

Rad Lab Seminar

Radiation Lab Auditorium

February 19, 2015

11:00 am

**“Vapor Deposited Perovskite Cells:
Electronic Properties and Structural Stability”**



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Abstract:

Perovskite solar cells are clearly the new frontier in solar energy conversion. They have the potential of significantly increasing the efficiency of crystalline Si solar cells to 30% range when used in a tandem cell arrangement. In this talk, I will discuss an all vapor-phase deposition process for making perovskite cells, and the detailed electronic properties of perovskite cells deposited using both methyl ammonium iodide and formamine iodide precursors. I will discuss the fundamental thermally-induced structural instability of both material systems. Both n-i-p and p-i-n types of cells will be described along with the relative advantages of each type.

Bio:

Dr. Vikram Dalal is Anson Marston Distinguished Professor of Engineering at Iowa State University, and also holds the Whitney Chair in the Electrical and Computer Engineering Department at Iowa State. He obtained his B.E.(EE) from University of Bombay, India in 1964, and his Ph.D. in EE from Princeton in 1969. He also holds a M.P.A. (Economics) Degree from Princeton. He has extensive experience in both industry and academia, and has been at Iowa State since 1988. He is a Fellow of IEEE, American Physical Society and AAAS.