

# Stanford

---



## Phillip Kyriakakis

Sr Res Scientist-Basic Life  
Bioengineering

### Bio

---

#### BIO

Phillip Kyriakakis, Ph.D. is a Senior Research Scientist in the Bioengineering Department at Stanford University in the Wu Tsai Institute for Neuroscience. Dr. Kyriakakis did his undergraduate work in Biochemistry at UMass Boston, where he also worked in Dr. Alexey Veraksa's developmental biology lab and started to develop PhyB optogenetics in animal cells (2008). Dr. Kyriakakis continued his education at UC San Diego in the Division of Biological Sciences. There, he studied cellular programming and metabolism to obtain his degree with a specialization in Multiscale Biology. Dr. Kyriakakis did his postdoctoral work in the Bioengineering Department at UC San Diego with Todd Coleman, continuing the development of optogenetic tools and related technologies. In 2021 Dr. Kyriakakis moved to his Senior Research Scientist role at Stanford University in the Bioengineering Department at the Wu Tsai Institute for Neurosciences.

#### ACADEMIC APPOINTMENTS

- Senior Research Scientist, Bioengineering

#### PROFESSIONAL EDUCATION

- BS, University of Massachusetts, Boston , Biochemistry (2008)
- Ph.D., UC San Diego , Multiscale Biology (2014)

#### PATENTS

- Todd Prentice Coleman, Phillip Kyriakakis. "United States Patent US10407460B2 Solid phase sequence-independent nucleic acid assembly", University of California, Mar 9, 0178
- Todd Prentice Coleman, Marianne Catanho, Phillip Kyriakakis. "United States Patent US11021723B2 System and method for biosynthesis", University of California, May 6, 0169

### Teaching

---

#### COURSES

2023-24

- Fundamentals for Engineering Biology Lab: BIOE 44 (Win)

### Publications

---

#### PUBLICATIONS

- **Light-Guided Rabies Virus Tracing for Neural Circuit Analysis** *bioRxiv*  
Zhang, S., Ma, Y., Ngamkanjanarat, W., Takahashi, S., Gibbs, D., Coleman, T., Doan, S., Kyriakakis, P.  
2023

- **Lipopolysaccharide-induced maternal immune activation modulates microglial CX3CR1 protein expression and morphological phenotype in the hippocampus and dentate gyrus, resulting in cognitive inflexibility during late adolescence.** *Brain, behavior, and immunity*  
Fernandez de Cossio, L., Lacabanne, C., Bordeleau, M., Castino, G., Kyriakakis, P., Tremblay, M.  
2021
- **Building a Simple and Versatile Illumination System for Optogenetic Experiments** *JOVE-JOURNAL OF VISUALIZED EXPERIMENTS*  
Kyriakakis, P., de Cossio, L., Howard, P., Kouv, S., Catanho, M., Hu, V. J., Kyriakakis, R., Allen, M. E., Ma, Y., Aguilar-Rivera, M., Coleman, T. P.  
2021
- **Engineering light-controllable CAR T cells for cancer immunotherapy** *SCIENCE ADVANCES*  
Huang, Z., Wu, Y., Allen, M. E., Pan, Y., Kyriakakis, P., Lu, S., Chang, Y., Wang, X., Chien, S., Wang, Y.  
2020; 6 (8): eaay9209
- **An AND-Gated Drug and Photoactivatable Cre-loxP System for Spatiotemporal Control in Cell-Based Therapeutics** *ACS SYNTHETIC BIOLOGY*  
Allen, M. E., Zhou, W., Thangaraj, J., Kyriakakis, P., Wu, Y., Huang, Z., Phuong Ho, Pan, Y., Limsakul, P., Xu, X., Wang, Y.  
2019; 8 (10): 2359-2371
- **Biosynthesis of Orthogonal Molecules Using Ferredoxin and Ferredoxin-NADP(+) Reductase Systems Enables Genetically Encoded PhyB Optogenetics** *ACS SYNTHETIC BIOLOGY*  
Kyriakakis, P., Catanho, M., Hoffner, N., Thavarajah, W., Hu, V. J., Chao, S., Hsu, A., Pham, V., Naghavian, L., Dozier, L. E., Patrick, G. N., Coleman, T. P.  
2018; 7 (2): 706-717
- **Medium-scale Preparation of Drosophila Embryo Extracts for Proteomic Experiments** *JOVE-JOURNAL OF VISUALIZED EXPERIMENTS*  
Yang, L., Paul, S., DuBois-Coyne, S., Kyriakakis, P., Veraksa, A.  
2017
- **Heparin Mimicking Polymer Promotes Myogenic Differentiation of Muscle Progenitor Cells** *BIOMACROMOLECULES*  
Sangaj, N., Kyriakakis, P., Yang, D., Chang, C., Arya, G., Varghese, S.  
2010; 11 (12): 3294-3300
- **beta-arrestin Kurtz inhibits MAPK and Toll signalling in Drosophila development** *EMBO JOURNAL*  
Tipping, M., Kim, Y., Kyriakakis, P., Tong, M., Shvartsman, S. Y., Veraksa, A.  
2010; 29 (19): 3222-3235
- **Tandem affinity purification in Drosophila - The advantages of the GS-TAP system** *FLY*  
Kyriakakis, P., Tipping, M., Abed, L., Veraksa, A.  
2008; 2 (4): 229-235