



THE DEPARTMENT OF EPIDEMIOLOGY, BIostatISTICS AND OCCUPATIONAL HEALTH, - SEMINAR SERIES IS A SELF-APPROVED GROUP LEARNING ACTIVITY (SECTION 1) AS DEFINED BY THE MAINTENANCE OF CERTIFICATION PROGRAM OF THE ROYAL COLLEGE OF PHYSICIANS AND SURGEONS OF CANADA

## Sander Greenland

Emeritus Professor  
Epidemiology and Statistics  
University of California, Los Angeles



## *Statistics as a Condemned Building: A Demolition and Reconstruction Plan*

MONDAY, 18 FEBRUARY 2019 / 4:00PM – 5:00PM

McIntyre Medical Building

3655 promenade Sir William Osler – Meakins Rm 521

ALL ARE WELCOME

### ABSTRACT:

As part of the vast debate about how to reform statistics, I will argue that probability-centered statistics should be replaced by an integration of cognitive science, causal modeling, data description, and information transmission, with probability entering as one of the mathematical tools for delineating the primary elements. Ironically, given the decades of treating it as scapegoat for all the ills of statistics, the P-value re-emerges as a natural albeit small part of this basis.

### OBJECTIVES

1. To stop dichotomania (unnecessary chopping of quantities into dichotomies);
2. To stop nullism (unwarranted bias toward "null hypotheses" of no association or no effect);
3. To replace terms and concepts like "statistical significance" and "confidence interval" with compatibility statements about hypotheses and models.

### BIO:

**Sander Greenland** is Emeritus Professor of Epidemiology and Statistics at the University of California, Los Angeles, specializing in the limitations and misuse of statistical methods, especially in observational studies. He has published over 400 articles and book chapters in epidemiology, statistics, and medicine, and given over 250 invited lectures, seminars and courses worldwide in epidemiologic and statistical methodology.