April 11th Meeting

We are off to a late start in 2005 due to difficulties with the ACS list of tour speakers. We will be holding our first meeting of 2005 on April 11th. The meeting will be held at Famous Murphys Restaurant, 3127 S. Virginia Street. Dr. Jason Geddes of the University of Nevada, Reno will be the guest speaker. Dr. Geddes attended the University of Nevada, Reno receiving degrees in Biochemistry (B.S. 1990) and Environmental Sciences and Health (Ph.D. 1995). His dissertation research won him the National Graduate Student Award for Outstanding Achievement in Environmental Chemistry from the American Chemical Society and the National Graduate Student Paper Award from Lewis Publishers and the American Chemical Society. Dr. Geddes has worked in environmental affairs for both the public and private sector for 18 years. His research and professional interests include environmental fate and analysis of contaminants, use of alternative fuels in increasing energy independence, waste minimization and environmental testing and compliance. While an undergraduate, he first found a job at the University in the Biochemistry Department (1986 – 1992), then at a private lab where he worked his way up to Director of Operations (1995-1999) with responsibility for budget, personnel and corporate policy. He then followed his passion for service to the state and became a petroleum chemist (1999) with the Nevada Department of Agriculture. He then became Senior Petroleum Chemist (2000) and Coordinator of the State’s Fuels Program, dealing with the public and the legislature to help ensure the quality of fuels used by and air breathed by Nevadans. He joined the UNR Environmental Health and Safety department (2002) where he is the Environmental Affairs Manager for the university and his responsibilities include development and implementation of methods and programs that will make sure the campus is meeting its environmental promises through regulatory compliance, improved pollution prevention and increase the overall sustainability of campus operations. Dr. Geddes was also Nevada State Assemblyman (2002 – 2004) serving on education, judiciary and natural resources, agriculture and mining committees.

Reservations for April 11th Meeting

The meeting and dinner will be held at 6:00 p.m. at Famous Murphys Restaurant. The cost of the dinner will be $18.00 for members and guests, and $7.50 for local K-12 teachers, students, and postdocs. Make your reservation by Thursday, April 7, 2004 by filling out and returning the attached form to Luis Barthel-Rosa, Environmental Health and Safety, MS 328, University of Nevada, Reno, NV 89557, or by sending an email to luisbr@unr.edu. Checks should be made payable to the “ACS Sierra Nevada Section.”

Upcoming Events and Announcements

May 2005, Chemistry High School student awards. More details to follow.
April 4, 2005

The Sierra Nevada Section of the American Chemical Society presents

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“Clearing the air at the University-Biodiesel research at UNR”
Jason Geddes, Ph.D.

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Monday, April 11, 2005
6:00 pm

Famous Murphys Restaurant
3127 South Virginia Street
Reno, Nevada

Dinner Cost: $18.00 per person
($7.50 for K-12 teachers, students, & postdocs)

For reservations, send check payable to ACS Sierra Nevada Section to Luis Barthel-Rosa, Environmental Health and Safety, MS 328, University of Nevada, Reno, NV 89557, E-mail: luisbr@unr.edu.

Reservations deadline: Thursday, April 7, 2005.

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********Reservation for ACS Dinner Meeting, Monday, April 11, 2005********
Name ________________________________________________________________

Phone ____________________  E-mail: _______________________________________

Number attending __________    Amount enclosed: ______________________

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Dr. Jason Geddes,
University of Nevada Reno
Environmental Affairs Manager
Environmental Health and Safety

Abstract

Biodiesel Research at the University of Nevada

The University of Nevada, Reno is seeking to improve the air quality in Washoe County and to develop technology to provide for an inexpensive procedure for the production of Biodiesel. Successful completion of the project will allow all city, county and state fleets in Washoe County to have access to Biodiesel as well as providing a demonstration project for the further expansion of Biodiesel into the existing diesel infrastructure throughout the county. The University team aims to develop a cost-effective portable production unit that will continuously produce biodiesel. Currently, local casinos, resorts, and restaurants in Nevada are producing about five million gallons of waste cooking oil per year. Winnemucca Farms is producing about 35 tons of potato waste per day. Therefore, both waste cooking oil and potato waste can be utilized as low cost raw materials for the biodiesel productions.

The conventional biodiesel reaction processes rely on corrosive and hazardous chemicals as catalysts (concentrated sulfuric acid and caustic soda). Current processes cannot efficiently deal with the high level of free fatty acids and water, which is emulsified in waste cooking oil and produced through reaction steps. In order to overcome these problems, the use of surfactants, water absorbent polymers (polyacrylamide and polyacrylates), and heterogeneous catalysts (such as styrene divinyl benzene resins and zeolite) are proposed. We aim to build a full scale unit that can generate enough Biodiesel to operate the entire campus fleet on B100 biodiesel.