



統計科學研究所

INSTITUTE OF
STATISTICAL SCIENCE



SEMINAR



STATAS

Seminar

Title : Causal Bounds for Outcome-Dependent Sampling in
Observational Studies

Speaker : Prof. Erin Gabriel

(Biostatistics Section, Department of Public Health,
University of Copenhagen)

Time : 14:30 ~ 15:30, Monday, August 14, 2023

Place : Auditorium, B1F, Institute of Statistical Science

Abstract

Outcome-dependent sampling designs are common in many different scientific fields, including epidemiology, ecology, and economics. As with all observational studies, such designs often suffer from unmeasured confounding, which generally precludes the nonparametric identification of causal effects. Nonparametric bounds can provide a way to narrow the range of possible values for a nonidentifiable causal effect without making additional untestable assumptions. The nonparametric bounds literature has almost exclusively focused on settings with random sampling, and the bounds have often been derived with a particular linear programming method. We derive novel bounds for the causal risk difference, often referred to as the average treatment effect, in six settings with outcome-dependent sampling and unmeasured confounding for a binary outcome and exposure. Our derivations of the bounds illustrate two approaches that may be applicable in other settings where the bounding problem cannot be directly stated as a system of linear constraints.

※ Online live streaming through Cisco Webex will be available.

※ The tea reception will be held at 14:10.