

**2010 Hawkins Memorial Lecture  
in Heat Transfer  
Thursday, October 7, 2010  
4:30pm, Fowler Hall**

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Washington, DC

***Energy Innovations in the 21<sup>st</sup> Century:  
Role of ARPA-E***



**Abstract:** We are living through a Sputnik moment in our nation's history, where we have witnessed multiple wake up calls with regards to the need for innovating in energy technologies. ARPA-E was created to address this need by investing in high-risk/high-impact projects, with a mission to: (i) reduce energy imports; (ii) reduce energy-related emissions; (iii) improve energy efficiency of all economic sectors; and (iv) to ensure US technological lead. This mission is at the heart of our national, economic and environmental security. This talk will first briefly explain the history of the agency and then focus on new technical programs that have been created to address the mission, as well as a few scientific ideas that capture the imagination of what is technologically possible. The talk will also explain how it is planning for the future, both in terms of technologies as well as an organization.

**Bio:** Dr. Arun Majumdar received a B.Tech in Mechanical Engineering from the Indian Institute of Technology, Bombay (IIT-B) in 1985, and a PhD in Mechanical Engineering from the University of California, Berkeley in 1989, for research conducted in the laboratory of Professor Chang-Lin Tien. After being on the faculty of Arizona State University (1989-92) and University of California, Santa Barbara (1992-96), he began his faculty appointment in the Department of Mechanical Engineering at the University of California, Berkeley, where he held the Almy and Agnes Maynard Chair Professorship in the College of Engineering till October 2009. In addition to his faculty appointment, he was the Associate Laboratory Director for Energy and Environment at the Lawrence Berkeley National Laboratory. Dr. Majumdar has served in an advisory role to many federal agencies including the Department of Energy and the National Science Foundation. He also served on the editorial board of *Nano Letters*, *International Journal of Heat and Mass Transfer*, and *Nano/Microscale Thermophysical Engineering*. Dr. Majumdar has received many awards, and was elected to the US National Academy of Engineering in 2005. In October 2009, President Obama appointed him as the first Director of the Advanced Research Projects Agency-Energy (ARPA-E) to create an organization within the Department of Energy dedicated exclusively to developing high-risk/high-reward disruptive energy technologies.

***Refreshments will be served in West Faculty Lounge,  
Rm. 250 – Purdue Memorial Union at 4:00pm.***