

**Abstract:**

Sweat sensing technology may have various applications in the Air Force. For example, monitoring the sweat levels of pilots during high-stress situations could provide insights into their physiological responses and help optimize training programs to improve performance under pressure. The goal of this project is the development of macrocyclic surrogates that can detect selective apocrine sweat odorants through host-guest complexation. The work proposed will provide research training to high school and undergraduate students to incite their interest in sciences. The PI proposes to also train high school teachers on computation chemistry aspect so that they can engage high school students into this and related research throughout the year. The chosen topic falls within the scope of Air Force research priorities and would provide an excellent platform for students to interact with the PI as well as AFRL collaborators. The proposed work will provide them a wholistic viewpoint of how fundamental sciences could have direct implication to application areas relevant to the DoD. The overarching goal is to expose students to research and eventually pave a pathway for them into higher education in sciences or into the Air Force workforce.