

EPSTEIN INSTITUTE SEMINAR ▪ ISE 651

Data Informed Mitigation to Reduce the Health Consequences of Pandemics

ABSTRACT – Since its origin in late 2019, the world’s health agencies have struggled to understand the scope and trajectory of the COVID-19 pandemic, along with how to respond through healthcare interventions. This seminar will present findings from a collection of research projects studying data on COVID-19 cases, deaths, vaccine distribution and vaccine administration. Building from a framework for integrating models of disease transmission with allocation of healthcare resources, topics will include time varying rates of disease transmission and death; metrics for tracking COVID-19 informed by queue modeling; racial and age demographics for vaccine distribution and administration in the United States; disease import and export between regions; selection of sites for vaccine administration, accounting for access to vulnerable populations; and optimized vaccine distribution. The presentation reflects work of the presenter with five undergraduates, two masters student and PhD student Mingdong Lyu.



Dr. Randolph Hall

Dean's Professor
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SPEAKER BIO – Randolph Hall is Dean's Professor in the Epstein Department of Industrial and Systems Engineering and director of USC's CREATE center. His research focuses on how universities innovate, as well as how health systems prepare and respond to contagious disease. As VP of Research for 14 1/2 years, Hall led research initiatives across the university, overseeing research advancement, administration and ethics activities. He led the creation of USC's strategic plans for diversity and inclusion in research, research administration systems, science and technology facilities and alignment of health programs across the university. His other initiatives included rigor and transparency in the conduct of research, research mentoring, and reinvention of research practices through collaboration and technology. Hall is author of *Queueing Methods for Services and Manufacturing* (Prentice Hall, 1997) and editor of *Handbook of Transportation Science* (Springer, 2003), *Patient Flow, Reducing Delay in Healthcare Delivery* (Springer, 2006; 2nd Edition, December, 2013) and *Handbook of Healthcare System Scheduling* (Springer, 2012). He received his Ph.D. in civil engineering from U.C. Berkeley and his B.S. in industrial engineering and operations research from U.C. Berkeley.

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TUESDAY, APRIL 18, 2023

3:30 PM – 4:50 PM

USC ANDRUS GERONTOLOGY CENTER (GER), Room 206