Stanford



Thomas Rogerson

Basic Life Research Scientist, Biology

Bio

ACADEMIC APPOINTMENTS

- Basic Life Research Scientist, Biology

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

As a postdoctoral research fellow in the laboratory of Mark Schnitzer I am utilizing chronic, in vivo, fluorescence calcium-imaging combined with chemo and optogenetic manipulations to determine the mechanisms by which neuronal circuits and the ensembles of cells within them enable the encoding and recall of context-dependent memories. Memories are often constructed from associations between diverse pieces of information that have no intrinsic connection. By studying how disparate pieces of information are stored in relation to each other before and after a learning event, I hope to shed light on the mechanisms by which memories are formed in the mammalian brain. Ultimately, this research will facilitate our understanding of how higher order knowledge is synthesized and extracted from information in the brain.

Publications

PUBLICATIONS

- **Large-Scale Fluorescence Calcium-Imaging Methods for Studies of Long-Term Memory in Behaving Mammals** *COLD SPRING HARBOR PERSPECTIVES IN BIOLOGY*
  Jercog, P., Rogerson, T., Schnitzer, M. J.
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- **Molecular and Cellular Mechanisms for Trapping and Activating Emotional Memories.** *PloS one*
  Rogerson, T., Jayaprakash, B., Cai, D. J., Sano, Y., Lee, Y., Zhou, Y., Bekal, P., Deisseroth, K., Silva, A. J.
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- **Encoding and storage of spatial information in the retrosplenial cortex** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Czajkowski, R., Jayaprakash, B., Wiltgen, B., Rogerson, T., Guzman-Karlsson, M. C., Barth, A. L., Trachtenberg, J. T., Silva, A. J.
  2014; 111 (23): 8661-8666

- **Synaptic tagging during memory allocation** *NATURE REVIEWS NEUROSCIENCE*
  Rogerson, T., Cai, D. J., Frank, A., Sano, Y., Shobe, J., Lopez-Aranda, M. F., Silva, A. J.
  2014; 15 (3): 157-169

- **CREB regulates excitability and the allocation of memory to subsets of neurons in the amygdala** *NATURE NEUROSCIENCE*
  Zhou, Y., Won, J., Karlsson, M. G., Zhou, M., Rogerson, T., Balaji, J., Neve, R., Poirazi, P., Silva, A. J.
  2009; 12 (11): 1438-1443

- **Molecular and Cellular Approaches to Memory Allocation in Neural Circuits** *SCIENCE*
  Silva, A. J., Zhou, Y., Rogerson, T., Shobe, J., Balaji, J.
  2009; 326 (5951): 391-395