Hamilton Undergraduate Research Scholars for the 2018-2019

# AY 2018-2019

# Anthropology

## John Berry

The History of Megafires and Forest-Shrub Conversion Mentor: Christopher Roos

## Ellie Pietsch

The History of Megafires and Forest-Shrub Conversion Mentor: Christopher Roos

## Katie Tinch

# *Green Burial: The Final Disposition of Human Remains Through Alkaline Hydrolysis Mentor: Maryann Cairns*

**Biological Sciences**

## Sarach Bivans

“MeCP2 Duplication Syndrome” Mentor: Santosh D'Mello

## Kristin Connors

“ MeCP2 Duplication Syndrome” Mentor: Santosh D'Mello

## Jennifer Edgar

“Sensitizing drug-resistant tumor cells to oxidative damage induced by anticancer chemotherapies that cause DNA-damage”. Mentor: Robert Harrod

## Roxana Farokhnia

““Determining how kinase pathways regulate antioxidant signaling in virus-induced cancers” Mentor: Robert Harrod

## Kasi Holocomb-Webb

“Establishment of Epigenetic Gene Silencing”. Mentor: Rick Jones

## Maxwell Hum

"Establishment of Epigenetic Gene Silencing" Mentor: Rick Jones

## Madeline Jensen

"Redox Signaling in the Endoplasmic Recticulum and Potential Impacts on Alzheimer's Disease (AD)" Mentor: Bill Orr

## Olivia Marx

"Dissescting the Role of Peroxiredoxin 6 in Alzheimer's Disease." Mentors: Bill Orr, Vladimir Klishko, and Svetlana Radyuk

## Rama Mouhaffel

"Dissescting the Role of Peroxiredoxin 6 in Alzheimer's Disease." Mentors: Bill Orr, Vladimir Klishko, and Svetlana Radyuk

## Dakota Okwuone

"Dissescting the Role of Peroxiredoxin 6 in Alzheimer's Disease." Mentors: Bill Orr, Vladimir Klishko, and Svetlana Radyu

## Victoria Peters

“Optimizing Recombinant Expression of the Human Bresat Cancer Resistance Protein” Mentor: Pia Vogel Fall Semester Only

## Anika Reddy

“Optimizing Recombinant Expression of the Human Multidrug Resistance Protein” Mentor: Pia Vogel Spring Semester Only

## Samantha Sabour

“Reconstituting the Multidrug Resistance P-glycoprotein into Nanodisk Membrane Mimetics” Mentor: Pia Vogel

## Marianna Astrid Therailkill

“Optimizing Recombinant Expression of the Human Multidrug Resistance Protein” Mentor: Pia Vogel

## Brie Vandenburg

“Phosphazene Polymers Containing Antimicrobial Groups” Mentor: Patty Wisian-Nielsen

# Chemistry

## Becky Jenkins

"Molecular Mechanisms of Carcinogenesis by HTLV-1 Regulatory Proteins" Mentor: Rober Harrod

## Jean Kim

“The Design, Synthesis, and Evaluation of New Carbapenem Antibiotics to Treat esistant Infections Caused by Resistant Gram negative Pathogens” Mentor: John Buynak

## Alec Mason

“Understanding Cu/O2 activation pathways” Mentor: Isaac Garcia-Bosch

## Byron Meshram

“A "Chemical Nose" Test for Spice/K2 Cannabinoids and Synthetic Derivatives” Mentor: Alexander Lippert

## Njeshi Nformi

“Phosphazene Polymers Containing Antimicrobial Groups” Mentor: Patty Wisian-Nielsen

# Earth Science

## Yasmin Jackson

“Dinosaurs and Diamonds: Dating a Caldera Lake Sediment that Contains Mammalian, Crocodylian, and Dinosaur Fossil Footprints” Mentor: Rita Economos

## Josh Sylvester

“Result on the Water Table from Earthquake” Mentor: Matthew Hornback

# Embry Human Rights

## Aarthi Pavathaneni

“Embry Human Rights Study in Barriers to Education for Homeless Youth” Mentor: Bradley Klein

# Mathematics

## Xin Yang

“Predicting Electrostatic Properties of Solvated proteins Using Machine Learning”. Mentor: Weihua Geng

# Physics

## Ian Cohen

“A Teaching Lab to Illustrate the Concept of Electric Field & A Quality Control Measurement for the ATLAS Liquid Argon Calorimeter Upgrade” Mentors: James Thomas, Andy Lui, Jingbo Ye

## Elijah Cruda

## *“A Teaching Lab to Illustrate the Concept of Electric Field & A Quality Control Measurement for the ATLAS Liquid Argon Calorimeter Upgrade” Mentors: James Thomas, Andy Lui, Jingbo Ye*

## Rebecca Moore

“Study of the Feasibility of Identifying the Process H0→gg via g→bb using the ATLAS Experiment at the Large Hadron Collider” Mentor: Stephen Sekula

## Ahmed Muhammad

“A Teaching Lab to Illustrate the Concept of Electric Field & A Quality Control Measurement for the ATLAS Liquid Argon Calorimeter Upgrade” Mentors: James Thomas, Andy Lui, Jingbo Ye

## Zhengguang Wang

“A Teaching Lab to Illustrate the Concept of Electric Field & A Quality Control Measurement for the ATLAS Liquid Argon Calorimeter Upgrade” Mentors: James Thomas, Andy Lui, Jingbo Ye

## Taylor Wallace *Exploring the Effects of Environmental Factors on Radon Plate-Out* *M*entors*: Jodi Cooley*

# Political Science

## Polina DeClue

## *Barriers and Opportunities to Expand Russian Food Exports Mentor: Hiroki Takeuchi*

## Stephen Frantz

# *Global Value Chains, Free Trade Agreements, and Regional Security in the Asia-Pacific Mentor: Hiroki Takeuchi*

# Psychology

## Kathryn Curtis

## *Development and Validation of the Revised Meta-Emotions Scale Mentor: Prescilla Lui*

## Stejara Dinulescu

Self-Referential Memory and Social Cognition Study Mentor: Benjamin Tabak

## Page Hurley

***Couples & Kids with Autism Study Mentor: Chrystyna Kouros***

## Zenia Jones

Couples & Kids with Autism Study Mentor: Chrystyna Kouros

## Hannah Massman

“Testing the Strength of Associative Networks for Up-Regulation and Down-Regulation of Positive and Negative Affective Expectations for Exercise.” Mentor: Austin Baldwin

## Brendon Reems

Couples & Kids with Autism Study Mentor: Chrystyna Kouros

# Sociology

## Destiny Rose Murphy

“Constructed Political Identities: Candidate Webpages during the 2018 Election” Mentor: Sheri Kunovich

# Statistics

## Nicole Ng

“The Application of Meta-Analysis in Pediatric Cochlear Implants” Mentor: Lynne Stokes

# World Language and Literature

## Trina Sriram

”Spanish Women in the Fields of Art, Literature, Religion, and Science in the 16th and 17th Centuries” Mentor: Alicia Zuese