

**Title: Liquid Tin Anode Fuel Cell Direct Coal Conversion**

**Company: CellTech Power LLC, Westborough MA**

**Author: T. Tao\*, J. Bentley, M. Koslowske, M. Slaney, L. Bateman, J. Brodie, C. MacKean,**

**Email address: [tao@celltechpower.com](mailto:tao@celltechpower.com)**

**Phone: 508-986-2172**

**ABSTRACT**

The Liquid Tin Anode Solid Oxide Fuel Cell (LTA-SOFC) is a direct conversion fuel cell and does not require fuel processing, reforming or water. Power is generated directly from any solid, liquid or gaseous carbonaceous fuel. Sulfur and carbon species are fuel not a poison to the LTA-SOFC. CellTech's LTA-SOFC is the only known fuel cell capable of direct operation on heavy hydrocarbons such as military logistics fuel. Its versatility and fuel flexibility allow applications ranging from compact sub-kilowatt portable/mobile power units to stationary MW-scale power plants. This poster will discuss technology development activities which address major opportunities in direct coal conversion, and results of direct coal (Illinois #6 coal) conversion in Liquid Tin Anode SOFC.