor: Chemistry

Doctorate of Philosophy

University of Texas in Austin

- Institute of Cellular and Molecular Biology
- Cellular and Molecular Biology with a focus on Molecular Structure and Function
- Adviser: Dr. Lydia Contreras

Certificates

- Introduction to Python: Summer Statistics Institute (2018)
- Scalable Machine Learning Methods: Summer Statistics Institute (2019)
- Teaching Preparation Certificate: Faculty Innovation Center

RESEARCH EXPERIENCE

Contreras Lab *Dr. Lydia Contreras* University of Texas in Austin, McKetta Department of Chemical Engineering.

Research: Understanding the role of RNA oxidation in the response to low doses of irradiation within members of the human microbiota and developing molecular tools to detect oxidative damage

Presentations: Chip and Dip Departmental Talk**:** Irradiation and RNA Oxidation

Posters: DTRA Life Sciences Division: Characterizing the Impact of Sub-Lethal Doses of Ionizing Radiation on the Microbiota (2018)

Yatsenko Lab *Dr. Alexander Yatsenko* Magee Women's Research Institute. Researching genetic causes for male infertility through the application of NES across large numbers of patients and the development of infertility models within mice *(Spring 2015-Summer 2016)*

Papers: Tas E, Sebastian J, Madan-Khetarpal S, **Sweet P**, Yatsenko AN, Pollock N, Rajkovic A, Schneck FX, Yatsenko SA, Witchel SF. 2017. Familial deletion of the *HOXA* gene cluster associated with Hand–Foot–Genital syndrome and phenotypic variability. Am J Med Genet Part A 173A:221–224.

Presentations: HHMI Symposium Poster Fair**:** Identifying Mouse Model Candidate Genes to Better Understand Spermatogenesis

Peebles Lab *Dr. Craig Peebles* Department of Biological Sciences researching RNA expression in phages *(Fall 2014-Fall 2015)*

Research: Independently characterize the expression of novel RNA structures within the bacteriophage Pio. My research involved E. coli cloning project in which unannotated regions of phage Pio genome were expressed in E. coli and

m.smegmatis to determine if novel RNA structures, potentially similar to tRNA's, were present within the phages genome. This required me to designed primers as well as vectors, to perform PCR, transformation, plasmid extraction and to understand sequencing results.

Presentations

- Biological Sciences Undergraduate Research Poster Fair *(Spring 2014) Small RNA Expression in Mycobacteria*
- Science 2014 Undergraduate Poster Fair *(Fall 2014) Quest for Novel*
- HHMI Fellowship Symposium (*Summer 2014*) The Question for Novel RNA's in the Phage Genome

Teaching and Communication Experience

They Blinded Me with Science: Host/DJ

- A weekly radio show on KTXS that delivers on-air interviews with graduate students and other University of Texas researchers to the Austin community

Welch Summer Scholar Program: Mentor (2018, 2019)

- WSSP grants highly motivated high school students a chance to experience science first hand. As a mentor I designed, and guided, a 5-week research plan that allowed the WSSP fellow to learn bench skills, experimental design and science communication.

Informal Classes for Adults with IDDs: "Fun with Genes and Genetics"

- Guided students with IDDs through a set of weekly activates to introduce the basics of genetics and disease inheritance.

Howard Hughes Medical Institute Summer Fellowship Mentor/Mentee Workshop *(Summer 2013)*

- One-on-one two week intensive on basic lab techniques including PCR, transformations, culture growth, sequencing, and transfections

Tutor of Biology at the ARC (Academic Resource Center), University of Pittsburgh *(Spring 2014, Spring 2015)*

- One-on-One Tutoring of Biological Concepts

Leadership/Mentoring Experience

TriBeta Biological Honor Society

Volunteer Chair *(2013-2014)*: Organized biweekly neighborhood cleanup events.
Business Manager *(2014-2016)*: Collected club dues and oversaw the budget.

AWARDS AND HONORS

- Dean's List *(Spring 2012, Fall 2014, Spring 2015)*
- TriBeta National Biological Honor Society
- Provost's Graduate Excellence Fellowship (2016-2021)
- ICMB Travel Award *(Fall 2018)*