



Operations Research and Engineering Management Seminar Series

Research Seminar

Infectious Disease Modeling, Evaluating Interventions, and Resource Allocation



Dr. Pinar Keskinocak

**William W. George Chair and Professor in the H. Milton Steward School of
Industrial and Systems Engineering at Georgia Tech**

Friday, October 27th

11:00am - 12:15pm

<https://smu.zoom.us/j/99214546371>

Abstract: Infectious diseases continue to affect millions of people around the world, despite the progress in science, technology, and medicine. This presentation will provide an overview of our research team's work on modeling various of infectious diseases, including pandemic flu, cholera, malaria, Polio, Guinea worm, and Covid-19. To understand the spread of infectious diseases and evaluate the impact of interventions, we utilized different modeling approaches, such as SEIR or agent-based, depending on the research questions or decision-support needs in practice. Our research results provide insights to decision-makers regarding the impact of combinations of interventions, considering factors such as compliance with public health recommendations, the allocation of scarce resources such as vaccines, and health equity.

Biography: Pinar Keskinocak, Ph.D., is the William W. George Chair and Professor in the Stewart School of Industrial and Systems Engineering and the co-founder and Director of the Center for Health and Humanitarian Systems at Georgia Institute of Technology. Her research focuses on the applications of quantitative methods and analytics to have a positive impact in society, addressing a broad range of topics such as disease modeling (including malaria, polio, Guinea Worm, Covid-19, pandemic flu, depression, asthma), evaluating intervention strategies, and resource allocation; catch-up scheduling for vaccinations; decision-support for organ transplant; hospital operations management and process improvement; and disaster preparedness and response. She has collaborated on projects with a variety of governmental and non-governmental organizations, healthcare providers, and the private sector, including American Red Cross, CARE, Carter Center, CDC, Children's Healthcare of Atlanta, Emory Healthcare, Grady Hospital, Intel Corp., and Task Force for Global Health. Dr. Keskinocak is a Fellow of INFORMS and served as the society's president in 2020, in addition to her many other service roles over the years, including INFORMS Secretary, INFORMS Vice President for Membership and Professional Recognition, President of the Women on OR/MS Forum, President of the Public Sector OR Section, and Department Editor for Operations Research and Service Science. She is also an active member of IISE and served as a Department Editor for the Transactions of Healthcare Systems Engineering.