

Seminar Series!!

Dr. Arumugam Manthiram,

*Materials Science and Engineering Program &
Department of Mechanical Engineering
The University of Texas at Austin*

Title:

"Lithium-Ion Battery Technology in Addressing the Global Energy Needs"

Abstract:

Lithium-ion batteries have revolutionized the portable electronics market, but their adoption for transportation and renewable-energy storage applications is hampered by high cost and safety concerns. The success of lithium-ion technology for these applications relies heavily on the development of low-cost, safe cathode and anode materials with high energy and power densities as well as long cycle life. After providing an overview of the pros and cons of the existing electrode materials, this presentation will focus on the development of high-capacity, high-power cathode and anode materials for lithium-ion batteries. Particularly, the advantage of nanostructured materials in enhancing the energy and power will be emphasized.

Bio:

Dr. Manthiram graduated from Madurai University, India, with a B. S. in 1974 and a M. S. in 1976, both in chemistry. He received his Ph.D. in chemistry from the Indian Institute of Technology, Madras, in 1980. He joined the University of Texas at Austin in 1986 and currently holds the Joe C. Walter Chair in Engineering and the Jack S. Josey Professorship in Energy Studies in the Materials Science and Engineering Program and Department of Mechanical Engineering. Dr. Manthiram directs a large research group in electrochemical energy technologies, focusing on the development of new materials for lithium-ion batteries, fuel cells, and supercapacitors. Dr. Manthiram has authored more than 375 publications, including 300 archival journal articles, and holds 5 patents.

Wednesday, March 24, 2010

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RFM 5242