Thomas Jefferson University
Sidney Kimmel Medical College

Nanopore Sequencing of Epigenetics of RNA Biology

The human transcriptome has many RNA modifications that constitute an exciting new mechanism of regulation of gene expression. Nanopore sequencing of RNA is the only long-read technology that can directly detect RNA modifications. It is at the forefront of RNA research. We have 2 NIH-funded positions open at Thomas Jefferson University, Philadelphia, USA, to use nanopore sequencing to study systems biology of RNA epigenetics. A strong focus is on the mechanism of nucleic-acid polymerases and on RNA modification enzymes. This project has direct impact on human health and disease.

We are interested in the following questions:

- How to achieve direct and accurate Nanopore sequencing of RNA?
- How to identify RNA modifications in the transcriptome using Nanopore?
- What is the "ground truth" in Nanopore sequencing of each RNA modification?
- How does each RNA modification change in stress and in disease?

For more information, please see the following publications and our website:

Cell Reports (2022). PMID: 36288695
J. Mol Biol. (2022). PMID: 34995554
eLife (2021). PMID: 34382933
Nat Communications (2021). PMID: 33436566
Cell Chem Biol (2020). PMID: 32553119
ACS Catal (2020). PMID: 32904895 (Featured as the cover)
Ann Neurol (2020). PMID: 32715519
Cell Systems (2019). PMID: 30981730 (Featured in Faculty 1000 Prime)
PNAS (2016). PMID: 27849575 (Featured in PNAS commentary)
Nat Struct Mol Biol (2016). PMID: 27571175. (Featured in Science)
Nature Communications (2015). PMID: 26009254

https://houlaboratory.com/research
https://www.jefferson.edu/university/research/researcher/researcher-faculty/hou-laboratory.html

We are interested in researchers with a recent PhD. Please send a cover letter, CV, and contact information of three references to:

Ya-Ming Hou
Professor of Biochemistry and Mol Biology
Thomas Jefferson University
233 S. 10th Street, BLSB 220
Philadelphia, PA 19107, USA
T: 215-503-4480; Email: ya-ming.hou@jefferson.edu