# 2026 UMBC-Stanford Workshop on Clinical Trials and Regulatory Science

*From Statistical Rigor to AI-enabled Decision-making*

University of Maryland Baltimore County (UMBC)
September 18-19, 2026

UMBC, (Sat at ITE Building,104, and Fri at ILSB 223)
1000 Hilltop Circle, Baltimore, MD 21250

# Scientific Program

## Friday Sept. 18 Program

*Registration*: ILSB 223 in Interdisciplinary Life Science Building, open after 1:30pm

**Welcome Speech by (Department Chair, Dr. Andrei Draganescu)**
2:00 pm - 2:05 pm, ILSB 223

**Lai Memorial Short Course**

**Causal Generalist Medical AI**

*Instructor*: Dr. Hongtu Zhu,
Kenan Distinguished Professor at the University of North Carolina at Chapel Hill,
JASA Editor, the COPSS 2025 Snedecor Award winner.
*Moderator:* Dr. Tian Lu, Stanford University
*Venue*: ILSB 223
*Time*: 2:10 pm – 3:30 pm, Short course session I
3:30 pm – 3:40 pm, Coffee Break
3:40 pm – 5:00 pm, Short course session II

**Abstract**

The rapid evolution of flexible and reusable artificial intelligence (AI) models is reshaping modern medical science. In this lecture, I will introduce Causal Generalist Medical AI (Causal GMAI) - a new paradigm that integrates causal inference with generalist AI models to enhance interpretability, robustness, and generalizability in medical decision-making. Causal GMAI leverages self-supervised, semi-supervised, and supervised learning across diverse multimodal data sources, including medical imaging, electronic health records, clinical trials, laboratory measurements, genomics, knowledge graphs, and clinical text. This unified framework enables a single model to perform a broad range of clinical and translational tasks with minimal task-specific supervision. By explicitly incorporating causal reasoning, Causal GMAI moves beyond purely predictive modeling to infer underlying causal mechanisms. This capability improves diagnostic accuracy, supports more reliable treatment recommendations, and advances personalized and precision medicine. The lecture will highlight the methodological foundations, illustrative applications, and future opportunities for building trustworthy, clinically actionable AI systems.

**Conference Mixer**
ILSB 223, 5:00 pm – 6:00pm,

Networking and conference mixer with catered food.
Highly encourage students and junior researchers to participate.

**Evening Banquet (invitation only, 6:30pm – 9:00pm)**

## About the Speaker

Dr. Hongtu Zhu is the Kenan Distinguished Professor of Biostatistics, Statistics, Radiology, Computer Science and Genetics at the University of North Carolina at Chapel Hill. He was a DiDi Fellow and Chief Scientist of Statistics at DiDi Chuxing between 2018 and 2020 and held the Endowed Bao-Shan Jing Professorship in Diagnostic Imaging at MD Anderson Cancer Center between 2016 and 2018. He is an internationally recognized expert in statistical learning, medical image analysis, precision medicine, biostatistics, artificial intelligence, and big data analytics. He received an established investigator award from the Cancer Prevention Research Institute of Texas in 2016, the INFORMS Daniel H. Wagner Prize for Excellence in Operations Research Practice in 2019, the IMS 2027 Medallion award and Lecture, the ICSA 2025 Distinguished Achievement Award, and the COPSS 2025 Snedecor Award. He has published more than 360 papers in top journals, including Nature, Science, Cell, Nature Genetics, Nature Communication, PNAS, AOS, JASA, Biometrika, and JRSSB, as well as presenting 63+ conference papers at top conferences, including meetings for Neurips, ICLR, ICML, AAAI, and KDD. He is the coordinating editor of JASA and the editor of JASA ACS.