

**University of Puerto Rico
Mayagüez Campus
Chemistry Department
Departmental Seminar**

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UPR- RUM**

**Friday, December 2nd., 2016
11.30 AM
Q 123
Abbott Room**

Use of composite materials as Raman probes for drugs and microbial agent detection.

ABSTRACT

Bioactive agents are natural or synthetic molecular compounds that can induce physiological responses that are either beneficial or harmful toward a biological system. Identification and rapid detection of pathogenic microbes in food and water is critical because can compromise the quality of our food and water supply. Therefore, there is a constant need on developing new identification and detection techniques. Our current research at the University of Puerto Rico employs simple, low cost metal-composite materials that can serve as effective probes for surface enhanced Raman scattering (SERS) applications. Control of simple fabrication parameters such as surface micro-structuring, and metal film thickness can lead in over an order of magnitude improvement in the apparent Raman responses over traditional substrates. The viability of the developed Raman substrates for routine trace analysis of bioactive agents is presented and discussed.