UNIVERSITY OF RHODE ISLAND
Department of Chemistry
SEMINAR

Room 105, Beaupre Center
3:00 p.m., Monday, March 2, 2020

Professor E. Colleen Krause

Department of Chemistry
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"Simple Diagnostic Platforms for Breast Cancer Detection"

HOST

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Simple Diagnostic Platforms for Breast Cancer Detection

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Inexpensive disposable sensor platforms have the ability to revolutionize personalized cancer diagnostics. Human Epidermal Growth Factor Receptor 2 (HER-2) is one of the few potential protein biomarkers for breast cancer that are officially approved by the Food and Drug Administration. Common clinical methods for detection of HER-2 require invasive biopsies to obtain tumor tissues. These tests are not individually conclusive, as biopsies can miss cancerous cells particularly at the early onset of the disease. However, HER-2 can also be found in patient serum. Monitoring levels of specific biomarker proteins including HER-2 in serum can provide further insight into a patient's disease status enabling physicians to tailor their approaches on the spot. Electrochemical sensors are among the most popular for point-of-care use due to ease of detection, low instrumentation cost, and the ability to be miniaturized and automated. Dr. Krause will present a novel commercially scalable production method for single use electrochemical test strips to monitor HER-2 levels present in serum.