



## **Dr. Debashis Chanda**

### **Professor**

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**Title: Building Uncooled Infrared Camera based on One Atom Thick Graphene**  
**Date/Place : 25/07/2022 11h IJL salle 4-014**

**Abstract:** The talk will outline a novel strategy for uncooled, tunable, multispectral infrared detection. Due to the low photon energy, detection of infrared photons is challenging at room temperature. One atom thick graphene offers an alternative mechanism bypassing material bandgap restriction. Further, the ability of carrier concentration modulation on graphene via external voltage offers dynamic spectral selectivity for “color” night vision/sensing. The performance of preliminary demonstration compares favorably even with present cryogenically cooled detection schemes paving the path for commercial development.

**Prof. Debashis Chanda** is a Professor, jointly appointed with NanoScience Technology Center, Dept. of Physics and College of Optics and Photonics (CREOL), University of Central Florida (UCF). Dr. Chanda received his PhD from University of Toronto. His PhD work was recognized in the form of several awards, including prestigious National Sciences and Engineering Research Council (NSERC) fellowship. Dr. Chanda completed his post-doctoral research with Prof. John A. Rogers at Beckman Institute, University of Illinois at Urbana-Champaign. Quite a few of this research works were extensively covered by National Science Foundation news, BBC, Daily Mail, NBC, Fox, Science Radio and other national/international media outlets. His research has appeared on American Scientist magazine as focused article where it was outlined how companies like Intel, Toshiba etc are trying to adopt some of the printing techniques which were developed in his group. Dr. Chanda is a recipient of the 2012 DOE Energy Frontier Research Center (EFRC) Solar Energy Future Direction Innovation Proposal Award, 2013 NSF Summer Institute Fellowship and International Displaying Future Award-2016 by Merck Germany, UCF Reach of the Stars Award (2018) etc. Dr. Chanda's research has been supported by NSF, DoD, DARPA, Florida Space Institute/NASA, Northrop Grumman, Lockheed Martin etc. Apart from that Dr. Chanda is the founder of start-up, E-Skin Displays Inc., out of his research in California.