

PEM-LITE™ Systems:

A Rapid, Cost-Effective Fuel Cell Tool

PEM-LITE™ stands for PROTON EXCHANGE MEMBRANE - LIGHT INDICATING TEST EQUIPMENT, and represents a **unique benchtop instrument** for evaluating newly developed fuel cell materials and components. This collaborative effort between GrafTech International, LakeShore Cryotronics, and The University of Akron will allow the growing fuel cell industry to rapidly evaluate components for Proton Exchange Membrane (PEM) fuel cells in a way that **mimics an operating fuel cell, but without the need for complicated and expensive fuel cell test stations.** This exciting new technique will allow fuel cell researchers to actually see the most electrochemically active regions within a fuel cell!



The PEM-LITE™ approach is based on the ability to incorporate electrochemically sensitive materials into a specially designed fuel cell. During operation, the reactive materials emit light in response to the generation of protons - thus capturing the essential step in the operation of a Proton Exchange Membrane fuel cell. Using a PEM-LITE™ analytical system will also allow researchers to quantify results that they observe visually, and make correlations to single cell testing data. This project will help **keep Ohio on the leading edge** of fuel cell technology development, and strengthen Ohio's position in instrument manufacturing. Successful completion of this project will lead to creation of up to **100 Ohio jobs** by 2010.

 LakeShore.

The
University
of Akron