

# New Polyelectrolyte Materials for High Temperature Fuel Cells (Topic 1)

## Lawrence Berkeley National Laboratory

- Funding

<b>DOE Cost Share</b>	<b>Recipient Cost Share</b>	<b>TOTAL</b>
\$6,000,000	\$0	\$6,000,000
100%	0%	100%

- **Project Description:** The objective of this collaborative effort is to synthesize new proton conducting membrane materials for use in hydrogen fuel cells at temperatures ranging from -20°C to 120°C and under low humidity conditions. This project will continue efforts at Lawrence Berkeley National Laboratory and Los Alamos National Laboratory to investigate the use of tethered imidazole and imidazolium cations in polyelectrolyte matrices which have shown some preliminary promise. The staged approach to be undertaken involves synthesis and characterization of the materials, fabrication into appropriate fuel cell components, and rigorous testing in fuel cells accompanied by lifetime and post-mortem analysis.
- **Timeframe:** 4 years, starting in FY07

### Sub-Contractors

<b>Institutions</b>
Los Alamos National Laboratory
3M Company