

## SEMINAR

Monday, 2<sup>nd</sup> July, 12.00 pm, Seminar Room

*Host: Prof. Luis M. Liz-Marzán*

### **Putting Nanomaterials to Work for Biomedical and Energy Research**

*Younan Xia*

*The Wallace H. Coulter Department of Biomedical Engineering, Georgia Institute of Technology  
and Emory University, Atlanta, Georgia 30332, USA*

*E-mail: [younan.xia@bme.gatech.edu](mailto:younan.xia@bme.gatech.edu)*

Nanomaterials are finding widespread use in many applications, including photonics, electronics, catalysis, energy conversion, sensing, imaging, and biomedicine. For more than 20 years, we have been working diligently to develop novel nanomaterials with well-controlled properties. In this talk, I will briefly discuss some of the new developments, with a focus on the rational design and controlled synthesis of gold nanomaterials for optical imaging, drug delivery, and cancer theranostics, electrospun nanofibers for regenerative medicine, and hollow nanocrystals for catalysis and fuel cell technology. At the end, I will discuss how to scale up the synthesis of these nanomaterials without losing control to produce samples with the quality, quantity, and reproducibility needed for a systematic study of their fundamental properties as a function of size, shape, and internal structure, and for the exploration of translational/industrial applications.