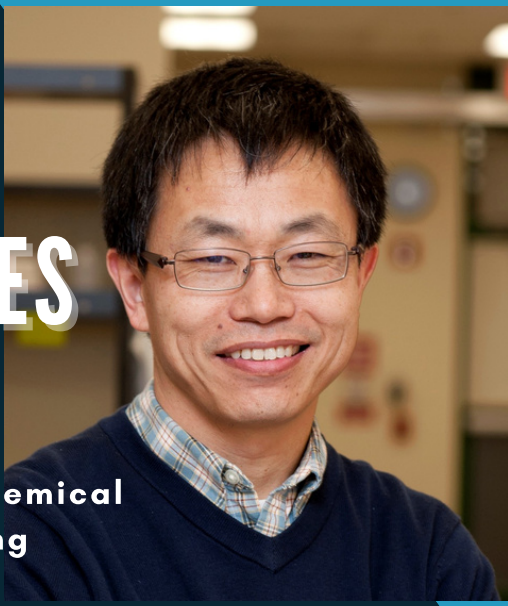
DEPARTMENT OF MATERIALS SCIENCE AND ENGINEERING

SPRING 2022 SEMINAR SERIES



YUSHAN YAN

Henry B. du Pont Chair of Chemical and Biomolecular Engineering
University of Delaware

TOWARDS PLATINUM-FREE FUEL CELLS FOR AFFORDABLE ZERO-EMISSION VEHICLES

Green hydrogen from wind and solar electricity is necessary to decarbonize certain sectors of our economy that are inaccessible by renewable electricity, and it has the potential to reduce more than 30% of the global carbon emission. For the transportation sector, the decarbonization by green hydrogen is through the use in fuel cells. Green hydrogen refers to hydrogen that is produced by water electrolyzers powered by renewable electricity. For low temperature fuel cells and electrolyzers, polymer electrolytes play a critical role in controlling their cost, performance, and durability, and consequently their economic viability. In this presentation, I will focus on our work on hydroxide exchange membrane fuel cells (HEMFCs). More specifically I will highlight the progress we have made in developing one of the most stable membranes and the activity targets we have developed for the nonprecious metal catalysts. I will also show the work that has been done by community for solving the CO2 and water management problems.

JOHNS HOPKINS
WHITING SCHOOL of ENGINEERING
Materials Science and Engineering

Wednesday, March 9
@ 2:30 pm
See event page for Zoom info