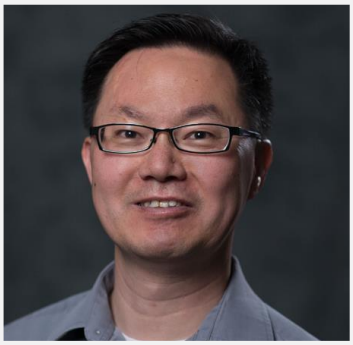
Ion-Conducting Polymer Membranes and Ionomers: Synthesis, Properties, and Applications in Green Hydrogen



Prof. Chulsung Bae

Rensselaer Polytechnic Institute, USA

Chulsung Bae is the Ford Foundation Professor at Department of Chemistry & Chemical Biology, Rensselaer Polytechnic Institute. Broadly speaking, Bae's research group focuses on development of functional polymeric materials that can find applications in the areas of clean energy technologies, using synthetic organic chemistry as a tool. Representative research topics include novel ion conducting polymers that can be used as a key component in next generation energy conversion and storage technologies, such as fuel cells, water electrolyzers, and redox flow battery, and functional polymer membranes that can play a crucial role in energy efficient separation process.

Chulsung Bae received BS in Polymer Science & Engineering at Inha University, MS in Materials Science at POSTECH, MS in Chemistry at University of Massachusetts at Lowell, and Ph.D. in Chemistry at University of Southern California under the guidance of Surya Prakash and Nobel Laureate George A. Olah. He conducted postdoctoral research with John F. Hartwig at Yale University before starting independent academic career in 2004. In 2012 Bae relocated his research group to Rensselaer Polytechnic Institute.