ASU LightWorks
ARIZONA STATE UNIVERSITY
Light·Inspired Solutions

BIS fuel

LightWorks Inaugural Lecture Series

Featuring Dr. Robert E. Blankenship

Thursday, February 21, 2013

Dr. Robert E. Blankenship

Lucille P. Markey Distinguished Professor of Arts and Sciences
Washington University in St. Louis, Missouri

Dr. Robert E. Blankenship graduated from Nebraska Wesleyan University in 1970 with a BS degree in Chemistry. He earned a PhD in Chemistry from University of California at Berkley in 1975 and was a postdoctoral fellow from 1976 to 1979 at the University of Washington in Seattle. He was a faculty member at Amherst College in Massachusetts from 1979-85 and moved to Arizona State University, where he was a faculty member for 21 years. In 2006, he moved to Washington University in St. Louis, where he is joint Professor in the Departments of Biology and Chemistry and the Lucille P. Markey Distinguished Professor in Arts and Sciences. He is the Director of the Washington University Photosynthetic Antenna Research Center (PARC), one of the Department of Energy's Energy Frontier Research Centers. He is Co-organizer of the 16th International Congress on Photosynthetic Research, which will be held in St. Louis in August 2013. Dr. Blankenship has spent his entire scientific career researching the highly interdisciplinary subject of photosynthesis using a wide range of techniques. His research investigates energy transfer and electron transfer processes in photosynthetic antenna and reaction center complexes with the goal of discovering the essential or irreducible aspects of how light energy is stored.

Join us February 21 for up to 2 opportunities to interact with Dr. Robert Blankenship

1 Photosynthetic Antennas: The First Step in Biological Solar Energy Conversion

Thursday, February 21 at 3:45 pm
Location ASU Tempe Campus, Biodesign Institute Auditorium

This **seminar** will discuss how all photosynthetic organisms contain a light-gathering antenna system, which functions to collect light and deliver energy to the photosynthetic reaction center, where electron transfer processes store chemical energy. There are a large number of different types of antenna complexes, which have almost certainly arisen multiple times during evolution to adapt organisms to particular photic environments. The antenna system that will be discussed in this talk is the chlorosome antenna and the associated FMO protein that is an intermediate in energy transfer between the chlorosome and the reaction center in green sulfur bacteria. This protein has been found to exhibit electronic quantum coherence effects, which may be important in its function. Advanced mass spectrometry methods have been used to determine the orientation of this protein in the intact photosystem, the cofactor composition of the native complex and how it interacts with the cholorosome and reaction center. The Washington University PARC and its mission to understand natural, biohybrid and bioinspired antenna systems will be described in the context of the long-term goal of producing biofuels.

2 Panel Discussion: The Future of Bioenergy

Thursday, February 21 from 6:00 pm to 7:30 pm
Location ASU SkySong, Convergence Room 150

Join us for a **panel** discussion following Dr. Blankenship's seminar on the first step in biological solar energy conversion. This panel will discuss the future of bioenergy, particularly in Arizona and the Southwest.

Panelists include:
- **Dr. Robert Blankenship**, Professor and Director of PARC at Washington University
- **Dr. Gary Dirks**, Director of ASU LightWorks
- **Joan Koerber-Walker**, President and CEO of Arizona BioIndustry Association
- and others

Reception to begin at 6 pm with panel following at 6:30 pm.

Questions: (480) 965-9572 Rebecca.Davis@asu.edu

RSVP online at www.asulightworks.com