Stanford

Kyle Gabriel Daniels

Assistant Professor of Genetics

NIH Biosketch available Online Curriculum Vitae available Online

Bio

BIO

Kyle obtained his BS in Biochemistry from the University of Maryland College Park in 2010, conducting undergraduate research with Dr. Dorothy Beckett, PhD. He obtained his PhD in Biochemistry with a certificate in Structural Biology and Biophysics. His dissertation is titled "Kinetics of Coupled Binding and Conformational Change in Proteins and RNA" and was completed in the laboratory of Dr. Terrence G. Oas, PhD. Kyle performed postdoctoral training with Dr. Wendell A. Lim, PhD at UCSF studying how CAR T cell phenotype is encoded by modular signaling motifs within chimeric antigen receptors.

Kyle's lab is interested in harnessing the principles of modularity to engineer receptors and gene circuits to control cell functions.

The lab will use synthetic biology, medium- and high-throughput screens, and machine learning to: (1) Engineer immune cells to achieve robust and durable responses against various cancer targets, (2) Coordinate behavior of multiple engineered cell types in cancer, autoimmune disease, and payload delivery, (3) Control survival, proliferation, and differentiation of hematopoietic stem cells (HSCs) and immune cells, and (4) Explore principles of modularity related to engineering receptors and gene circuits in mammalian cells.

ACADEMIC APPOINTMENTS

- Assistant Professor, Genetics
- Member, Bio-X
- Member, Stanford Cancer Institute

Teaching

COURSES

2023-24

- Advanced Genetics: GENE 205 (Win)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Jeremy Bjelajac, Zaria Contejean, Simone Evans, Laura Guerrero, Julian Perez

Postdoctoral Faculty Sponsor

Alex Beckett, Wan Sang Cho

Doctoral Dissertation Advisor (AC)

Ethan Chen, Jodie Lunger, Antonio Salcido-Alcantar JR

Publications

PUBLICATIONS

- **Harnessing the power of artificial intelligence to advance cell therapy.** *Immunological reviews*
  Capponi, S., Daniels, K. G.
  2023
- **Decoding CAR T cell phenotype using combinatorial signaling motif libraries and machine learning.** *Science (New York, N.Y.)*
  Daniels, K. G., Wang, S., Simic, M. S., Bhargava, H. K., Capponi, S., Tonai, Y., Yu, W., Bianco, S., Lim, W. A.
  2022; 378 (6625): 1194-1200