

SEMINAR

SOLUTION GROWN OXIDE NANOSTRUCTURES FOR SOLAR CELLS AND OTHER APPLICATIONS

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Solution growth techniques are versatile means to prepare a large variety of oxides with controlled morphology, structure, electrical and optical properties. They are very interesting, versatile and low-cost techniques for the preparation of nanostructured active layers for advanced devices. Oxide layers with large surface area and low surface defect are prepared in a controlled manner and functionalized for dye sensitized solar cells. The key points to address for achieving high efficiency are notably the optimizing of light harvesting and charge collection at the photoelectrode.

Several strategies will be described which led to improvement of ZnO-based cell functioning. Oxide nanostructures can also be grown on semiconductor for p-n junction formation. We will shows that efficient UV to blue light emitting devices can be prepared with adjusted emitted light wavelength. Due to their surface reactivity, oxide nanostructure, such as a single oxide nanowire can also be used as sensitive sensors for gas detection for instance.

REMINDER

Dr Thierry Pauporté
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Place: ICN2 Seminar Room, ICN2 Building, UAB

Invited by: Dr. Mónica Lira