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THE DEPARTMENT OF MATHEMATICAL SCIENCES PROUDLY PRESENTS

COLLOQUIUM

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A New Approach for Fighting Infectious Disease, Combining Game Theory and Network Theory

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Abstract

There is a categorically new way to fight disease, which could have a significant impact on not only COVID, but also future pandemics. Its origins come from math, game theory, and computer science. It's an app which is fundamentally different from every other app (and which resolves deep issues With "contact tracing apps").

Functionally, it gives you an anonymous radar that tells you how "far" away COVID has just struck. The twist is that "far" is quantified in terms of the network-theoretic distance in the repeated-close-contact network. Surprisingly, this small foundational change has powerful repercussions.

The simple idea flips the incentives. Existing approaches told the user after they were exposed, asking them to take actions to protect everyone else from their potential infection. This new tool lets you see disease striking from afar in your physical interaction network before you are directly exposed, so that you can avoid getting infected in the first place. This uniquely aligns incentives so that even selfish behavior contributes to societal pandemic control.

link: meet.google.com/urm-rhmx-dhw

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