



SMU | LYLE

*Engineering Management, Information, and Systems
Seminar Series*

Research Seminar

**Deterministic and Stochastic Models for Manufacturing,
Warehousing and Health Care Systems**



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Donald and Cathey Humphreys Chair
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**Friday, April 16, 2021
11:00 a.m. – 12:15 p.m.**

Zoom link: <https://smu.zoom.us/j/95095343594>

Abstract: In the first part of this talk, we present deterministic and stochastic models as well as optimal and heuristic algorithms developed for problems arising

in manufacturing and warehousing systems. We discuss in more detail a semi-open queuing network model for analyzing manufacturing and service systems in which an incoming customer must be paired with another resource and the two travel together until the last stage of service is completed for the customer.

In the second part of the talk, we present research for problems arising in emergency preparedness. We present facility location, routing and resource allocation models that can be used by personnel in the healthcare and public health (HPH) and emergency service sectors (ESS) during normal and medical surge conditions. These models utilize real-time data obtained from multiple sources to provide real-time decisions that can be used by HPH and ESS coordinators in a medical emergency.

Biography: Sunderesh S. Heragu is Regents Professor and Head of the School of Industrial Engineering and Management at Oklahoma State University where he holds the Donald and Cathey Humphreys Chair. Previously, he was the Duthie Chair in Engineering Logistics and Director of the Logistics and Distribution Institute (LoDI) at the University of Louisville. He has also served as Professor of at Rensselaer Polytechnic Institute, Assistant Professor in State University of New York, Plattsburgh, and held visiting appointments at: State University of New York, Buffalo; Technical University of Eindhoven, the Netherlands; University of Twente, the Netherlands; and IBM's Thomas J. Watson Research Center in Yorktown Heights, NY.

He is author of the 4th edition of *Facilities Design* and has authored or co-authored over two hundred articles. He has served as Principal investigator or co-investigator on research projects totaling over \$20 million funded by federal agencies such as the Department of Homeland Security, National Science Foundation, Defense Logistics Agency and private companies such as General Electric. Dr. Heragu is a Fellow of the *Institute of Industrial and Systems Engineers* (IISE). He has received IISE's *David F. Baker Distinguished Research* award and the *Award for Technical Innovation in Industrial Engineering*, both considered Prestigious Awards by the National Academies of Engineering, Medicine, and Science. He has also received the Reed-Apple Lifetime Achievement award from the Material Handling Institute.