

Introduction to Exploratory Projects

In addition to deep research into high-risk, high-impact fundamental science and technology research, GCEP also funds smaller exploratory efforts. These exploratory projects can be funded for up to one year, and have budget limits of up to \$100,000 each. The goal of these projects is to quickly evaluate the feasibility of a novel concept. If such an investigation proves successful, the investigators may apply for regular GCEP funding.

In 2007, 4 exploratory efforts were completed: Plasma Activated Fuel Cells, Nanowire-nanocrystal Multiexciton Solar Cells, Feasibility of a Novel Photoelectrochemical Device, and Nanostructured Zinc Oxide as a Solution-Processable Transparent Conducting Electrode.

This year, two more ideas are being investigated under the GCEP exploratory grant system:

Scott Fendorf and Shawn Benner (at Stanford and Boise State) are investigating Increasing Carbon Storage within Soils by Controlling Key Microbial Respiration Processes. They have found that the fate of soil carbon is affected by fertilization with iron and by draining and inundation.

Robert Huggins has assembled the necessary equipment in his laboratory to investigate High Voltage Alloys for Lithium Battery Cathodes.