Engineering a Better Cancer Fighter

Mark E. Davis

Warren and Katharine Schlinger Professor of Chemical Engineering at the California Institute of Technology

Member, Experimental Therapeutics Program of the Comprehensive Cancer Center at the City of Hope

Feb 28, 2007 , Wednesday, 7 PM
CLU – Richter Hall Ahmanson Science Building

Dr. Davis will discuss his work on therapeutic molecules and drug delivery systems that have the potential to provide much improved treatments for a variety of devastating diseases, particularly cancer.

The engineering behind the enhanced ability to fight cancer is a nano-engineered class of linear cyclodextrin-containing polymers, designed to enable the manipulation of particle size and other characteristics to improve drug properties and performance.

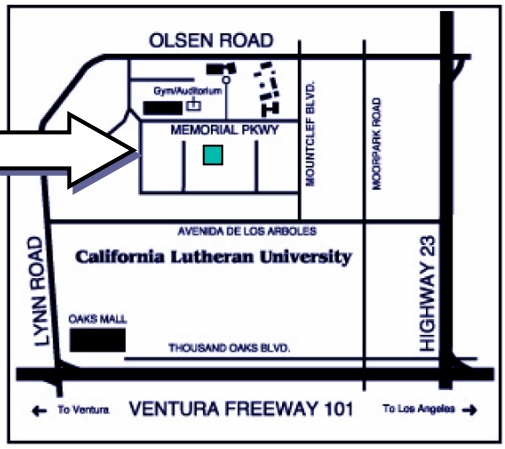
Mark E. Davis has over 325 scientific publications, two textbooks and over 40 patents. Professor Davis is a founding editor of CaTTech and has been an associate editor of Chemistry of Materials and the AIChE Journal. He is the recipient of numerous awards including the Colburn and Professional Progress Awards from the AIChE and the Ipatieff, Langmuir and Murphree Prizes from the ACS. Professor Davis was the first engineer to win the NSF Alan T. Waterman Award. He was elected in the National Academy of Engineering in 1997 and the National Academy of Sciences in 2006.

Dr. Davis is the founder of Insert Therapeutics Inc., a company based in Pasadena, CA USA, focused on the use of cyclodextrin-containing polymers for drug delivery applications and Calando Pharmaceuticals, Inc., a company based in Duarte, CA that creates RNAi therapeutics. He is currently or has been a member of the scientific advisory boards of Symyx (Nasdaq: SMMX), Alnylam (Nasdaq: ALNY) and NovoDynamics.

Meeting Site: **Cal Lutheran University**
100 Ahmanson Science Building
60 West Olsen Road,
Thousand Oaks, CA

Contact: Steve Johnson, steve@net-link.net

Dinner: Available at 6 p.m. in the Atrium



The Epilepsy and Brain Mapping Program

William W. Sutherling, M.D.
The Huntington Medical Research Institute

March 28, 2007 , Wednesday, 7 PM
CLU – Richter Hall
Ahmanson Science Building

An epileptic seizure is the outward sign of an electrical storm in the brain, a sudden surge of uncontrolled electric currents. If neurosurgeons can pinpoint the damaged brain tissue that sparks the storm, they can remove it, potentially sparing a patient a lifetime of debilitating attacks and antiseizure medications. Zeroing in on the precise bits of defective gray matter using the scalp electrodes of a standard electroencephalograph (EEG) machine is difficult.

Because electrical fields generated in the brain "get spread out and distorted" as they pass through the skull, Dr. Sutherling has developed techniques that look at the magnetic fields generated by each electrical impulse in the brain; those pass through the skull virtually unaffected. Using one of only a few dozen magnetoencephalography (MEG) machines in the world, Sutherling measures the vanishingly faint magnetic fluctuations generated by epilepsy sufferers' brains, and combining that data with 3-D information from magnetic resonance imaging (MRI).

William Sutherling, M.D.

Dr. Sutherling is the medical director of the Huntington Hospital Epilepsy and Brain Mapping Program. Dr. Sutherling has 25 years experience in epileptology and invasive monitoring studies. He is board-certified in neurology by the American Board of Psychiatry and Neurology and in EEG, Evoked Potentials and Intensive monitoring by the American Board of Clinical Neurophysiology. Before moving to Huntington Hospital, he directed the Adult and Pediatric Epilepsy Subdural Grid and Brain Mapping Programs at UCLA.

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IEEE BUENAVENTURA ENGINEERING IN MEDICINE AND BIOLOGY EMB

Planetary Protection of Biological Samples Returning to Earth

Jason Kastner, NASA Jet Propulsion Laboratory

April 25, 2007 , Wednesday, 7 PM
CLU – Richter Hall Ahmanson Science Building

Planetary protection is the term given to the practice of protecting solar system bodies (i.e., planets, moons, comets, and asteroids) from contamination by Earth life, and protecting Earth from possible life forms that may be returned from other solar system bodies. Planetary protection is essential for several important reasons: to preserve our ability to study other worlds as they exist in their natural states; to avoid contamination that would obscure our ability to find life elsewhere—if it exists; and to ensure that we take prudent precautions to protect Earth's biosphere in case it does.

Dr. Kastner received his Ph.D. in applied mathematics from Caltech, with a research focus on developmental and computational biology. Prior to joining JPL, Dr. Kastner worked at TRW Systems / Northrop Grumman in Mission Systems as an Assistant Project Manager on the FBCB2 program and led the systems engineering department. Dr. Kastner also worked at Wolfram Research and other leading companies.

Dr. Kastner is currently the supervisor for the Biotechnology and Planetary Protection group at JPL.

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60 West Olsen Road,
Thousand Oaks, CA

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