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**IRG I: Life Support**

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### Synthesis and Functionalization of Nanoporous Coordination Polymers for CO<sub>2</sub> Adsorption and Storage Applications

The objective of this work is to synthesize and characterize porous coordination polymers with pillared layer structures to determine their structure properties and evaluate the CO<sub>2</sub> adsorption capacity of different bipyridine pillar ligands. Functionalization with metal cations via post-synthesis modification will be performed to coordination polymers having pillar ligands with organic groups between the pyridine rings.

### Publication and Oral Presentations

- Garcia-Ricard, O. J., and Hernández-Maldonado, A. J., *J. Phys Chem C*, **2010**, 114 (4), 1827-1834
- - Hernández-Maldonado, A.J. Textural and Adsorption Properties of CPL-2 Type Porous Coordination Polymers. ACS Spring Meeting, San Francisco, CA. **2010**.
- - Hernández-Maldonado, A.J. Synthesis and Characterization of Nanoporous Coordination Polymers for Carbon Dioxide Adsorption and Storage Applications. HBCU Aerospace Collaboration Symposium, Ohio Aerospace Institute, Cleveland, OH. **2009**