RUTGERS–NEW BRUNSWICK
School of Arts and Sciences

Department of Statistics

Department of Statistics Seminar Series

Yaacov Ritov
Department of Statistics
University of Michigan

From Thomas Bayes to Big Data: On the feasibility of being a subjective Bayesian

Wednesday, September 16th, 2026
12:10-1:30 PM
Hill Center - 116

Zoom Meeting: Meeting ID: 926 0900 0053
Password: 565095

https://rutgers.zoom.us/j/92609000053?pwd=8GvwJfLzSeJSwacBNcPq7yYk6oYfdg.1

Light refreshments will be served in Hill Center 452 at 11:40am

Abstract:

We argue that the Bayesian paradigm, in which a prior represents the statistician's beliefs before observing the data, is not feasible in ultra-high-dimensional models. We claim that natural priors representing a priori beliefs fail in unpredictable ways at parameter values that cannot be honestly ignored. We do not claim that the frequentist estimators we present cannot be mimicked by Bayesian procedures, but that these Bayesian procedures do not represent beliefs. They were created with the frequentist analysis in mind, and in most cases, they cannot represent a consistent set of beliefs about the parameters (for example, since they depend on the loss function, the particular functional of interest, the sample size, and not only on the a priori knowledge, different priors should be used for different analyses of the same data set). In a way, these are frequentist procedures using Bayesian techniques.

The paper presents several examples in which the subjective point of view fails. It is argued that the claims based on Wald's and Savage's seminal works are not relevant to the validity of the subjective Bayesian paradigm. The discussion tries to deal with the fundamentals, but the argument rests on firm mathematical proofs.

Along the way, we explain that Thomas Bayes wasn't Bayesian, although Richard Price probably was.

Bio:

Ya'acov Ritov is an Emeritus Professor of Statistics at the Hebrew University of Jerusalem and Professor of Statistics at the University of Michigan, Ann Arbor. After two degrees in electrical engineering from the Technion, Israel Institute of Technology, he completed his doctorate in statistics at the Hebrew University in Jerusalem. He visited UCB, UPenn, UCL, ETH, and UCL. He joined the University of Michigan in 2015.