

SCASA's 45th Applied Statistics Workshop * Friday, May 8, 2026



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SCASA CORDIALLY INVITES YOU TO THE 45TH ANNUAL APPLIED STATISTICS WORKSHOP

DATE: Friday, May 8, 2026

TIME: 9:00 AM to 3:00 PM

PLACE: on Zoom

INSTRUCTOR: Dr. Enju Liu

TOPIC: UNDERSTANDING COLLIDER BIAS IN BIOSTATISTICAL ANALYSIS

COST: \$5-\$20

REGISTRATION: [Link](#)

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INSTRUCTOR'S BIO: Dr. Enju Liu is an Assistant Professor in Pediatrics at Harvard Medical School. She has a broad background in Medicine, Biostatistics and Epidemiology with specific training in nutrition and statistical methods. She earned her PhD in Nutritional Epidemiology and has extensive experience in design, analysis and conduct of observational studies and randomized controlled trials. She collaborates with investigators at Boston Children's Hospital, across the Harvard Community as well as outside Harvard on the international level. She currently serves as the Associate Director for the Harvard Catalyst Biostatistics Program. Her research has focused on preventive and therapeutic effects of dietary factors, nutritional supplements, and other interventions on child and maternal health outcomes. Her research activities have resulted in over 120 publications in peer-reviewed scientific journals, including the New England Journal of Medicine, Cell, and the American Journal of Clinical Nutrition.

COURSE DESCRIPTION: In biostatistical analysis, adjustment for potential confounders is a common practice to determine the effect of an exposure or treatment on health outcomes. However, little attention has been given to the potential distortion of the association between exposure and outcome caused by collider bias. A collider refers to a variable that is caused by both the exposure and the outcome or risk factors of the outcome. It is often overlooked but can introduce bias into data analysis, leading to erroneous conclusions. Various statistical approaches commonly employed to control potential confounding, such as restriction, stratification, or adjustment for the collider in regression models, can inadvertently introduce collider bias. This short course aims to equip researchers, biostatisticians, and data analysts in the fields of public health or clinical research with valuable knowledge to increase their awareness of collider bias. Throughout the course, participants will learn how to identify and interpret causal diagrams and directed acyclic graphs (DAGs), which serve as powerful tools for assessing and understanding collider bias. Real-world examples and case studies will be utilized to illustrate the potential impact of collider bias on study results, emphasizing the importance of accurately addressing this bias in data analysis and decision-making.