

## **A B S T R A C T**

**Dr. Brent M. Peyton**

**Applications of Environmental Biotechnology:  
Biofuels, Bioremediation, and Extreme Bioprocesses**

Advances in molecular biology and understanding of diverse microbial activities is driving the development of unique applications of environmental biotechnologies. This presentation will introduce basic concepts and novel aspects of ongoing Bioengineering research at Montana State University. For biofuels, results of studies on unique strains of algae and fungi will be presented, including data and results of the recently patented bicarbonate trigger for algal lipid production.

Bioremediation of heavy metals, selenium and uranium, offer in situ alternatives to traditional pump and treat technologies. Finally, as Director of the Thermal Biology Institute, Dr. Peyton will present recent results on potential applications of microorganisms from high pH, high temperature hot springs in Yellowstone National Park.