

1163-92-1295

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85287. *Mathematics of the Dynamics and Control of the COVID-19 Pandemic.*

The novel coronavirus that emerged in December of 2019 (COVID-19), which started as an outbreak of pneumonia of unknown cause in the city of Wuhan, has become the most important public health and socio-economic challenge humans have faced since the 1918 Spanish flu pandemic. Within weeks of emergence, the highly-transmissible and deadly COVID-19 pandemic spread to almost every part of the world, so far accounting for nearly 30 million confirmed cases and over 900,000 deaths, in addition to incurring severe economic burden globally. In this talk, I will discuss our work on modeling the spread and control of COVID-19. I hope to convince you that, despite the enormous public health and socio-economic devastation it exudes globally, COVID-19, like its coronavirus cousins (SARS and MERS), is a respiratory disease that is controllable using basic public health interventions. (Received September 15, 2020)