

UNIVERSITY OF RHODE ISLAND
Department of Chemistry

SEMINAR

Room 234 Pastore Hall
3:00 P.M, Monday, Oct. 26, 2015

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***“Development of Point-of-Care
Diagnostic Assays Using Paper-
Based Microfluidic Devices”***

HOST

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Development of point-of-care diagnostic assays using paper-based microfluidic devices

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Abstract

The ability to perform diagnostic assays simply and expediently at the point-of-care has broad implications for the global management of healthcare. Informed treatment decisions often rely on the sensitive and specific detection of a disease-state biomarker or differentiation between similar pathogens. Limited-resource settings, however, lack the proper infrastructure or support to perform these vital assays, and the diagnosis of disease is often determined by non-specific, physiological symptoms alone. New technologies, designed specifically to meet these challenges, are absolutely required to address this critical disparity in healthcare. In this seminar, we describe our work towards the development of point-of-care immunoassays using three-dimensional microfluidic devices fabricated from patterned paper. We provide the design rules that control their performance and discuss our efforts to control the costs associated with these "zero cost" analytical tools.