Research Centers in Minority Institutions (UTSA)
Institute for Integration of Medicine and Science (UTHSCSA)
Cancer Therapy & Research Center (UTHSCSA) &
UTSA-UTHSCSA Joint Graduate Program in Biomedical Engineering

Seminars in Translational Research

"Building the Capacity for Translational Research"

Dr. Lindsey Macpherson, Ph.D.

Assistant Professor at UTSA

Investigating taste from the tongue and gut to the brain

The ability to detect chemicals in the environment (chemosensation) is fundamental to life: organisms must identify and ingest food sources and avoid potential toxins. In mammals, this task is accomplished by the sense of taste. On the tongue, within the taste bud, specialized Taste Receptor Cells (TRCs) detect a single taste quality and then relay that information to taste ganglion neurons. Interestingly, chemosensation does not stop there. Analogous to TRCs in the tongue, there are specialized chemoreceptor cells present along the digestive tract which signal the presence of nutrients, toxins, and metabolites through visceral ganglion neurons. Both taste and visceral ganglion neurons relay their signals to the brainstem, often triggering reflex actions (salivation, gag, cough, vomit, gut motility, etc.,). These circuits are “hard wired” from the tongue and gut to the brain – meaning that neither experience nor learning is required for proper function. However, even these simplistic circuits must be wired correctly for the appropriate reaction. I will present my recent work on wiring the taste system and discuss my future plans to investigate gut chemosensation and reflex circuits.

Friday, November 17, 2017
9:00 — 10:00 AM
Biotechnology, Sciences & Engineering Bldg. Room 2.102
Refreshments will be served

For more information contact Cindy Russel, Institute for Integration of Medicine and Science
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