

## ***Summer 2021 McNair Scholars***

### **Bethlehem Abebe**

Marcy Balunas, Ph.D., Pharmaceutical Sciences: Medicinal Chemistry

*Analysis of host-microbe symbionts through the study of comparative metabolomics and genomics of closely related *Leisingera* strains to predict fungal growth inhibition against *Candida albicans**

### **Briana Nosal**

Ock Chun, Ph.D., Nutritional Sciences

*Impact of coffee consumption on urinary estrogenic chemical exposure*

### **Christopher Alvarez-Pani**

Arash Zaghi, Ph.D., Civil and Environmental Engineering

*The repair of steel bridge girders with ultra high-performance concrete*

### **Derek Lefcort**

Helena Silva, Ph.D., Electrical and Computer Engineering

*Temperature dependent characterization of GST225 using multi-wavelength ellipsometry*

### **Ethan Lazaro**

Benjamin Fuller, Ph.D., Computer Science and Engineering

*Randomness assessment in physical hardware*

### **Fiona Liu**

Ashley M. Helton, Ph.D., Natural Resources and the Environment

*How do Nitrous Oxide greenhouse gas emissions vary among groundwater seeps?*

### **Grissy Sime Mora**

Douglas Casa, Ph.D., Kinesiology

*Metabolic heat production and perceived cold in extreme cold environments*

### **Juan Colberg-Martinez**

Charles Giardina, Ph.D., Molecular and Cell Biology

*Studying the anti-inflammatory effects of a novel antifolate compound in the treatment of rheumatoid arthritis using RA-FLS cells*

### **James Roberts**

Ramesh Malla, Ph.D., Civil and Environmental Engineering

*Stress and deformation on a pressurized dome lunar structure under various depths of regolith cover*

### **Jude Icoy**

Karen Menuz, Ph.D., Physiology and Neurobiology

*Identifying novel pheromone taste receptors*

**Kasidy Quiles**

Dennis D'Amico, Ph.D., Animal Science

*The effect of sub-inhibitory concentrations of antimicrobials on virulence gene expression in Listeria monocytogenes*

**Lavar Johnson**

Valerie Duffy, Ph.D., Allied Health Sciences

*Mixed method analysis of serious gaming for health promotion in young children and adolescents*

**Lexie DeMarco**

Cara Battersby, Ph.D., Astrophysics

*Exploring the effect of observational parameters on the Core Mass Function (CMF) in molecular clouds*

**Myra Cerrato**

Stephanie Milan, Ph.D., Clinical Psychology

*COVID-19 vaccine hesitancy in mothers: U.K vs U.S comparison*

**Neel Chakravartty**

Ramesh Malla, Ph.D, Civil and Environmental Engineering

*Humidity analysis on possible conditions within a lunar habitat*

**Nichali Bagues**

Alfredo Angeles-Boza, Ph.D., Chemistry

*Enhancing the bactericidal efficiency of antimicrobial peptides through the conjugation of Ru(II) complexes*

**Nolan Murphy-Genao**

Kelly Burke, Ph.D., Chemical and Biomolecular Engineering

*Synthesis of Poly(ethylene terephthalate)*

**Pablo Zarama**

Jasna Jankovic, Ph.D., Materials Science and Engineering

*Developing UV sensors and actuators using environmentally-friendly carbon nanofibers*

**Paulo Belato**

Stacey L. Hanlon, Ph.D., Molecular and Cellular Biology

*Influence of B chromosomes on gene expression in the Drosophila melanogaster germline*

**Shenelle Shaw**

Anastasios Tzingounis, Ph.D., Physiology and Neurobiology

*Does Dyrk1a phosphorylate KCNQ2 channels?*

**Shihab Khalfalla**

Caiwen Ding, Ph.D., Computer Science and Engineering

*Deep Reinforcement Learning for UAVs*

**Shihao Zhai**

Kristina Wagstrom, Ph.D., Chemical and Biomolecular Engineering

*Designing a portable particulate matter monitor*

**Shirley Guo**

Kenneth Campellone, Ph.D., Molecular and Cell Biology  
*Identifying the impact of the Arp2/3 complex on cellular senescence signaling pathways*

**Suzannah de Almeida**

Gregory Sartor, Ph.D., Pharmaceutical Sciences:  
Pharmacology and Toxicology  
*Novel epigenetic treatment for opioid use disorder*

**Ted Akuffo**

Eric Jackson, Ph.D., Civil and Environmental Engineering  
*Self-driving cars: A study analyzing recent alert systems looking to improve driver attentiveness*

**SUMMER PROGRAM COMPONENTS**

- ❖ *8-week on-campus research-intensive, graduate school preparatory experience*
- ❖ *Mentorship by McNair Scholar alumni and STEM Ph.D. students*
- ❖ *Elevator pitch, mock interview, mindfulness calendar, and financial literacy workshops*
- ❖ *Thorough revision of research-focused resume and statement of purpose documents for graduate school applications*
- ❖ *1:1 progress check-ins*
- ❖ *GRE strategy workshops and practice exams*
- ❖ *STEM graduate program visits via Zoom*
- ❖ *“A day in the life with my research project” video creation and presentation*
- ❖ *Research poster presentation*
- ❖ *Nationwide civic engagement “Good Trouble” TRiO program book club*
- ❖ *Career readiness discussions for high school students*
- ❖ *Game nights*

*Thank you, faculty mentors, and all research mentors of the McNair Scholars!*