Wichita State University
Department of Industrial, Systems, and Manufacturing Engineering
ISME Colloquium Presentation

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Title: Understanding Contemporary Work Systems for Fair Design and Robust Operation

Date: Friday 11/16/2018

Time: 1:00 pm – 2:00 pm

Location: Clinton Hall, 214

Abstract

Contemporary work systems involve highly-variable task demands and significant cognitive components. These work systems have become typical within the service, highly customized, and highly automated industries, which constitute the vast majority of jobs in today's US economy. Nevertheless, state-of-the-art work analysis and design techniques are based on the analysis of last century's work systems, which consisted mostly of manual repetitive work. Obtaining statistically significant work measurement samples for realistic and fair capacity estimates in a contemporary work environment remains a challenge. As a result, workers often experience mismatches between expectations, capabilities, and actual work demand, leading to the current epidemic of fatigue and burnout. This research investigates the characteristics of today's work systems in order to develop system-specific and generalizable models that can be used for understanding the capacity of existing systems, redesigning work execution strategies to maximize capacity under fair workload levels, and (re)designing work systems to achieve target capacity levels under reasonable workload.

Speaker Biography

Dr. Laila Cure is an Assistant Professor in the Department of Industrial and Manufacturing Engineering at Wichita State University. She received her Ph.D. in Industrial Engineering at the University of South Florida in 2011. Her research focuses on the use of analytics and mathematical modeling techniques to support complex operations involving human behavior. Her current research interests include the development of generalizable models for contemporary work, the analysis and design of interruption-handling strategies for inpatient care workers, and the analysis, design and implementation of population health interventions. Dr. Cure currently teaches Work Systems, Production Systems, and Data Analytics.