*UNIVERSITY OF RHODE ISLAND*
*Department of Chemistry*

*SEMINAR*

*Room 234 Pastore Hall*
*3:00 p.m, Monday, Feb. 9, 2015*

# *Prof. Charles Mace*

*Department of Chemistry*
*Tufts University*
*Medford, MA*

# *"A General Device Architecture for Three-Dimensional, Patterned Paper Immunoassays"*

*HOST*

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**Abstract**

# A General Device Architecture for Three-Dimensional, Patterned Paper Immunoassays

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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 and we provide the design rules that control their performance.