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Microbiology of Great Salt Lake
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The microbial organisms of Great Salt Lake represent the foundation of the ecosystem. The role of bacteria and algae is unclear but may involve decomposition, nutrition for invertebrates, normal flora for invertebrates, and the processing of elements and molecules in the lake (including pollutants). My lab and others have been doing research on these microbes in attempts to identify the community members and understand their genes and physiology. Once we have a baseline of research in this area, we can begin to address more complicated questions and can move toward biotechnological applications that may benefit the state of Utah and humankind.

What is the problem?
We are interested in scientific questions that address the dearth of microbiological studies on the lake: What is the microbial diversity? How do microbes participate in the GSL food web? How can microbes reveal the health of the lake? How are microbes involved in processing pollutants? What do the genes of the lake tell us about the abilities of these microorganisms? Are there organisms in the lake that may have alternative energy applications?

How are you funded?
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6. Westminster College Internal Funds
   - Gore Math and Science Funds
   - Gore Professional Development Funds
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Who are your project partners?
I collaborate with many scientists around the world (England, Australia, Israel, Slovenia) and in the US (SUNY-Brooklyn, Colorado School of Mines, George Mason University, Uiversity of North Carolina-Chapel Hill, U Missouri-Rolla, University of Washington, University of Maryland-Baltimore) and in Utah (BYU, U of U, USU, Weber State, SLCC) to bring as many brains as possible to the table.

What can be done?
A state-wide funding initiative stimulating scientific research on the lake would keep a lot of this research within the state. Understanding the foundation of the GSL ecosystem will help us answer the much larger questions about biological integrity of the lake.