

## **The MMBio Mentorship Award (MMA)**

The Department of Microbiology and Molecular Biology (MMBio) is offering 13 mentorship awards of \$1,800 each to provide opportunities for MMBio undergraduates to carry out mentored research in MMBio faculty labs during the fall 2022 semester. MMA recipients will be matched with a faculty member based on recipient preferences and faculty availability. The MMBio faculty who may be open to hosting MMA students are listed below.

MMA recipients will represent diverse backgrounds and life experiences, bringing unique talent and perspectives to the MMBio research community. In addition to daily mentored research activities, the cohort of MMA recipients will gather periodically throughout the semester to share research updates and receive focused training on effective scientific exploration and exciting career opportunities.

MMA recipients will be required to enroll in 2 or 3 credit hours of either MMBIO 294R (for new researchers) or MMBIO 494R (for experienced researchers), as advised by the faculty mentor. These courses simply formalize the research commitment and do not involve a traditional scheduled course. Student applicants seeking for their first mentored research experience at BYU are especially encouraged to apply.

### **MMA Application Instructions**

**Eligibility:** Only students in the three MMBio undergraduate majors are eligible to apply. Students not yet working in a research laboratory are especially encouraged to apply. Applicants should be able to devote 10-15 hours per week to research-related activities during the fall 2022 semester.

**Part 1:** Craft an essay describing your story. Consider the following questions: How have your circumstances and past experiences prepared you for your scientific pursuits? What kinds of barriers have you had to overcome? What unique talents, experiences, attributes, or perspectives would you bring to the MMBio research community? What are your research interests? Which professors would you like to carry out research with (name at least two)? For your convenience, we provide below a list of available MMBio faculty with their areas of expertise. This essay may be no longer than 1 page, single-spaced, with your first and last name as the title.

**Part 2:** Your BYU Academic Progress Report. To access this report, go to <https://my.byu.edu> > Campus Links > School > myMAP > Progress Report.

**Submission:** The two parts of the application should be compiled into a single pdf document, and the file should be named after you: [lastname\_firstname.pdf]. Submit this via email to [mmbiodept@byu.edu](mailto:mmbiodept@byu.edu) with the subject line "MMA Application." We will confirm receipt of your application. Applications are due by 5pm on Friday, August 5, 2022.

**Evaluation:** Applications will be evaluated primarily on the merits of the essay; academic background will also be considered. Award decisions will be announced by Friday August 12, 2022.

*(MMBio research faculty and areas of expertise are listed on the following page)*

## **MMBio Research Faculty and Areas of Expertise**

### **Dr. Brad Berges**

How HIV causes AIDS; antimicrobial resistance in *Staphylococcus* biofilms

### **Dr. Mary Davis**

Genetic analysis of complex diseases; disease research using large medical record databases

### **Dr. David Erickson**

Molecular basis of bacterial virulence and evolution

### **Dr. Joel Griffitts**

Bacterial responses to environmental stressors; bacterial gene regulation

### **Dr. Julianne Grose**

Genetic control of cellular metabolism; bacteriophages in nature and their use for disease control

### **Dr. Steven Johnson**

Understanding DNA packaging in the nucleus using high-throughput DNA sequencing

### **Dr. Bill McCleary**

Bacteriophage interactions with host cell proteins

### **Dr. Brent Nielsen**

Microbes that assist plants to deal with stressful conditions

### **Dr. Kim O'Neill**

Cancer detection and immunotherapy-based treatment

### **Dr. Brett Pickett**

Using genome-scale data to understand how human cells respond to viral diseases; how viruses and bacteria evolve

### **Dr. Richard Robison**

Detection of bacterial and viral pathogens; mechanisms of drug resistance

### **Dr. Scott Weber**

Activation of the immune system in response to disease

### **Dr. Eric Wilson**

Molecular genetic mechanisms underlying staph infections