

## Other

### *Planning Grant: Hydrogen Storage Using Carbon-based Adsorbent Materials*

**PI:** Efstratios Manousakis

**Description:** We propose to theoretically investigate a variety of carbon based nano-porous materials, such as activated carbon or single-wall or multi-wall carbon nanotubes, which can be used to store and transport hydrogen. We find that by doping with metallic elements, the micro-surfaces of these carbon-based porous materials provide increased van der Waals forces to the adsorbed hydrogen molecules; this effect significantly enhances the volumetric energy density for hydrogen storage and we propose to carry out a full theoretical investigation to find the optimum conditions.

**Budget:** \$15,000

**University:** FSU

### Executive Summary

This project has been completed.