Electrical & Computer ENGINEERING

Carnegie Mellon University

Seminar

DSN-I Seminar Series -
In situ imaging and Electronic Materials and Devic

Marek Skowronski

September 11, 2015 | 3:30 - 4:30 PM | Scaife Hall 125

Seminar abstract

Many of the characteristics of materials or devices are a function of the deposition/fabrication methods. Nominally identical structures can have the vastly different properties depending on r changes of processing conditions. This difficulty and better understanding of such systems car accomplished by in situ monitoring techniques. I will present two examples of these. The first o monitoring of the growth process of SrTiO3 and LaAlO3/SrTiO3 structures by Scanning Tunne Microscopy and Spectroscopy. The other is monitoring the changes in TiO2-based ReRAM cel induced by application of voltage. Both projects are done collaboratively with faculty from Phys Materials, and ECE Departments at CMU.

The DSN-I Seminar Series is hosted by the Device Science and Nanofabrication Initiative. DSN-I Seminars target researchers in micro and nanofabrication technologies or devices, with the goal of strengthening the user community of the new Scot Hall nanofabrication facility and other shared infrastructure.

Speaker bio

MAREK SKOWRONSKI is Professor in the Department of Materials Science and Engineering, Carnegie Mellon University. Prof. Skowronski's research covers deposi of thin film of oxides (with emphasis on growth of high quality single crystal heterostructures), material characterization, and device demonstrations. Of particul interest are is in situ testing methods including in situ monitoring of crystal growth processes and/or imaging of working devices by different microscopy methods. Prof. Skowronski authored over 200 technical publications, has H index of 40 and currentl serves as Associate Editor of Journal of Crystal Growth.

Seminar notes: Light snack and beverages will be served.