Photoelectrochemical Hydrogen Production from Water/Methanol Decomposition Using Nanocomposites
Zhengdong Cheng, Artie McFerrin Department of Chemical Engineering, Texas A&M University, College Station, TX 77843, USA

Hydrogen is the best transportation fuel, the most versatile, most efficient, most environmentally compatible, safest and most cost effective fuel to society [1]. The splitting of water with sunlight to produce hydrogen is the basis for one of the most promising new energy industries, both in terms of high projected growth and low environmental footprint. Extensive studies have been carried out to study the best material candidates for solar hydrogen production via water splitting since its discovery by Fujishima and Honda in 1972 [2]. Here, we present the results of Cu/TiO\textsubscript{2} nanoparticles [3], and Ag/CuInS\textsubscript{2}/TiO\textsubscript{2-x}.N\textsubscript{x} thin films under sunlight from water/methanol solution. The Ag/TiO\textsubscript{2} nanofiber fabricated using electrospinning which proposed as effective supporter for nanocomposite photocatalysts will be also discussed. Time courses of hydrogen production were recorded using the high throughput detection method established in our laboratory. [4]

References