UNIVERSITY OF RHODE ISLAND
Department of Chemistry
SEMINAR

3:00 P.M., Monday, April 11, 2022
Room 105 – Beaupre Center

Prof. Chulsung Bae

Rensselaer Polytechnic Institute
Department of Chemistry and Chemical Biology

Molecular Engineering of Ion-Conducting Polymers for Electrochemical Energy Conversion Technologies

HOST

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Abstract: Anion exchange membranes (AEMs) based on hydroxide-conducting polymers are a key component for anion-based electrochemical energy technology such as hydrogen fuel cells, electrolyzers for green hydrogen, and redox flow batteries. Although these alkaline electrochemical technologies offer a promising alternative to acidic proton exchange membrane electrochemical devices, the access to chemically stable, mechanically durable, high-performing polymer electrolyte materials has been bottleneck to advance electrochemical technologies for hydrogen and other green chemicals until now. Recent progress at the Bae group of Rensselaer Polytechnic Institute in the development of advanced hydroxide-conducting polymers and membranes for AEM technology applications will be presented.