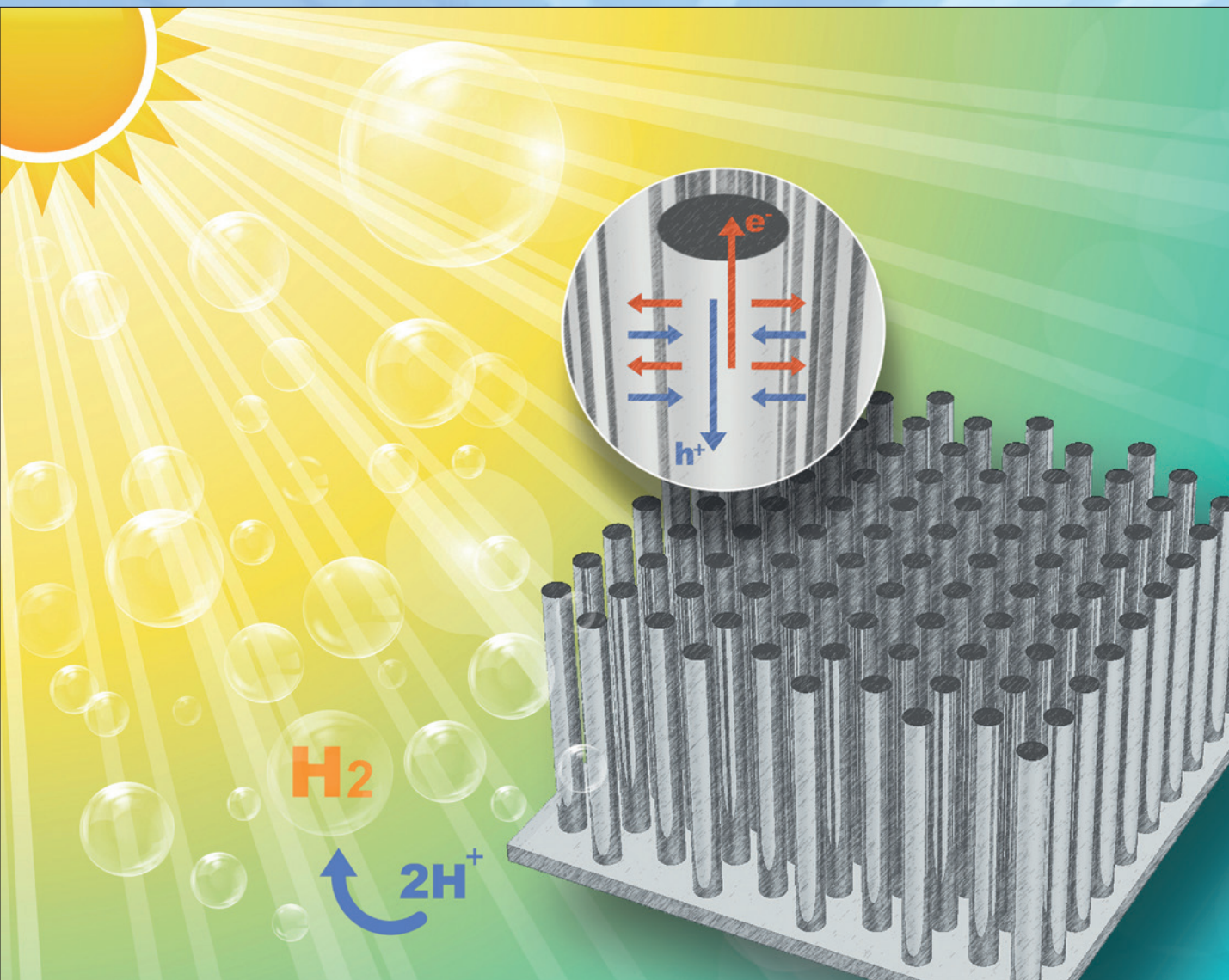


Energy Technology

Generation, Conversion, Storage, Distribution

11/2014



Cover Picture: Si nanowire arrays with ultra-high aspect ratios for the application of photoelectrochemical hydrogen evolution (D. H. Lee)

Cover Picture

Duck Hyun Lee*, Sai P. R. Kobaku, Young-Rae Hong, and Jae Young Kwon

Hydrogen from the Sun: The cover image illustrates Si nanowire arrays with ultra-high aspect ratios for the application of photoelectrochemical hydrogen evolution. As described in the Full Paper by Duck Hyun Lee and colleagues at the University of Michigan and Silicium Energy on page 889, the authors have created such wafer-scale nanowire arrays using the combination of block copolymer lithography and metal-assisted etching. Thus, the fabrication of the Si nanowire cells was performed using scalable manufacturing techniques, and they exhibited high absorbance of incident light, a reduced minority carrier transport distance, and a high chemical reaction surface area. These structural advantages of the Si nanomaterials developed here enabled us to achieve remarkably high photocurrents and hydrogen evolution efficiencies.

