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Developing nanostructured materials for harvesting more photons**Dongling M A**

Institut National de la Recherche Scientifique, Canada

Efficiently harvesting visible and near infrared (NIR) photons represents an attractive approach to improve the efficiency of solar-to-electricity conversion, solar-to-fuel conversion and photocatalysis. Plasmonic nanostructures with unique surface plasmon resonance have recently been explored for enhancing solar energy harvesting in the visible and NIR regimes. On the other hand, NIR quantum dots (QDs) with size tunable bandgaps and high potential for multiple exciton generation represent a class of promising materials for new generations of solar cells. In this talk, I will present our recent work on the synthesis of plasmonic nanostructures, NIR QDs, and related assemblies as well as their applications in solar cells, solar fuel and photocatalysis.

Biography

Dongling Ma is working as a full Professor at Institut National de la Recherche Scientifique (INRS), Canada. Her main research interest is in the development of various nanomaterials (e.g., quantum dots, catalytic nanoparticles, plasmonic nanostructures, and different types of nanohybrids) for applications in energy, catalysis, and biomedical sectors. Before joining INRS in July 2006, she was awarded Natural Sciences and Engineering Research Council Visiting Fellowships and worked at National Research Council of Canada from 2004 to 2006. She received her PhD degree from Rensselaer Polytechnic Institute (USA) in 2004.

ma@emt.inrs.ca

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