### hl2522@cornell.edu https://cv.greysea.cc

## **Hongjiang Liu**

**EDUCATION** 

Ph.D. Student Cornell University, BMCB Program  B.S. Biological Science (w/ Honors) Nankai University, Advisor: Prof. Xinglu Huang	2024 – 2029 2018 – 2023
Research Assistant National Engineering Lab for Neuromodulation, Tsinghua University Advisor: Prof. Yanan Sui	
Visiting Student Institute for Human Genetics, University of California, San Francisco Advisor: Prof. Yin Shen	2021 – 2022
Intern National Engineering Lab for Neuromodulation, Tsinghua University	2021

Functional & Computational Genomics, Neurological Disorders

### **PUBLICATIONS**

RESEARCH INTERESTS

- [1] Chung C, Yang J, Yang X, <u>Liu H</u>, Ma Z, Szulzewsky F, Holland E, Shen Y, Shu X. Phase separation of YAP-MAML2 differentially regulates the transcriptome. *PNAS* 121 (7) e2310430121 <u>PMID</u>: 38315854
- [2] Sun W, Wang N, <u>Liu H</u>, Yu B, Jin L, Ren X, Shen Y, Wang L. Genetically Encoded Chemical Cross-linking of RNA in vivo. *Nat Chem* 2023;15(1):21–32. <u>PMID: 36202986</u>
- [3] Yang X, Wen J, Yang H, Jones IR, Zhu X, Liu W, Li B, Clelland CD, Luo W, Wong MY, Ren X, Cui X, Song M, Liu H, Chen C, Eng N, Ravichandran M, Sun Y, Lee D, Van Buren E, Jiang MZ, Chan CSY, Ye CJ, Perera RM, Gan L, Li Y, Shen Y. Functional characterization of Alzheimer's disease genetic variants in microglia. *Nat Genet* 2023;1–10. PMID: 37735198
- [4] Yang J, Chung C, Koach J, <u>Liu H</u>, Navalkar A, Zhao Q, Yang X, He L, Mittag T, Shen Y, Weiss WA, Shu X. Phase separation of Myc differentially modulates the transcriptome. *bioRxiv* 2022.06.28.498043; [Preprint]
- [5] Wei Y, Wu J, Wu Y, <u>Liu H</u>, Meng F, Liu Q, Midgley AC, Zhang X, Qi T, Kang H, Chen R, Kong D, Zhuang J, Yan X, Huang X. Prediction and Design of Nanozymes using Explainable Machine Learning. *Advanced Materials* 2022;34(27):2201736. <u>PMID</u>: 35487518
- [6] Sun Z, Liu Q, Wang X, Wu J, Hu X, Liu M, Zhang X, Wei Y, Liu Z, <u>Liu H</u>, Chen R, Wang F, Midgley AC, Li A, Yan X, Wang Y, Zhuang J, Huang X. Bioorthogonal catalytic nanozyme-mediated lysosomal membrane leakage for targeted drug delivery. *Theranostics* 2022;12(3):1132–47. <u>PMID: 35154478</u>

#### SELECTED RESEARCH EXPERIENCE

End-to-End Design of GRIP-seq: A Novel Sequencing Technique for Detecting RNA m6A Sites with Single-nucleotide Resolution Using Unnatural Amino Acids

Advisor: Prof. Yin Shen & Prof. Lei Wang Institute for Human Genetics, UCSF

Dec. 2021 – Jul. 2022 available on GitHub

# The Analysis of Multiple Sequencing Libraries: scRNA-seq, ATAC-seq, RNA-seq, ChIP-seq, CLIP-seq, Hi-C, CRISPR, etc.

Advisor: Prof. Yin Shen Oct. 2021 – Jul. 2022

Institute for Human Genetics, UCSF

### Evaluation of AlphaFold2 Algorithms and Improvements for Enhanced Predictions

Advisor: Prof. Yanan Sui

Jul. 2021 – Sept. 2021

National Engineering Lab for Neuromodulation, Tsinghua University Website Available: https://alphafold.lnsgroup.cc:5001

available on GitHub

**Analyzing Nanodrug Delivery Efficiency in Tumors Using Machine Learning** 

Advisor: Prof. Xinglu Huang Sept. 2020 – Jun. 2021

State Key Laboratory of Medicinal Chemical Biology, Nankai University

# Designed Protein Nanocage H2E-FTn for Enhanced Lysosomal Escape In Vitro: Adding Short Repeats of HHE Oligopeptide at the N-terminal of Human H Ferritin

Advisor: Prof. Xinglu Huang Sept. 2020 – Dec. 2020

State Key Laboratory of Medicinal Chemical Biology, Nankai University

#### **AWARDS**

Poling Honors Degree, Nankai University Distinguished Undergraduate Thesis, Nankai University Scholarship of Academic Progress, Nankai University

### **SKILLS**

Programming R, Python, Shell, HTML, CSS, Markdown, LATEX

Packages Flask, Seurat, ggplot2, dplyr, edgeR, AlphaFold2, STAR, fastp, etc.

Software Ai, VSCode, RStudio, Nginx, IGV, PyMOL, ImageJ, Zotero, Benchling,

Conda, Docker, SnapGene, etc.

Please visit my homepage for more information: <a href="https://cv.greysea.cc">https://cv.greysea.cc</a>

GitHub: <a href="https://github.com/Shall-We-Dance">https://github.com/Shall-We-Dance</a>
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