WELCOME TO PUBS!

Physical Underpinnings of Biological Systems - 2018

http://kampmannlab.ucsf.edu/pubs-2018

Faculty



Robert Newberry PUBS fellow, Course coordinator



Martin Kampmann Instructor



Eric Chow Sequencing



Delaine Larsen Microscopy



Sy Redding Co-instructor



Joe DeRisi Instructor emeritus





Jean Costello



George Hartoularos



Snow Naing



Maureen Pittman



Nish Reddy

TA: Jean



Laura



Calla



TA: Snow



Matt



TA: George







Wren



TA: Nish







TA: Maureen



Miriam





PUBS is an experiment



GRADUATE EDUCATION

Interdisciplinary Graduate Training in Teaching Labs

Ronald D. Vale,^{1,2,3*} Joseph DeRisi,^{2,3} Rob Phillips,⁴ R. Dyche Mullins,^{1,2} Clare Waterman,^{1,5} Timothy J. Mitchison^{1,6}

Intensive, short-term courses meld students and faculty and new techniques in pursuit of genuine research questions.

> Science 21 December 2012: Vol. 338 no. 6114 pp. 1542-1543 DOI: 10.1126/science.1216570



Mark Zuckerberg Yesterday at 8:12 AM ⋅ Palo Alto ⋅ ⊗

Our team at the **Biohub** just funded its first class of investigators -- 47 scientists from **Stanford**, **UCSF** and **Berkeley** working to help cure all diseases in our children's lifetime.

 \checkmark

Today, just four kinds of diseases cause the majority of deaths. The **Chan Zuckerberg Initiativ**... See More



Undergraduate student



Graduate student

Consuming knowledge

Producing knowledge



Biologists

© 2018. Published by The Company of Biologists Ltd | Biology Open (2018) 7, bio036103. doi:10.1242/bio.036103

RESEARCH ARTICLE

Extending chemical perturbations of the ubiquitin fitness landscape in a classroom setting reveals new constraints

on sequence tolerance

Dri Oscy Carlov, Kyle A. Barlov, "Daniel Asamov", Yuliya Birman", Derek Britain", Weilin Chen², Evan M. Green¹, Lillian R. Kenner¹, Bruk Monsa³, Leanna S. Morinishi², Charlotte A. Nelson², Erin M. Poss³, Pooja Suresh¹, Ruilin Tian¹, Taylor Arhar³, Beatrice E. Ary³, David P. Bauer¹, Ian D. Bergman³, Rachel M. Brunett¹¹, Yonthia M. Chio², Shizhong A. Dai³, Miles S. Dickinson², Susanna K. Elledge³, Cole V. M. Helsell¹¹, Nahan L. Hender³, Entity Kang³, Nadja Kam¹, Matvel S. Khoroshkin², Lisa L. Kirkemo³, Greyson R. Lewis¹, Kevin Lou³, Wesley M. Mairi, Alison M. Maxwell⁹, Peter F. McTigue³, Douglas M. Weiter¹, Tamas L. Nagy², Andrew M. Natale¹, Keely Ottion³, Sergel Pourmal², Gabriel K. Reder¹, Nicholas J. Rettko³, Peter J. Rohwedde², Daniel M. C. Schwarz², Sophia K. Tan¹, Pau J. Thomas³, Ryan W. Tibble³, Jason F. Torwil, ³Mar, K. Tsal³, Fatima S. Ugur³, Douglas R. Wassarman³, Alexander M. Wolff, Taia S. Wu³, Derek Bogdanofff, Jennifer Ll⁶, Kurt S. Thom⁴, Shane O'Conchid⁴, Daniel B. DarRisi⁴, Martin Kampmann^{4,8,a} and James S. Fraser^{6,a}

Key aspects of PUBS

- Team-based
- Interdisciplinary
- Experiments + Bioinformatics
- Big Data
- Thinking about biology and its physical basis



Class components

- Experiments
- Data analysis
- Journal club
- Protocol talks
- Faculty lectures
- Presentations
- Final presentation: Nov 5



Class policies

- Course website: http://kampmannlab.ucsf.edu/pubs-2018
- Show up on time!
- Some experimental steps happen outside class hours coordinate with your team
- Planned absences: let Martin know by 9/19
- Absence due to sickness: let us know before the class
- Final presentation (11/5, TBC): mandatory
- Complete online course "Laboratory Safety for Researchers" by 9/18, 1 pm: <u>https://learningcenter.ucsfmedicalcenter.org/</u> Email your training transcript to your TA

Secret tips for success



- Communicate
- Set priorities
- Connect the dots
- Hypothesis-driven data analysis