

PHYSICS DEPARTMENT COLLOQUIUM

**SPECIAL SEMINAR
HOSTED BY THE UNIVERSITY OF UTAH
CHEMISTRY DEPARTMENT**

"Gate-Induced Carriers in Semiconducting Polymers: Insulator-to-Metal Transition and Light Emitting Field Effect Transistors"

BY

ALAN J. HEEGER

NOBEL LAUREATE, PROFESSOR OF PHYSICS
UNIVERSITY OF CALIFORNIA, SANTA BARBARA

Professor Heeger and his colleagues at the University of California, Santa Barbara, have done pioneering research in the area of semiconducting and metallic polymers. His current interests are focused on light emission from semiconducting polymers, including photoluminescence, light-emitting diodes, light-emitting electrochemical cells, and lasers. The MRL seed project (with Prof. S. DenBaars as co-PI) involves the development of hybrid structures of LEDs and lasers; in these hybrid structures the InGaN LED is used either to pump the photoluminescence from conjugated polymers for generation of white light (and high brightness LEDs of all colors) or to pump polymer lasers and thereby create a class of electrically pumped diode lasers with colors that span the visible spectrum.

**THURSDAY, JANUARY 29, 2009
4:00 PM IN 2006 HEB (CHEMISTRY)**