Undergraduate opportunity in sensory physiology of termites

Termites are a group of eusocial insects that live in complex societies, whose most characteristic feature is division of labor. The division of labor ensures the cohesion and maintenance of the termite colony. For instance, reproductive castes (queens and kings), are responsible for mating and producing eggs whereas the non-reproductive individuals (workers and soldiers) care for eggs, provide food to the nest, and protect the nest against intruders. The mystery behind the cohesion of termite colonies, however, lays in the accurate and efficient communication of the nestmates. How do members of such a colony distinguish friend from foe when they live almost exclusively in darkness? A key component to inter- and intra-colony communication in termite societies is the recognition of specific chemicals. Given the informational importance of these chemicals for colony organization, it is important to better understand the olfactory perception of social insects.

Our group studies the detection and discrimination of olfactory cues by the peripheral olfactory system of termites. Using a sophisticated technique known as single sensillum recordings (SSRs) the electrophysiological responses of individual olfactory sensory neurons (OSNs) to biologically relevant chemicals is measured. We are seeking a highly motivated, enthusiastic, and team-oriented undergraduate student with a sense for detail to join our research group in the lab of Dr. Juergen Liebig (SoLS, ASU) to help unravel the sensory basis of chemical communication of termites. Students with a strong interest in sensory physiology or related background are encouraged to apply.

Please submit a CV and cover letter describing your background, career goals, and why you are interested in this position to Dr. Juergen Liebig (juergen.liebig@asu.edu)