

## **Seminar Talk**

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**3:00 p.m. KH 224**

**Title:** Routes to High Efficiency Solar Cells: Third Generation Photovoltaics

**Abstract:**

To enable the large-scale implementation of solar cells for utility-scale energy applications improvements in power conversion efficiency and system cost reductions must be achieved. To circumvent the fundamental limitations of single energy-gap solar cells, devices based on third generation (3G) processes have been proposed. In this presentation I will introduce such concepts, and describe several projects we are currently undertaking at the University of Oklahoma that are focused on developing such systems based on quantum dots and quantum wells. I will also briefly discuss our recent work aimed at investigating the suitability of both dilute nitrides and CIGS solar cells for space applications; programs that have evolved from the recently formed Oklahoma Photovoltaics Research Institute, a statewide PV center aimed at developing sustainable PV programs within Oklahoma.