

# Suter Science Seminars 2017-18

## An Engineering Perspective in Public Health: A Model to Guide Treatment Decisions for Patients with Small Renal Masses

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**Wednesday, November 29, 2017**  
**4 p.m. Science Center, room 104**

Chronic diseases such as heart disease, diabetes, and cancer are leading causes of death in the United States. Optimal control of treatment for chronic diseases can prolong lives, improve quality of life, and reduce costs. Engineering methods can be used to quantify tradeoffs and inform screening and treatment decisions. This seminar will present a model to guide treatment decision making for patients with small renal masses. Numerical results will demonstrate the importance of tailoring treatment to patient characteristics and treatment objectives. The presentation will conclude with discussion of how models such as these can influence real-world health care decision making.

Jennifer Lobo is an Assistant Professor in the Department of Public Health Sciences in the School of Medicine at the University of Virginia. She received her B.Sc. in Mathematics from the University of South Carolina in 2007, her M.Sc. in Operations Research from North Carolina State University (NCSU) in 2009, and her Ph.D. in Industrial Engineering in 2012 from NCSU. Her research interests include building models of the natural course of disease for patients with chronic conditions in order to optimize treatment and screening decisions. In her free time she enjoys cooking, baking bread, and spending quality time with her husband and son.



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