**Summer 2021-WiCCED Internships (for 3-5 students) at Wesley College, Dover, DE.**

**Mentors:** Mr.Kristopher Roeske (Wesley), Dr. Kevin E. Shuman (Wesley), Dr. Yolanda Williams-Bey (UD), and Dr. Malcolm J. D’Souza (Wesley).

WiCCEd interns will work under the direct supervision of the listed mentors on hands-on STEM laboratory skills training. Interns are exposed to real-world STEM laboratory experiences, gain valuable mentorship, and learn about education and career opportunities in STEM. WiCCED internships are for undergraduate (sophomore to senior) students pursuing STEM degrees, are ten weeks in length (minimum of 400 hours), and all WiCCED interns receive a stipend.

This internship aims to introduce or reinforce the basic chemistry, biology, and microbiology laboratory skills required in the STEM industry. The training ensures that you are trained in basic laboratory operations and the use of laboratory notebooks, data processing, and statistical analysis. The internship will incorporate existing SOPs (standard operating procedures) and protocols so that interns are skilled in basic laboratory operations and are all following best practices. An additional benefit is the opportunity to review laboratory practices to ensure compliance with current regulatory guidelines and best practices.

**Outcomes**

What you will learn:

* Introduction to working in the laboratory
* Labeling and housekeeping
* Database skills
* Solvent preparation, pH and Conductivity value determination, polarimetry, titration, condensation, small molecule synthesis
* Prepare media, and practice sterile techniques
* Setting up and use of analytical instrumentation
* Spectrophotometers: UV/VIS, infrared, atomic absorption
* Electrophoresis: immune, acrylamide gel, paper
* Chromatography: paper, thin layer
* Column: ion exchange resins, gel, gas-liquid, HPLC
* Use of micropipettes
* Molecular cloning
* Use of restriction enzymes
* Use of PCR (Polymerase Chain Reaction) machines
* Blotting techniques Ex: Western Blot
* Communications – verbal, written, active listening, body language
* Strategies – decision making, problem-solving, critical thinking, creativity, ability to locate and use information
* Self-management – professionalism, emotional intelligence, work ethic, time-management, attitude, integrity, resilience, predictability
* Team-work – collaboration, ability to operate effectively in a team environment
* Develop and present a scientific poster