

## **Seminar Talk**

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**Friday, January 15, 2016  
3:00 p.m. KH 224**

**Title:** Effect of Substrate Temperature on Sputtered Molybdenum Film as a Back Contact for Cu(In,Ga)Se<sub>2</sub> Solar Cells

**Abstract:**

Molybdenum coated soda lime glass is a commonly used substrate for CIGS solar cells as it also acts as the sodium source which improves the device efficiency. In this work, Mo thin films were deposited using DC magnetron sputtering to observe the influence of substrate temperature on Na diffusion and films smoothness. RTSE was performed, allowing for the analysis of the growth processes. XRD peaks and SEM images were analyzed to understand the film structure as a function of temperature. SIMS analysis was carried out to obtain the Na depth profile in the Mo films. Grain boundary diffusion model was developed to understand the Na diffusion mechanism in Mo films at various substrate temperatures

**Bio:**

Ms. Tasnuva Ashrafee is currently a teaching assistant and PhD candidate in ECE department at ODU, working with Prof. Sylvain Marsillac in the area of photovoltaics on solar cell fabrication. She holds the BS and MS degrees from University of Dhaka, Bangladesh. She is a member of IEEE and of the Bangladesh Association of Women Scientists. During her studies she was awarded merit scholarships by Bangladesh Ministry of Education.