SHARON HUGHES

Sharon is a Ph.D. candidate and Purdue alumna who holds a BS in Metallurgical Engineering and a MS in Interdisciplinary Engineering.

Sharon was a project manager for optimization experts for all British Petroleum (BP) oil refineries in the U.S.

Since an oil refinery is analogous to a biorefinery,

Sharon utilized knowledge and technology transfer from oil refining to her biorefining research.

Novel framework, life cycle assessment, and techno-economic assessment for cost-effective biorefineries

APRIL 11, 2023

11:15 AM WALC 2121 & ZOOM

With 30% of carbon emissions in 2022, the transportation sector was the largest contributor of carbon emission in the U.S. Although many efforts have been made to examine carbon emission reduction with electric vehicles, information on the potential of significant reduction of carbon emission with carbon-negative biofuels is limited. The objective of this study is to systematically evaluate carbon efficiency and cost-effectiveness of biofuels . New framework was proposed to support circular economy. Life cycle assessment and techno-economic analysis were conducted on biorefineries. The results indicated that make the biofuels should be considered as serious horses in this race to achieve carbon-neutral by 2050.