Felicia New
290 Kimball Hall • Cornell University • Ithaca, NY 14853
E: fnn3@cornell.edu • T: 352.281.7674

Education

2016 – present
PhD Candidate
Field of Genetics, Genomics, and Development
Department of Molecular Biology & Genetics
Cornell University, *Ithaca, NY*

2015
Master's Degree in Medical Sciences
Concentration: Statistical Genetics
College of Medicine
University of Florida, *Gainesville, FL*
Thesis: Population Genomics of Drosophila simulans

2013
B.S. Degree in Biology
College of Agriculture and Life Sciences
Member of Phi Kappa Phi, graduated top 15% of class
University of Florida, *Gainesville, FL*

Research & Work Experience

2017-present
Doctoral Research
Laboratory of Dr. Ilana Brito
Meinig School of Biomedical Engineering
Cornell University*, Ithaca, NY*

2015
Master's Research
Laboratory of Dr. Lauren McIntyre
Department of Molecular Genetics & Microbiology
University of Florida, *Gainesville, FL*
Thesis**:** Population Genomics of *Drosophila simulans*

Analysis of a new population panel of *D. simulans* to understand this specie's population dynamics and the evolutionary forces shaping those trends. Worked with many bioinformatics tools and used custom scripts to analyze whole genome variant information for a large population panel. *Manuscript in preparation*.

2013-2014
Post-Baccalaureate Research
Department of Molecular Genetics & Microbiology
University of Florida, *Gainesville, FL*

Sex differences in the translatome of *Drosophila* neurons that underlie reproductive behavior. *Supervisors: Dr. Lauren McIntyre (University of Florida) and Dr. Michelle Arbeitman (Florida State University)*.

Cell type differences in the transcriptomes of Type I Diabetes patients. *Supervisor: Dr. Patrick Concannon (University of Florida).*

Worked with large biological (RNA, DNA, phenotypic) data sets and wrote code for data analysis and manipulation in Python, R, bash, and SAS. Wrote submission scripts to run jobs on UF's High Performance Computing Center. Performed quality control on biological data sets for collaborators. Used and benchmarked sequence alignment software.

2013 **Undergraduate Research**
Department of Infectious Disease and Pathology
University of Florida, *Gainesville, FL*
Supervisor: Dr. Mary Brown

My project demonstrated that *Mycoplasma alligatoris* can adapt to grow at temperatures comparable to *M. crocodile* when stepped up gradually. I screened a library of *M. alligatoris* and *M. crocodile* mutants to determine if they can grow at higher temperatures. I was responsible for growing original cultures, all media, and supplements.

2013 **Undergraduate Teaching Assistant**
Department of Microbiology and Cell Science
University of Florida, *Gainesville, FL*
Supervisor: Dr. Karim Asghari
Course: MCB3020 Basic Biology of Microorganisms

2011-2012 **Laboratory Technician's Assistant**
Department of Oral Microbiology
University of Florida, *Gainesville, FL*
Supervisor: Dr. Robert Burne
General maintenance and cleaning of the laboratory. Prepared media, including specific media.

Teaching

2017 **Teaching Assistant**
Molecular Biology & Genetics, Cornell University
BioMG2800 Introduction to Genetics and Genomics

2019 **Course organization and lecture**
Meinig School of Biomedical Engineering, Cornell University
BME 4960 Microbiome Hack Class

Consulting & Training

2014 **Consultant**
Florida State University, *Tallahassee, FL*
Supervisor: Dr. Michelle Arbeitman
Traveled to Florida State University to train members of Dr. Michelle Arbeitman's laboratory in quality control of RNA-Seq data. This included an introduction to the command line, high performance computing, and basic coding.

2013-2015 **Training new laboratory members**
University of Florida, *Gainesville, FL*
Supervisor: Dr. Lauren McIntyre

Trained post-doctoral fellows and graduate students on the command line, high performance computing, and bash scripting.

