

# challenges for a new **energy** frontier

October 30, 2007 10:00 A.M.  
**BREAKTHROUGHS IN MATERIALS  
AND DESIGNS FOR FUEL CELLS**

**Sossina M. Haile**

*Materials Science and Chemical Engineering,  
California Institute of Technology*

November 12, 2007 2:00 P.M.  
**ELECTROCHEMICAL ENERGY CONVERSION AND  
STORAGE FOR A SUSTAINABLE ENERGY FUTURE**

**Yang Shao-Horn**

*Department of Mechanical Engineering,  
Massachusetts Institute of Technology*

November 13, 2007 11:00 A.M.  
**NEW POLYMER MEMBRANES FOR  
HYDROGEN PURIFICATION AND  
PROTON TRANSPORT FOR FUEL CELLS**

**W.S. Winston Ho**

*Department of Chemical and Biomolecular Engineering  
Department of Materials Science and Engineering,  
The Ohio State University*

November 16, 2007 11:00 A.M.  
**MICRO-IONICS: A REVOLUTION IN  
PORTABLE POWER GENERATION AND  
ENVIRONMENTAL SENSING**

**Harry L. Tuller**

*Department of Materials Science and Engineering,  
Massachusetts Institute of Technology*

November 26, 2007 2:00 P.M.  
**MECHANISM OF CATALYST DEGRADATION  
IN PROTON EXCHANGE MEMBRANE  
FUEL CELLS (PEMFC)**

**Anil V. Virkar**

*Department of Materials Science and Engineering,  
University of Utah*

December 13, 2007 11:00 A.M.  
**FUNDAMENTAL APPROACHES TO  
CATALYST DESIGN FOR SELECTIVITY:  
LESSONS FROM OLEFIN EPOXIDATION**

**Mark A. Barteau**

*Department of Chemical Engineering, University of Delaware*



University of  
Connecticut

School of Engineering