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Accurate and simultaneous biological targets identification by optically active nanoprobes

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The ability to quantify multiple proteins in parallel using a single sample allows researchers and clinicians to obtain wide and important information with minimal assay time, sample volume, and cost. Such multiplexed analysis is accompanied by several challenges, including molecular encoding and the need to retain assay sensitivity, specificity, and reproducibility with the use of complex mixtures. In this talk, we present a method based on the electromagnetic surface enhancement of optically encoded nanostructures that combines NP assembly, encoding and probe incorporation into a single process which allow a simultaneous multiplexed protein scan and detection with high sensitivity.

Biography

Nekane Guarrotxena is a PhD student from the University of Complutense, Madrid-Spain and Post-doctoral researcher at the Ecole Nationale Superieure d´Arts et Metiers (ENSAM), Paris (France) and the University of ScienceII, LEM-Montpellier (France). From 2008-2011, she was visiting Professor in the Department of Chemistry, Biochemistry and Materials at the University of California, Santa Barbara (USA) and the CaSTL at the University of California, Irvine (USA). She is currently Research Scientist at the Institute of Polymer Science and Technology (ICTP), CSIC-Madrid (Spain). Her research interest focuses on the synthesis and assembly of hybrid nanomaterials, nanoplasmonics, and their uses in nanobiotechnology applications (bioimaging, biosensing, drug delivery and therapy).

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