



Instituto de Estructura de la Materia - Ciclo de Seminarios 2010-2011

## Seminario del Departamento de Espectroscopía Nuclear, Vibracional y de Medios Desordenados

### Raman Spectroscopy and Molecular Recognition: From Artificial Peptide Receptors to the Selective Localization of Proteins in Nanodiagnostics

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Molecular recognition plays a central role in many areas of chemistry and the life sciences. In this talk, two examples from biophysical chemistry and biomedical diagnostics will be discussed, covering both fundamental and applied aspects.

The first example demonstrates that ultraviolet resonance Raman (UVRR) spectroscopy in combination with multivariate analysis is capable to monitor molecular recognition of tetrapeptide by artificial receptors in a quantitative, label-free and site-specific manner.

The second example focuses on biomedical applications, in which molecular recognition of target proteins by antibodies is exploited in nanodiagnostics. A labeling strategy based on surface-enhanced Raman scattering (SERS) and biofunctionalized noble metal nanoparticles is introduced. First results from immuno-SERS microscopy, a novel imaging technique, on prostate cancer are presented.

**Jueves, 17 de Marzo de 2011, 12:00 horas.**

*Sala de Conferencias. Centro de Física "Miguel A. Catalán".*

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