Mathematics and Statistics Colloquium

Friday, May 3, 4:00 – 5:15 pm
G5 Rolla Building

♣Refreshments at 4:00 followed by the lecture at 4:15♣

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The Kalman filter on stochastic time scales

(joint work with Dylan Poulsen, Washington College)

Abstract: In this paper, we discretize a stochastic linear time-invariant system to a dynamic system on a time scale. We then develop a Kalman filter to estimate the true state for the corresponding system. Here, the measurement-update and time-update equations account for the size of the time step when the time scale is generated randomly. Numerical examples are also provided.

Biographical Sketch: Dr. Nick Wintz is an Associate Professor of Mathematics at Lindenwood University. He has a B.S. (2002) and an M.A. (2004) in Mathematics from Marshall University and a Ph.D. (2009) in Mathematics from Missouri University of Science and Technology (under the direction of Dr. Martin Bohner). His research interests include control theory, game theory, differential and difference equations, and dynamic equations on time scales. He currently resides in St. Charles with his wife Amy and son Ben.