

## BME Spring 2024 Seminar Series

*Cellular heterogeneity and plasticity in prostate development and cancer*

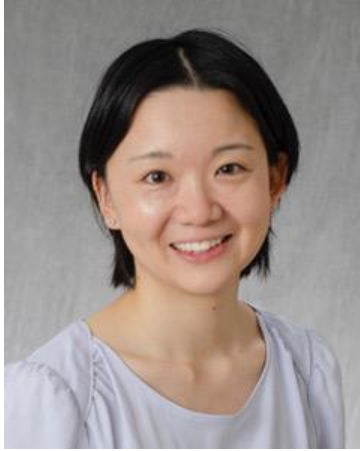
**Maho Shibata, Ph.D.**

Assistant Professor

Department of Anatomy & Cell Biology

The George Washington University Cancer Center

Thursday March 21, 2024 11am–12pm in UTEB 150



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**Abstract:** Prostate cancer remains a lethal disease despite the development of potent androgen receptor-targeting drugs. Prostate cancers generally display luminal epithelial cell features, and this seminar will discuss our research on luminal cells in the prostate using developmental and stem cell biology approaches and genetically engineered mice. Topics covered will include the cellular plasticity of luminal cells during prostate organogenesis, and our identification of the TRIM28 co-transcriptional repressor protein as a regulator of luminal cell plasticity in prostate cancer. New findings, revealed by three-dimensional imaging, on the contributions of heterogeneous macrophages to prostate organogenesis will also be presented.

**Biography:** Dr. Shibata obtained her Ph.D. in Genetics at Cornell University, studying mid-gestation mouse embryos with ENU (N-ethyl-N-nitrosourea) induced mutations to identify functions of novel genes important for the morphogenesis of mouse embryos. Her interest in applying knowledge from developmental biology to cancer research led her to Dr. Michael Shen's lab at Columbia University Medical Center in 2011. In her postdoctoral research, she contributed to the establishment of an organoid culture system for studying prostate progenitor and luminal stem cells and investigated cellular heterogeneity of prostate luminal cells using single-cell RNA sequencing. In 2018, she established her independent research lab at the George Washington University Cancer Center in the Department of Anatomy and Cell Biology.

Her lab's research has focused on the regulation of stem cells, castration-resistant stem cells, and cellular differentiation during prostate organogenesis and tumorigenesis, pursuing these projects through the use of genetically-engineered mouse models. She is a member of the Prostate Cancer Foundation Edward P. Evans Precision Center of Excellence at the Washington DC VA Medical Center in collaboration with the George Washington University Cancer Center and the GenitoUrinary Development Molecular Anatomy Project (GUDMAP) Consortium.