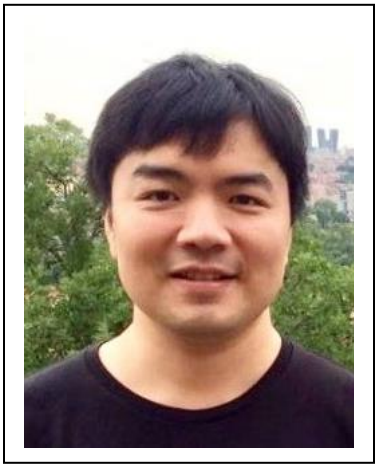
Department of Biostatistics and Medical Informatics Seminar



Jian Ma, PhD

Associate Professor
Department of Computational Biology
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Friday, November 13, 2020
12:00-1:00 pm
Zoom below:
https://uwmadison.zoom.us/j/97421564201?pwd=WERNY2VPcGFaeDNLdVAwRkt1cks1QT09

Probing the Nuclear Organization via Machine Learning

Abstract: The chromosomes of the human genome are organized in three-dimensions by compartmentalizing the cell nucleus and different genomic loci also interact with each other. However, the principles underlying such nuclear genome organization and its functional impact remain poorly understood. In this talk, I will introduce some of our recent work in developing machine learning methods by utilizing whole-genome mapping data to study the higher-order genome organization. Our methods reveal the spatial localization of chromosome regions and exploit chromatin interactome patterns within the cell nucleus in different cellular conditions, across mammalian species, and also in single-cell resolution. We hope that these algorithms will provide new insights into the structure and function of nuclear organization in health and disease.

School of Medicine and Public Health
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