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Centro de Investigación Cooperativa en Biomateriales

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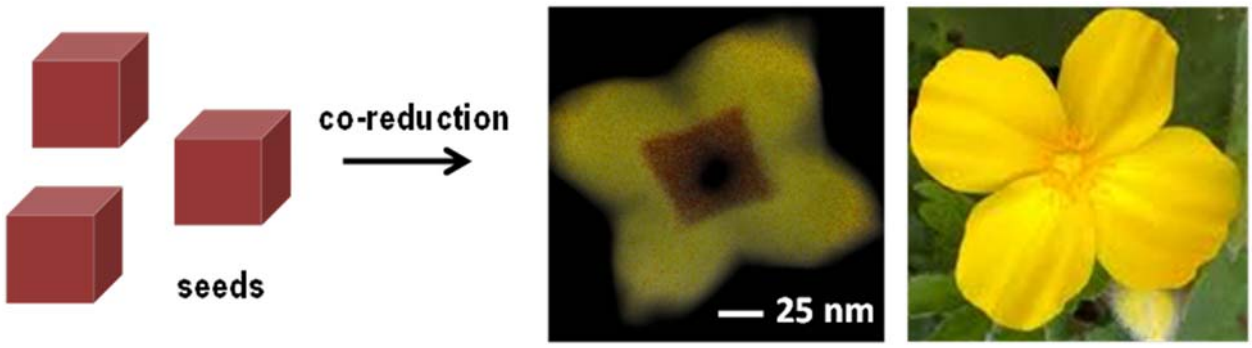
SEMINAR

Thursday, 25th January, 12.00 pm, Seminar Room

Host: Prof. Luis M. Liz-Marzán

Multimetallic Nanomaterials by Design

Professor Sara E. Skrabalak
Department of Chemistry • Indiana University
Bloomington, Indiana. USA.



The importance of molecular structure to molecular function is a central tenet in modern chemistry, with the lock-and-key model of enzyme activation representing a classic example. Likewise, the function of inorganic nanomaterials depends on a number of structural parameters that include crystallite size and shape as well as architecture (*e.g.,* hollow *versus* solid). To realize the function of such materials, these structural parameters must be precisely controlled and the Skrabalak group is expanding the synthetic toolkit to achieve such advanced nanostructures. This seminar will highlight the use of seed-mediated co-reduction as a route to structurally defined bi- and trimetallic nanomaterials, hierarchical materials, and intermetallic (*i.e.,* ordered alloys) compositions. These synthetic advances, in turn, are enabling previously unimagined nanostructures to be accessed with new function for applications in chemical sensing and catalysis. Ultimately, understanding the relationship between nanostructure form and function will allow this relationship to be inverted to achieve materials by design. Still, the synthetic toolkit must exist to realize this vision and achieve desired nanomaterials on demand.