

Ninning S. Liu, PhD

Postdoctoral Fellow – Wyss Institute

- PhD in Molecular and Cellular Biology, B.S. Biochemistry, B.A. Chemistry;
- Experienced in programming and data analysis in MATLAB and Origin, focusing on signal-to-noise analysis, curve fitting, and Monte Carlo simulations
- Extensive use of Adobe Illustrator, Photoshop and Flash to design publication quality figures and animations
- Native Fluency in Chinese (Mandarin)
- U.S. Citizenship

Work Experience

Harvard University

2015 - Present

Postdoctoral Fellow – Wyss Institute

- Super-resolution imaging and nanoscale labeling.
- Performed spot finding and centroid fitting of Gb sized imaging datasets
- Restructured >1e6 sub-images for GPU parallelization, shortened processing time by >10x.

University of California – Berkeley *Research Specialist I*

2013 – 2014

University of California – Berkeley *Graduate Student Researcher*

2007 – 2013

Academic Advisor: HHMI Investigator Dr. Carlos Bustamante

- Designed and conducted a 5 year single-molecule research project on DNA motor proteins. Presented results at multiple conferences.
- Performed SNR analysis of 10-100 Mb sized time traces, extracting transition points using log-likelihood fitting, FFT, and pairwise distributions.
- Performed fluctuation analysis of micron beads for instrument calibration using FFT
- Created a MATLAB GUI to streamline data cropping for ~1000 datasets
- Worked on fluorescent imaging under Dr. Steven Chu.

Publications

Liu, N., Chistol, G., Cui, Y., Bustamante, C. (2017). Mechanochemistry for an Ultra-Fast Ring-Shaped DNA Translocase. *Under Review*.

Liu, N., Chistol, G., and Bustamante, C. (2015). Two-subunit DNA escort mechanism and inactive subunit bypass in an ultra-fast ring ATPase. *Elife* 4.

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