UNIVERSITY OF CALIFORNIA
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STATISTICS DEPARTMENT SEMINAR


Dr. Anru Zhang

Department of Biostatistics
and Bioinformatics
Duke University

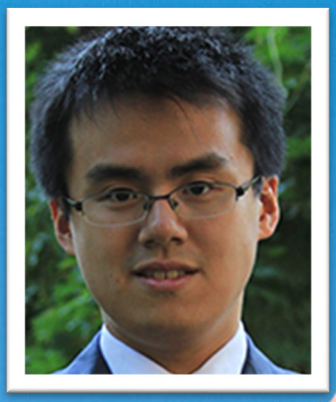

Tuesday May 2nd, 2023

3:45-4:45pm

Remote

Meeting ID: 980 1514 3936

Passcode: 186649



# "TENSOR LEARNING IN 2020S: METHODOLOGY, THEORY, AND APPLICATIONS"

# Abstract

The analysis of tensor data, i.e., arrays with multiple directions, has become an active research topic in the era of big data. Datasets in the form of tensors arise from a wide range of scientific applications. Tensor methods also provide unique perspectives to many high-dimensional problems, where the observations are not necessarily tensors. Problems in high-dimensional tensors generally possess distinct characteristics that pose great challenges to the data science community.

In this talk, we discuss several recent advances in tensor learning and their applications in computational imaging and microbiome studies. We also illustrate how we develop statistically optimal methods and computationally efficient algorithms that interact with the modern theories of computation, high-dimensional statistics, and non-convex optimization.

# Biography

Anru Zhang is currently the tenured Eugene Anson Stead, Jr. M.D. Associate Professor in the Department of Biostatistics & Bioinformatics at Duke University. He was an assistant professor of statistics at the University of Wisconsin-Madison in 2015-2021. He obtained his bachelor's degree from Peking University in 2010 and his Ph.D. from the University of Pennsylvania in 2015. His work focuses on high-dimensional statistical inference, non-convex optimization, statistical tensor analysis, computational complexity, and applications in electronic health records, genomics, microbiome, and computational imaging. He received the IMS Tweedie Award (2022), ASA Gottfried E. Noether Junior Award (2021), and NSF CAREER Award (2020).

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