Service and Outreach

Microbiome Hack organizer. Organized, mentored at, and led a two-day data science hackathon aimed at exposing undergraduate and graduate students from Ithaca, NY to data science, computational biology, and microbiome research. Ithaca, NY. 2019.

Graduate and Professional Student Assembly Field Representative. Cornell University. 2017-2019.

Health Tech Hackathon co-organizer. Helped organize the microbiome track and mentored at the Cornell HealthTech Hackathon. Ithaca, NY. 2018.

Genetics, Genomics, and Development Student Representative. Represent graduate students to the Field, organize and lead recruitment, organize student events for the field. Cornell University. 2017-2018.

Girls Who Code Facilitator. Working with the national Girls Who Code organization to coach and train middle and high school girls in coding. Dryden, NY. 2017.

FemSTEM Mentoring. Graduate mentor to an undergraduate woman in STEM. Cornell University. 2016-2017.

Honors and Awards

Graduate School Dean's Scholar. Awarded the Graduate Diversity Fellowship, Cornell University. 2016.

Member of Phi Kappa Phi Honor Society. Graduating in the top 10% of my class from the College of Agriculture and Life Sciences at UF. 2013.

Publications

Signor, S, **New, FN**, Nuzhdin, S. A large panel of Drosophila simulans reveals an abundance of common variants. Genome Biol Evol. 10(1): 189-206. January 2018.

Newell, NR*, **New, FN***, Dalton, JE, McIntyre, LM, and Arbeitman, MN. Neurons that underlie Drosophila melanogaster reproductive behaviors: Detection of a large male-bias in gene expression in Fruitless-expressing neurons. *G3*. 6(8): 2455-65. August 2016.

Arbeitman, MN, **New, FN**, Fear, JM, Howard, TS, Dalton, JE, and Graze, RM. Sex differences in Drosophila somatic gene expression: Variation and regulation by doublesex. G3. 6(7): 1799-808. July 2016.

Newman, JRB, Conesa, A, Mika, M, **New, FN**, et al. Disease-specific bias in alternative splicing and tissue-specific dysregulation revealed by multi-tissue profiling of lymphocyte gene expression in type 1 diabetes. Genome Res. October 2017.

Oral Presentations

"Population genomics of Drosophila simulans". University of Florida Population Biology Seminar Series. Invited March 2016.

Poster Presentations

New, F, Davenport, E, Clark, A, and Brito, I. **Functional associations of gut microbial genes with non-communicable diseases in a population-based cohort.** *Our Microbes, Our Global Health Symposium. Ithaca, NY, 2018.*
New, F, Nuzhdin, S, McIntyre, L, and Signor, S. **Population Genomics of *Drosophila simulans***. *UFGI Symposium, Gainesville, FL, USA, 2015*.
New, F, Fear, J, Gerken, A, Newell, N, Arbeitman, M, Nuzhdin, S, and McIntyre, L**. Using structural equation modeling to detect regulatory interactions in the InR/Tor pathway.** *Annual Drosophila meeting of the Genetics Society of America***,** *Chicago, USA, 2015.*
New, F, Fear, J, Gerken, A, Newell, N, Arbeitman, M, Nuzhdin, S, and McIntyre, L. **Using structural equation modeling to detect regulatory interactions in the InR/Tor pathway**. *College of Medicine's Celebration of Research, Gainesville, FL, USA, 2015.*
New, F, Newell, N, Dalton, J, McIntyre, L, and Arbeitman, M. **Sex differences in the translatome of Drosophila neurons that underlie reproductive behaviors.** *UFGI Symposium, Gainesville, FL, USA, 2014.*
New, F, Morse, A, Fear, J, Polvadore, T, and McIntyre, L. **An analysis of the short read aligners BWA-MEM and Bowtie**. *College of Medicine's Celebration of Research, Gainesville, FL, USA, 2013.*