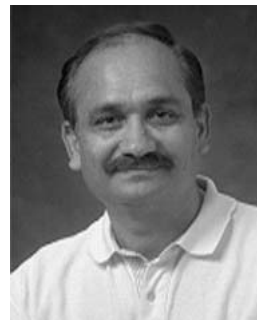

Editorial

This issue of the *Journal of Materials Engineering and Performance* focuses on fuel-cell technology and contains selected papers presented at the “Fuel Cells: Materials, Processing, and Manufacturing Technologies” conference held at the 2003 ASM Materials Solutions Conference in Pittsburgh, PA. The meeting and technical sessions focused on emerging research and development in the fields of fuel-cell components and balance of plant materials, fuel processing and sulfur removal, and field demonstrations and commercialization of proton-exchange membrane (PEM), molten carbonate (MCFC), and solid-oxide fuel-cell (SOFC) power-generation systems.



Global environmental concerns, growing trends toward distributed power generation, and the increased need for portable power has sparked widespread interest in the development and deployment of fuel-cell power-generation systems for stationary, automotive, and military applications. As we march forward in the 21st century, we expect a widespread introduction of products powered by fuel cells—products ranging from small consumer electronics and soldier-portable systems to auxiliary and prime propulsion units for automobiles and heavy vehicles to near-zero-emissions power plants that utilize coal, natural gas, logistics fuel (high sulfur content), and hydrogen.

United States Department of Energy initiatives such as “Future Gen,” “FreedomCAR,” and “Solid State Energy Conversion Alliance (SECA)” provide the backbone for the development of efficient power-generation systems. The SECA initiative is accelerating the development and commercialization of low-cost solid-oxide fuel cells and supports presidential initiatives ranging from Clean Coal to Clear Sky to Hydrogen Fuel Initiative.

Guest Editor

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