



UNIVERSITY OF ARKANSAS



RESEARCH EXPERIENCES FOR UNDERGRADUATES (REU) SUMMER 2020

Adventures in Biology and Biochemistry: Remote REU

Don't let SARS-CoV-2 (COVID-19) ruin your dream of participating in a summer NSF REU experience.

The ABB: Remote REU program has an option designed especially for you during this pandemic. Using *state-of-the-art* remote delivery, you can participate in hypothesis-driven research from the comfort of your own home with the opportunity for a 2-4 week onsite experience if this nasty pandemic subsides over the summer and the CDC indicates that normal activities can resume.

APPLY TODAY....!!!

Deadline Extended to April 15, 2020
(5:00 PM Central Standard Time)

<http://ceballoslab.uark.edu>
(Top Menu Bar – Application)

For more information contact:
ceballos@uark.edu

- Project #1:** Exploring structure and function of hyperthermophilic archaeal group II chaperonins *Synthetic Biology and Protein Biochemistry* (2 positions). In this project, students will use state-of-the-art biomolecular modeling software to test hypotheses related to the structural stability of an engineered enzyme sequestration platform being developed in the Ceballos Lab (under NSF MCB award no. 1818346)
- Project #2:** Structural Analysis of Acid-treated Lignocellulosic Biomass and Sugar Reduction Efficiency *Biochemistry and Enzymatics* (2 positions). In this project, students will analyze electron microscopy images and run *in silico* experiments to test hypotheses related to the impacts of acid-pretreatment on enzyme-mediated lignocellulosic biomass (e.g., bagasse, corn/soybean meal) degradation (under NSF INFEWS award no. 1856091)
- Project #3:** Relative Virulence (V_R) of Sulfolobus Spindle-shaped Viruses: Does Death Phase Matter? *Extremophile Biology and Computational Biology* (2 positions). In this project, students will use various software packages (e.g., R, Python, OriginPro) to test hypotheses regarding the relative virulence of geographical-variants of the Sulfolobus Spindle-shaped Virus (SSV) on allopatric and sympatric hosts of the family *Sulfolobaceae* under different infection scenarios (under NSF RCN award no. 1624171)
- Project #4:** Morphometrics in Human Herpesvirus 6-infected differentiated Human Neural Stems Cells *Virology and Computational Biology* (2 positions). In this project, students will use various software packages (e.g., Fiji) to analyze light and fluorescence microscopy images and test hypotheses regarding the impacts of human herpesvirus infections on cell morphology in human neural stem cells. (NSF OIA award no. 1457888)