PURDUE UNIVERSITY Discovery Park

Birck Nanotechnology Center
Discovery Park Engagement
Energy Center

SOLAR SEMINAR SERIES

FALL 2016 PHOTOVOLTAIC SEMINAR SERIES

GANESH BALAKRISHNAN

Birck Rm. 1001
November 17 (Thurs.) 3:30 p.m.

Ganesh Balakrishnan is an Associate Professor and Regents' Lecturer in the Department of Electrical and Computer Engineering and the Center for High Technology Materials (CHTM) at the University of New Mexico. His area of expertise is the development of high power vertical external cavity surface emitting lasers (VECSELs) and semiconductor crystal growth using molecular beam epitaxy (MBE). He has in the past five years developed one of the few laboratories in the country that has the capability to grow, characterize, process and package the VECSELs and in the process his team has established several world records for such high power lasers. His research interests also include photovoltaic devices based on antimonide semiconductors

Metamorphic Antimonide Near-Infrared Sub-Cells for Multi-Junction Solar Cells

We present antimonide-based photovoltaic cells grown on GaAs and Silicon substrates for use as sub-cells in metamorphic multi-junction solar cells. These antimonide cells, based on GaSb, are designed to absorb near-infrared photons. The GaSb layer is grown on either GaAs or Silicon substrates. The growth of such highly mismatched, narrow bandgap antimonides on GaAs and Silicon substrates is achieved through the use of a novel semiconductor epitaxial growth mode based on inducing 90º interfacial misfit dislocation arrays (IMF) between the GaSb epilayer and the silicon or GaAs substrate.

Refreshments & Networking Opportunities

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