



THE UNIVERSITY OF  
CHICAGO

DEPARTMENT OF STATISTICS

## Statistics Colloquium

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Faculty of Data and Decision Sciences  
Technion

“Waning immunity of the BNT162b2 vaccine and the Israeli decision on a booster campaign”

TUESDAY, MAY 2, 2023, at 4:00 PM

Jones 303, 5747 S. Ellis Avenue

*Refreshments before the seminar at 3:30 PM in Jones 303.*

### ABSTRACT

In December 2020, Israel began a mass vaccination campaign against COVID-19 administering the Pfizer BNT162b2 vaccine, which led to a sharp curtailing of the outbreak. After a period with almost no SARS-CoV-2 infections, a resurgent COVID-19 outbreak began in mid-June 2021. On July 30, 2021, a third (booster) dose of the vaccine was approved in Israel for individuals 60 years or older who had received the second dose at least five months previously. The booster vaccination campaign in Israel was gradually expanded to younger age groups who received a second dose five or more months earlier. In this talk, I will present Israel's national database and the statistical methods we used to analyze it. I will discuss the quantification of the extent of two-dose waning immunity which motivated Israel's decision to approve a booster dose. The main analysis of the booster-dose effectiveness for all age groups will then be presented.

The work is joint with Micha Mandel, Yinon Bar-On, Omri Bodenheimer, Laurence Freedman, Nir Kalkstein, Barak Mizrahi, Sharon Alroy-Preis, Nachman Ash, Amit Huppert, and Ron Milo.