

Applied Mathematics Seminar

Prof. Mariel Lavieri, Univ. of Michigan



Friday, March 18 1-1:50pm

MAK B2124 or [via zoom](#) (request password from ortizron at gvsu dot edu)

Applications of Industrial and Operations Engineering to Manage Patients with Chronic Conditions

Abstract: Chronic disease management often involves sequential decisions that have long-term implications. I describe some of my ongoing research modeling medical decisions of patients with chronic conditions. Key to the models developed is the incorporation of the individual patient's disease dynamics into the parameterization of the models of the disease state evolution. Model conception and validation is described, as well as the role of multidisciplinary collaborations in ensuring practical impact of my work.

Bio: Mariel Lavieri joined the faculty at the University of Michigan - Ann Arbor in 2009. In her work, she applies operations research to healthcare topics. Her most recent research focuses on medical decision making, in particular on determining optimal screening, monitoring and treatment by explicitly modeling the stochastic disease progression. She has also developed models for health workforce planning, which take into account training requirements, workforce attrition, capacity planning, promotion rules and learning. Mariel is the recipient of the Willie Hobbs Moore Aspire, Advance, Achieve Mentoring Award, the National Science Foundation CAREER Award, the International Conference on Operations Research Young Participant with Most Practical Impact Award, and the Bonder Scholarship. She has also received the Pierskalla Best Paper Award, and an honorary mention in the George B. Dantzig Dissertation Award. She has been selected to participate in the Frontiers of Engineering Symposium organized by the National Academy of Engineering. Mariel has guided work that won the Medical Decision Making Lee Lusted Award, the INFORMS Doing Good with Good OR Award, and the Production and Operations Management Society College of Healthcare Operations Management Best Paper Award.

More info: <http://bit.ly/applied-math-seminar>