

Joint Postdoctoral position @ Cheng & Zhou lab- **Structural biology of Aging**

The Yifan Cheng lab @UCSF&HHMI and Chuankai (Kai) Zhou lab @ Buck Institute (Bay Area of California) would like to jointly hire 1-2 **Postdoctoral Researcher** to study the biophysics & biochemistry of proteostasis and protein folding under stress and aging using Cryo-EM & molecular dynamics (MD) simulation. The postdoc candidate will work in both labs to combine the strengths and technologies to investigate the proteostasis and protein folding changes during aging and stress using budding yeast, human cell culture, and senescent cells as the model (fruit fly is another model we have in lab).

Proteostasis defect is a conserved hallmark of aging and many neurodegenerative diseases, including AD. In fact, many of these age-associated neurodegenerative diseases are protein folding diseases induced by aging (e.g., amyloid transition from native proteins). To systematically understand how the cellular proteome (e.g., protein folding and misfolding) responds to aging/senescence and age-related diseases, we leverage an array of cutting-edge techniques, including super resolution imaging, high-throughput screening, biochemistry & cryo-EM, bioinformatics, MD simulation, and machine learning from two labs to investigate the problem in both systematic and atomic level. For this joint postdoc position, we are interested in questions related to **protein folding plasticity induced by aging and stress**.

QUALIFICATIONS

- With background on biochemistry & cryo-EM and/or MD simulation. We also welcome people with degrees in biology, chemistry, computer science, or related and are interested in learning structural biology.
- Strong interest in proteostasis (including protein folding) and aging.

TO APPLY

Please submit a cover letter addressing your past research experience, plans, and expectations for working in both labs. Please also include a current CV and three professional references. Please feel free to consult Dr. Cheng or Dr. Zhou via email (Yifan.Cheng@ucsf.edu; kzhou@buckinstitute.org).

Related publications :

- 1) Choi et al. 2023. Efficient tagging of endogenous proteins in human cell lines for structural studies by single-particle cryo-EM. *PNAS*. 120 (31), e2302471120
- 2) Wu et al., 2023. Reorientation of INO80 on hexasomes reveals basis for mechanistic versatility. *Science* 381 (6655), 319-324
- 3) Liu, et al. 2023. Nascent mitochondrial proteins initiate the localized condensation of cytosolic protein aggregates on the mitochondrial surface. *PNAS*. Aug; 120(31) e2300475120
- 4) Domnauer. et al., 2021. Proteome plasticity in response to persistent environmental change. *Mol Cell*. 81(16):3294-3309.



Howard Hughes
Medical Institute