

Stanford



Richard Roth

Postdoctoral Scholar, Neurosurgery

Bio

PROFESSIONAL EDUCATION

- Bachelor of Science, Technische Universitat Munchen (2011)
- Doctor of Philosophy, Johns Hopkins University (2019)

STANFORD ADVISORS

- Jun Ding, Postdoctoral Faculty Sponsor

Publications

PUBLICATIONS

- **Visualizing synaptic plasticity in vivo by large-scale imaging of endogenous AMPA receptors.** *eLife*
Graves, A. R., Roth, R. H., Tan, H. L., Zhu, Q., Bygrave, A. M., Lopez-Ortega, E., Hong, I., Spiegel, A. C., Johnson, R. C., Vogelstein, J. T., Tward, D. J., Miller, M. I., Hugarir, et al
2021; 10
- **AMPA Receptors Exist in Tunable Mobile and Immobile Synaptic Fractions In Vivo.** *eNeuro*
Chen, H., Roth, R. H., Lopez-Ortega, E., Tan, H., Hugarir, R. L.
2021
- **An optimized CRISPR/Cas9 approach for precise genome editing in neurons.** *eLife*
Fang, H., Bygrave, A. M., Roth, R. H., Johnson, R. C., Hugarir, R. L.
2021; 10
- **Cortical Synaptic AMPA Receptor Plasticity during Motor Learning** *NEURON*
Roth, R. H., Cudmore, R. H., Tan, H. L., Hong, I., Zhang, Y., Hugarir, R. L.
2020; 105 (5): 895-+
- **Lamina-specific AMPA receptor dynamics following visual deprivation in vivo** *ELIFE*
Tan, H. L., Roth, R. H., Graves, A. R., Cudmore, R. H., Hugarir, R. L.
2020; 9
- **An ultrasensitive biosensor for high-resolution kinase activity imaging in awake mice.** *Nature chemical biology*
Zhang, J. F., Liu, B. n., Hong, I. n., Mo, A. n., Roth, R. H., Tenner, B. n., Lin, W. n., Zhang, J. Z., Molina, R. S., Drobizhev, M. n., Hughes, T. E., Tian, L. n., Hugarir, et al
2020
- **Single-fluorophore biosensors for sensitive and multiplexed detection of signalling activities** *NATURE CELL BIOLOGY*
Mehta, S., Zhang, Y., Roth, R. H., Zhang, J., Mo, A., Tenner, B., Hugarir, R. L., Zhang, J.
2018; 20 (10): 1215-+

- **Dynamic imaging of AMPA receptor trafficking in vitro and in vivo** *CURRENT OPINION IN NEUROBIOLOGY*
Roth, R. H., Zhang, Y., Huganir, R. L.
2017; 45: 51–58
- **Homer1a drives homeostatic scaling-down of excitatory synapses during sleep** *SCIENCE*
Diering, G. H., Nirujogi, R. S., Roth, R. H., Worley, P. F., Pandey, A., Huganir, R. L.
2017; 355 (6324): 511+
- **Synaptic Organization of the Neuronal Circuits of the Claustrum** *JOURNAL OF NEUROSCIENCE*
Kim, J., Matney, C. J., Roth, R. H., Brown, S. P.
2016; 36 (3): 773-784