



SOLAR QUEST

SEMINAR ANNOUNCEMENT

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NEW MATERIALS FOR SOLAR POWER CONVERSION DEVICES

DATE: Thursday, March 8, 2012

TIME: 10:00 am-12:00 pm

PLACE: Seminar Room A-502
CCR Building, 5F

ABSTRACT

Recent progress in understanding of properties of complex semiconductor materials has opened a possibility of designing semiconductor materials with the electronic band structure optimized for specific device applications. This talk will present most recent research on a design and practical realization of semiconductors for solar power conversion devices, including high efficiency solar cells and photoelectrochemical cells for solar water dissociation. The main part of the presentation will focus on highly mismatched alloys (HMAs) a new class of semiconductors whose electronic band structure is well described by the Band Anticrossing (BAC) model. I will present our work on applications of HMAs for intermediate band solar cells and initial efforts on synthesis of materials for solar water splitting. Finally I will discuss prospects of using group III-nitride alloys for full solar spectrum, multijunction solar cells.

Solar Quest Host: Prof. Yoshitaka Okada, ext. 56501
Refreshments will be served.

