

Old Dominion University
College of Engineering and Technology
Department of Electrical and Computer Engineering

All lectures to be held at 3:00 p.m. on Tuesdays in Kaufman 224. For more information, contact Dr. Dimitrie Popescu at (757) 683-3741 or e-mail dpopescu@odu.edu. Refreshments provided after the seminar.

Tuesday, November 15, 2016 Seminar Topic:

**PEROVSKITE SOLAR CELLS: THE NEW FRONTIER
IN PHOTOVOLTAIC ENERGY CONVERSION**

by

**Dr. Vikram L. Dalal, Thomas Whitney Professor and Anson
Marston Distinguished Professor in Electrical and Computer
Engineering Department at Iowa State University**

Abstract:

Photovoltaic energy conversion has become a major energy technology, with over 200 GW of PV panels already having been installed worldwide. However, the total power costs of PV systems (not just solar panels) still are much higher than power from natural gas. A way to significantly reduce these costs is to increase the power conversion efficiency from the current 20% to over 30%. Tandem junction solar cells using combinations of c-Si and a new material system, perovskites, appears to be one PV system which can achieve such efficiencies. In this talk, I will describe the physics and technology of perovskite solar cells, as well as potential technological and environmental problems.

Bio:

Vikram Dalal is Anson Marston Distinguished Professor of Engineering at Iowa State University. He is also Whitney Professor in the Department of Electrical and Computer Engineering at Iowa State. He obtained his B.Engineering(EE) degree from University of Bombay, and Ph.D. (EE) from Princeton University. He also holds a M.P.A. degree (major: Economics) from Princeton. His research interests are in PV materials and devices. He is a Fellow of IEEE, American Physical Society and AAAS, having been recognized by all three organizations for the excellence of his research in thin film PV materials and devices. He is also a Distinguished Lecturer of IEEE-Electron Devices Society.