

Application of Fluid Mechanics to Meet the Requested Design Criteria for Variety of Problems

Abstract. The educational-oriented presentation will focus on fluid mechanics application on the design of variety of industrial problems.

- Flow field design for metallic PEM fuel cells,
- Indentation of flow channels for the enhancement of reactant delivery to reaction sites,
- Design, manufacture and test of a transparent fuel cell with image processing tool to monitor flooding issues in PEM,
- Design and manufacture of an automated cooling/heating loop for the heat management of PEM fuel cells,
- Aeronautics example, such as wing-tip leakages in airplanes wings, and application of winglets
- To be performed at Guangzhou Institute of Energy Conversion,
 - Fluid mechanics approach for the design of a functionally graded material for PEM fuel cell,
 - Stack assembly for a flow fields less PEM fuel cell,
 - Design of Heat management loop.