**Opportunity Summary:**

The DOE SC program in Basic Energy Sciences (BES) announces its interest in receiving applications from single investigators and from teams for support of experimental and theoretical efforts to advance fundamental understanding of the capture of carbon dioxide (CO2) from dilute sources including combined capture and chemical conversion of CO2. Although direct air capture of carbon dioxide (DAC) generally refers to the capture of CO2 from ambient air, this FOA also considers the removal of CO2 from partially concentrated air (e.g., building HVAC exhaust) and from natural fluids (e.g., the ocean and surface waters) that received their CO2 directly from ambient air. Enhanced understanding of scientific phenomena and approaches for DAC would accelerate progress and strengthen the foundation for applications that deliver economic benefit and/or energy security.

All applications must propose basic research that will address one or more of the **Research Topics**:

1. Novel **Energy Transfer Mechanisms** for Regeneration of and Mass Transport in Direct Air Capture Systems;
2. Understanding **Temporal Changes** That Occur during Separations; and

This FOA supports basic research in chemical and materials sciences to advance the understanding of approaches for separation of carbon dioxide from dilute sources, including combined separation and chemical conversion. The current FOA follows a FY 2020 FOA (see [list of awards](#)) aimed at augmenting ongoing BES research in carbon capture and focused on the scientific challenges associated with capture of carbon dioxide from dilute sources such as normal air. SC and the Office of Fossil Energy (FE) held a workshop in 2010 to assess basic research needs and priority research directions for carbon capture generally.

**Eligibility & Requirements:**

- An individual is limited to being named as the Lead PI on no more than one (1) submission.

**Interested Nomination Process:**

Interested applicants should submit the following documents:

1. **JHU Limited Submission Cover Sheet**
2. Proposal (maximum of two pages of text only, single spaced: 12-pt font and one-inch margins)  
   (Note: figures, tables, and other reference material may be included in addition to the 2 pg. text limit)
3. Curriculum Vitae of investigator, including current external research support and publications
4. Budget (two pages maximum)

Questions? Comments? Email the Research Development Team at resapp@jhu.edu.