



Presentations of Summer Research Experience
By UWSP Chemistry Students

Friday, October 2, 2009
2:00 PM
A121 Science Building

Alina Ott: Summer Research at UW-Oshkosh, Department of Microbiology

Environmental Adaptations of Photosynthesis in Cyanobacteria

Microalgae are microscopic organisms that obtain enormous amounts solar energy by photosynthesis, converting the inorganic CO₂ to carbohydrates. Photosynthesis involves a series electron transfers (oxidation–reduction or “redox”) reactions mediated by proteins such as the cythochrome bf complex that help complete the energy conversion. The cythochrome bf complex lies at the heart of electron transport, serving in linear and cyclic electrons flow, respiration in microalgae, and redox signaling that balances excitation between the photosystem I and II. Our goal is to understand how electron regulation and metabolic pathways allow microalgae such as cyanobacteria *Synechococcu PCC 7002* adapt to different environments. There are still many mechanisms in photosynthesis that are unknown, and through these experiments and others more knowledge about these pathways may contribute to the development of biofuels.

Justin Perket: Summer Research at the University of Wyoming, Department of Chemistry

Ceria-Based Nickel Nanoparticles for Steam Reforming of Ethanol

Steam Reforming is the source of 90% of hydrogen gas, with nickel oxides being the most popular catalyst. If hydrogen is to become a major energy source, the production of hydrogen must be made more efficient and cost-effective. Placing nickel particles on a cerium oxide support may make a longer lasting and more productive catalyst. With this intent, Ultra High Vacuum conditions are used to study the properties of nickel particles on cerium oxide thin films.

Faculty, staff and students are cordially invited to attend