

Hunter College of the City University of New York  
Department of Biological Sciences  
Spring 2024 Inga Richter Seminar Series

**Lijuan Feng, PhD**  
**The Rockefeller University**



**Histone mutation in human cancer and developmental disorders**

Trained as a chromatin biologist since graduate school, Dr. Feng has been driven by the desire to answer the fundamental question: what is the role of chromatin in both normal and diseased cells? During her doctoral studies in Dr. Chen's lab at Johns Hopkins University, she elucidated how chromatin regulates stem cell fate using fruit flies as a model organism. She discovered that conserved chromatin factors act in germ cells and neighboring somatic cells to regulate germline stem cell differentiation and maintain germ cell fate. As a postdoc in the laboratory of Dr. Allis at the Rockefeller University, she aims to understand how dysregulated chromatin by histone mutations leads to human diseases. She has been working on several projects. As a significant contributor, she was involved in analyzing publicly available tumor sequencing databases and previously unreported data from the Memorial Sloan Kettering internal sequencing effort (MSK-IMPACT). They found 4,205 histone missense mutations across 183 tumor types. This finding expanded the landscape of histone mutations in human cancer (Nacev, Feng et al., Nature). Supported by the NIH K99/R00 Pathway to Independence Award, her current project has uncovered the novel recruitment and functional roles of histone mutants associated with childhood neurological disorders in neuronal differentiation from stem cells, both in vitro and in vivo (Feng et al., Mol Cell, Under Revision, BioRxiv). In summary, Dr. Feng has made key contributions to advance the fields of adult stem cells, chromatin dysregulation in tumorigenesis, and developmental disorders.

**Monday, March 11, 2024**  
**12:30pm**  
**Hunter College 926HN**  
**Host: Hualin Zhong**