Tunable Thin Liquid/Gas Diffusion Layers for Electrolyzers

Disclosure Number
201102662

Technology Summary
This invention improves on the Liquid/gas diffusion layers (LLGDLs) that are located between the catalyst layer and the flow field/current collector in an electrolyzer. The role of the LGDL is to transit fuel, electrons, heat and products, with minimum voltage, current, thermal and fluidic loss. Effective diffusion media will promote a uniform current/thermal distribution at the adjacent catalyst layer. With the development of micro/nano technology, which has the advantages of high precision, good repeatability and repeatable batch-production, several solutions for better thermal and electrical conductivity, mass transport and permeability will become possible.

Inventor
TOOPS, TODD J
Energy & Transportation Science Division

Licensing Contact
SIMS, DAVID L
UT-Battelle, LLC
Oak Ridge National Laboratory
Rm 124C, Bldg 4500N6196
1 Bethel Valley Road
Oak Ridge, TN 37831

Office Phone: (865) 241-3808
E-Mail: SIMSDL@ORNL.GOV

Note: The technology described above is an early stage opportunity. Licensing rights to this intellectual property may be limited or unavailable. Patent applications directed towards this invention may not have been filed with any patent office.