Postdoc Job Description: The University of Minnesota TE Murphy Engine Research Laboratory has an opportunity for a postdoctoral researcher to conduct experimental research in nanoparticle characterization from gasoline direct injection engines. The research will be conducted under a new DOE-sponsored project entitled Enabling Lean and Stoichiometric Gasoline Direct Injection Engines through Mitigation of Nanoparticle Emissions. The primary goal of the project is to efficiently reduce particle mass (PM) and particle number (PN) emissions of lean and stoichiometric GDI engines used in light-duty vehicles below the European $6 \times 10^{11}$ solid particles/km limit and the CARB 2025 LEV III standard of 0.62 mg/km for any imposed driving cycle. The project will develop system-level strategies by seeking synergies between fuel and lubricant properties, engine calibration and next-generation aftertreatment strategies for PM and PN reduction. Elements of the research may include: a) leading experimental engine setup for dynamometer testing and gaseous emissions measurement; b) configuring and using particle instrumentation including partial flow dilution systems, engine exhaust particle sizers and scanning mobility particle sizers; c) configuring in-cylinder diagnostics like high speed pressure and endoscopic instruments; d) designing engine experiments; e) guiding modeling efforts to compliment experimental data; and f) analyzing and processing combustion and emissions data. Relevant areas of expertise include engine experimentation, engine aerosol characterization and combustion diagnostics. This project provides an opportunity to gain expertise in nanoparticle characterization from world-renowned experts in the field. The position is a yearly appointment with renewal potential for two additional years (three years total). Applicants with experience in experimental engine research and emissions measurement are preferred. Excellent communication, writing management and leadership skills are also required for this position.