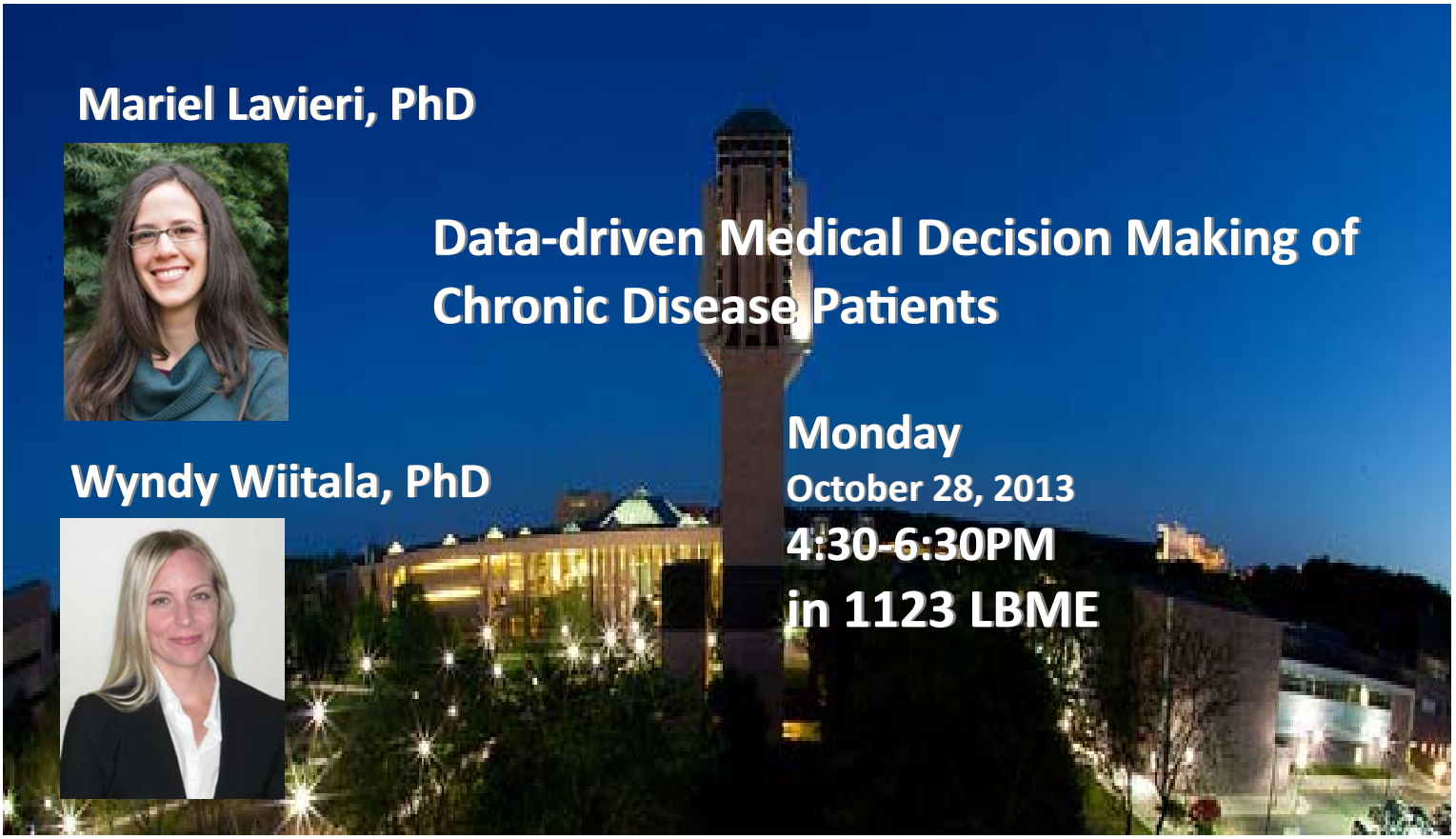

Chronic disease management often involves sequential decisions that have long-term implications. We describe our multi-disciplinary work modeling hypertension treatment regimens for patients at risk of coronary heart disease events. This research enhances our understanding of the role of limited resources, while incorporating the patient's perception of treatment effects. A key component of our presentation will be the description of our collaboration with the U.S. Department of Veterans Affairs and the role of large longitudinal datasets in model parameterization and calibration.

Dr. Mariel Lavieri is an Assistant Professor in the Department of Industrial and Operations Engineering at the University of Michigan. She has bachelor's degrees in Industrial and Systems Engineering and Statistics and a minor in String Bass Performance from the University of Florida. She holds a Masters and PhD in Management Science from the University of British Columbia. In her work, she applies operations research to healthcare topics. Her most recent research develops dynamic programming, stochastic control, and continuous, partially observable state space models to guide screening, monitoring and treatment decisions of chronic disease patients. She has also developed models for health workforce planning which take into account training requirements, workforce attrition, capacity planning, promotion rules and learning. Dr. Lavieri is the recipient of the Bonder Scholarship, and an honorary mention in the George B. Dantzig Dissertation award. She received the 2009 Pierskalla Award for the best paper presented in the Health Applications Society at INFORMS, mentored the students who won the 2012 Doing Good with Good OR, received an honorary mention from the Public Programs, Services and Needs 2013 paper competition, and was named the 2013 Young Participant with Most Practical Impact by the International Conference on Operations Research.

Dr. Wyndy Wiitala is a Research Health Science Specialist at the US Department of Veterans Affairs. She has a bachelor's degree in Psychology and a minor in Statistics from Northern Michigan University. Dr. Wiitala holds a Masters and PhD in General Experimental Psychology from Texas Christian University with a focus in Applied Cognition and Quantitative Methods. In her work, Dr. Wiitala applies quantitative research methods in the management and processing of the large datasets available at the Veterans Affairs hospitals and provides consultation on research design and statistical analysis.

The seminar series “Providing Better Healthcare through Systems Engineering” is presented by the U-M Center for Healthcare Engineering and Patient Safety: Our mission is to improve the safety and quality of healthcare delivery through a multi-disciplinary, systems-engineering approach.

For additional information and to be added to the weekly e-mail for the series, please contact genehkim@umich.edu

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