

*Student
Seminar*

Pi Mu Epsilon

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Understanding the Spread of COVID-19

by Alex Wiedemann, Davidson College
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Mathematics and Computer Science



Alex Wiedemann

Eerily similar to the spread of a disease, writings and videos about the mathematics of the novel coronavirus COVID-19 have spread to every corner of the internet. In this talk we will explore the common terms and models discussed on social media and the news, such as the basic reproductive number R_0 , herd immunity, and flattening the curve. We will delve into how differential equations, linear algebra, and dynamical systems are used to quantify and predict the spread of COVID-19, and end with a discussion on the impact and importance of public health decisions, such as social distancing, mask wearing, and the avoidance of large groups. No background beyond calculus is assumed for this talk.

Alexander Wiedemann is a Visiting Assistant Professor at Davidson College specializing in operator theory, mathematical physics, and spectral graph theory. Recent projects he has pursued include ranking techniques to identify key players in black market / terrorist cell networks and novel analytic techniques to provide graph characterizations. Alex is an MAA Project NeXT Fellow, is on the board of directors of Spectra, the national association for LGBT mathematicians, and is an organizer of Davidson's inaugural Math and Computer Science Social Justice Speaker Series. Alex received his PhD in mathematics from UofSC in 2019 under the guidance of George Androulakis, where his dissertation was titled "On The Generators of Quantum Dynamical Semigroups."

Tuesday 29th September 2020
7:00 pm via Zoom

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