



Visiting Speaker: Dr. Harry Gray

Arnold O. Beckman Professor of
Chemistry and the Founding
Director of the Beckman Institute

at the California Institute of
Technology

will speak on

“THE 21ST CENTURY SOLAR ARMY”

Date: Tuesday, October 22, 2013, 7:30-9:30 pm

Place: Edmonton City Hall

<http://goo.gl/maps/GPh5l>

Abstract: see reverse

Also presenting:

“POWERING THE PLANET WITH SOLAR FUEL”

Date: Wednesday, October 23, 2013, 4:00-5:30 pm

Place: CCIS, Room L1-140,

University of Alberta, North Campus

<http://goo.gl/maps/4Nsn8>

The Engaging Chemistry Series brings in internationally recognized chemists. They give presentations about their research work and its applications to audiences from academia and industry and also to the general public, increasing awareness of the importance of engaging with chemistry. Lecturers also meet with students, enabling them to interact directly with world-class scientists.

Sponsored by the 75th and 91st CSC Conference Funds, Faculty of Science at the University of Alberta and Habitat Studios

“THE 21ST CENTURY SOLAR ARMY”

Abstract: The sun is a boundless source of clean energy, but it goes down every night. We and many others are trying to design solar-driven molecular machines that could be used on a global scale to store solar energy by splitting water into its elemental components, hydrogen and oxygen. Hydrogen is a clean fuel that could be used directly or combined with carbon dioxide to produce methanol, a liquid fuel. We are investigating the structures and mechanisms of hydrogen evolving catalysts made from Earth abundant elements such as cobalt, iron, nickel, and molybdenum. We also are employing pulsed laser ablation for synthesis of metal-oxide nanoparticles that will be deployed as catalysts on photoanodes such as tungsten oxide. To aid our research, we have recruited hundreds of students to join a Solar Army whose mission is the discovery of mixed-metal oxides for testing on the photoanodes of our solar water splitters.