TEMS

TLL External Monthly Seminar

TEMASEK LIFESCIENCES LABORATORY

ALL ARE WELCOME

*Scan for address

24 April 2023 (Monday), 11am
The Auditorium (Level 1)

Hosted by: Dr Koh Tong Wey

Initial stages of olfactory processing and neuromodulation

Prof. Chih-Ying Su
University of California San Diego, California



For any information processing system, the quality of input impacts the quality of output. Therefore, if conflicting signals or irrelevant information can be filtered at the input level, the system's efficiency in extracting salient information will likely improve. The research in the Su lab shows that such early processing, or pre-processing, can indeed occur in the olfactory periphery of *Drosophila*. In the seminar today, the speaker will discuss findings that highlight early olfactory processing, with particular focus on how compartmentalization allows olfactory receptor neurons to process countervailing cues via direct electrical interaction (ephaptic coupling), and how neuromodulation can act on specific subsets of receptor neurons to enable context-appropriate behavioral responses.

Prof. Chih-Ying Su is an Associate Professor in the Department of Neurobiology, School of Biological Sciences at UC San Diego. She received her B.A. in Zoology from National Taiwan University and Ph.D in Neuroscience from Johns Hopkins University School of Medicine. She conducted her postdoctoral research with Dr. John Carlson at Yale University.

Recent Publications:

1. Wu, S-T*, Chen, J-Y*, Martin, V, Ng, R, Zhang, Y, Grover, D, Greenspan, RJ, Aljadeff, J, **Su, C-Y** (2022) Valence opponency in peripheral olfactory processing. *Proc Natl Acad Sci USA*. 119 (5): e2120134119. PMID: 35091473
2. Nava Gonzales, C, McKaughan, Q, Bushong, EA, Cauwenberghs, K, Ng, N, Madadny, M, Ellisman, MH, **Su, C-Y** (2021) Systematic morphological and morphometric analysis of identified olfactory receptor neurons in Drosophila melanogaster. *eLife* 10:e69896. PMID: 34423777
3. Ng, R, Salem, SS, Wu, S-T, Lin, H-H, Wu, M, Shepherd, AK, Joiner, WJ, Wang, JW, **Su, C-Y** (2019). Amplification of Drosophila olfactory responses by a DEG/ENaC channel. *Neuron* (104), 947-959. PMID: 31629603