CURRICULUM VITAE

Paige Ferguson
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EDUCATION

2015-2022 **Ph.D.,** Biomedical Sciences
University of California San Diego La Jolla, CA
Pharmacology Department
GPA: 3.99

2010-2015 **Bachelor of Science**, Marine Biology and Biochemistry
Northeastern University Boston, MA
Summa cum laude, Honors with Distinction
GPA: 3.96

RESEARCH EXPERIENCE

2022- Present **Postdoctoral research fellow,** Cold Spring Harbor Laboratory, NY
Tuveson Laboratory

My work in the Tuveson laboratory is focused on identifying new strategies for therapy by further defining the metabolic mechanisms that underly disease progression.

2016-2022 **Ph.D. thesis research,** University of California San Diego, La Jolla, CA
Dr. Tannishtha Reya, Thesis advisor

Drug resistance and relapse remain key challenges in pancreatic cancer and are driven in part by cancer stem cells- a subset of tumor cells that re-activate developmental signals. To define the molecular underpinnings of these aggressive cells, I helped complete a genome-scale transcriptional and epigenetic analysis using RNA-Seq and ChIP-Seq, as well as a genome-wide CRISPR screen in pancreatic cancer stem cells. This integrated approach led to the identification of the immune signal RORγ as a new targetable dependency in pancreatic cancer stem cells (***Lytle et al. 2019***).

These studies also revealed a unique epigenetic landscape in pancreatic cancer stem cells; using a curated screen for stem cell-enriched epigenetic factors, I identified SMARCD3 as an important regulator of pancreatic cancer growth. *Smarcd3* deletion improved survival and synergized with chemotherapy in genetic models, and SMARCD3 was also required for the propagation of patient-derived xenografts. Mechanistically, I used integrated RNA-seq and ChIP-seq analysis to show that SMARCD3 regulates histone acetylation and SWI/SNF binding at active enhancers co-bound by FOXA1, ultimately controlling fatty acid metabolism. These data identify SMARCD3 as a critical epigenetic dependency that could drive metabolic functions in aggressive pancreatic cancer cells and serve as an effective target for new therapies.

2014 **Research assistant,** Celgene Avilomics Research, Cellular Biology Group
Bedford, MA

To identify new drugs active against therapy-resistant cancers, I evaluated compound efficacy, on-target and off-target activity, and binding half-life of new compounds to inform chemical compound design strategy in an effort to design mutation-specific and covalently bound drug molecules.

2013 **DAAD RISE Scholar,** Leibniz Institute for Freshwater Ecology and Inland Fisheries
Berlin, Germany

To determine the effects of water runoff and quality on freshwater fish reproduction, I assessed the impact of brine effluent on the size and spinal morphology of zebrafish through the course of development.

2012 **Three Seas Program,** Northeastern University
Nahant, MA♦ Bocas del Toro, Panama♦ Friday Harbor, WA

In this graduate-level program, I conducted field studies across three sites. I analyzed C:N content in maternal and offspring algae, examined the effect of predator cues on prey mobility and feeding behavior, and assessed how increasing water temperature impacts infection susceptibility of corals. I also helped conduct underwater transect surveys, contributing to longitudinal monitoring of habitat quality.

2012 **Undergraduate research assistant**, UNC Institute for Marine Sciences
Morehead City, NC

Oyster reef structure is highly impacted by human activity, and can impact local ecology and water quality. To investigate the effects of oyster reef structure on community dynamics, I assessed oyster drawdown (sediment filtration), predation, oyster offspring recruitment, and local predator-prey migration dynamics across local reef sites of varying structural complexity.

AWARDS, FELLOWSHIPS, SCHOLARSHIPS

2023 CSHL Cancer Center Postdoctoral Fellowship
2020 NIH F31 Ruth L. Kirschstein Predoctoral Individual National Research Service Award
2019 Helmsley Scholarship for CSHL Workshop on Pancreatic Cancer
2019 CSHL Workshop on Pancreatic Cancer trainee
2018 HHMI Med-into-Grad Initiative, UCSD
2016 Pharmacological Sciences Training Grant, UCSD
2017 eMentor, Del Lago Academy, UCSD
2017 Mentor, SURF Program, UCSD
2016 Mentor, Emperor Science Awards Program, UCSD
2015 NSF Graduate Research Fellowship Honorable Mention, Northeastern University

TEACHING EXPERIENCE

Fall 2019 University of California San Diego
Graduate Instructional Apprentice, Molecular Basis of Human Disease

2014- 2015 Northeastern University
Departmental Biology Tutor

2012- 2013 Private Tutor
Concierge Services for Students