

Seminar Talk

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Tuesday, January 10, 2017

3:00 p.m. KH 224

Title: Anti-reflective coatings for High-efficiency Solar cells

Abstract:

Anti-reflective coatings (AR coatings) have developed into highly effective reflectance and glare reducing components for various optical and opto-electronic equipments. A comprehensive idea of the AR coatings from its origin and the fundamentals of optics and the different strategies adopted to minimize reflectance will be presented. The concepts of AR coatings are applied on solar cells and modules to enhance light trapping in the absorber layer. The presentation will highlight the effect of these AR coatings on Cu(In,Ga)Se₂ solar cells and the different types of AR coatings available. Different simulation techniques are used to optimize the AR coatings on solar cells and these models are developed to optimize the thickness and refractive index of different materials so that the most optimum one can be used to achieve better results.

Bio:

Grace Rajan is a PhD candidate in the Virginia Institute of Photovoltaics at ODU. She received her B.Tech degree from University of Kerala, India and is currently working with Dr. Sylvain Marsillac on Optical enhancement of CIGS solar cells.