Investigator(s):
Mark A. Young, Assistant Professor, Department of Chemistry

Project Title:
Development of a Selective Sensor for Rural Environmental Contaminants Using Laser Photoionization Techniques

Year Funded:
1994

Amount Received:
$10,000

Grant Awards:
National Science Foundation (NSF): Mark Young, PI, Acquisition of a Tunable Solid-State Laser System for Applications in Atmospheric Chemistry, Aerosol Analysis, Process Monitoring and Reaction Dynamics, $189,469, 9/1/2001 – 8/31/2004.

Investigator(s):
Pedro J. Alvarez, Assistant Professor, Department of Civil and Environmental Engineering; Craig S. Hunt, PhD Candidate, Department of Civil and Environmental Engineering

Project Title:
Enhanced Biodegradation of Trace Levels of Benzene

Year Funded:
1994

Amount Received:
$10,000

Publications:
Lovanh N, Alvarez PJ. Effect of ethanol, acetate, and phenol on toluene degradation activity and tod-lux expression in Pseudomonas putida TOD102: evaluation of the metabolic flux dilution model. Biotechnol Bioeng. 86(7):801-8, 2004.

Fang J, Lovanh N, Alvarez PJ. The use of isotopic and lipid analysis techniques linking toluene degradation to specific microorganisms: applications and limitations. Water Res. 38(10):2529-36, 2004.

Rentz JA, Alvarez PJ, Schnoor JL. Repression of Pseudomonas putida phenanthrene-degrading activity by plant root extracts and exudates. Environ Microbiol. 6(6):574-83, 2004.

Kamath R, Schnoor JL, Alvarez PJ. Effect of root-derived substrates on the expression of nah-lux genes in Pseudomonas fluorescens HK44: implications for PAH biodegradation in the rhizosphere. Environ Sci Technol. 15;38(6):1740-5, 2004.

Ruiz-Aguilar GM, Fernandez-Sanchez JM, Kane SR, Kim D, Alvarez PJ. Effect of ethanol and methyl-tert-butyl ether on monoaromatic hydrocarbon biodegradation: response variability for different aquifer materials under various electron-accepting conditions. Environ Toxicol Chem. 21(12):2631-9, 2002.

Lovanh N, Hunt CS, Alvarez PJ. Effect of ethanol on BTEX biodegradation kinetics: aerobic continuous culture experiments. Water Res. 36(15):3739-46, 2002.

Beller HR, Kane SR, Legler TC, Alvarez PJ. A real-time polymerase chain reaction method for monitoring anaerobic, hydrocarbon-degrading bacteria based on a catabolic gene. Environ Sci Technol. 15;36(18):3977-84, 2002.

Fernandez-Sanchez JM, Rodriguez-Vazquez R, Ruiz-Aguilar G, Alvarez PJ. PCB biodegradation in aged contaminated soil: interactions between exogenous Phanerochaete chrysosporium and indigenous microorganisms. J Environ Sci Health Part A Tox Hazard Subst Environ Eng. 36(7):1145-62, 2001.

Powers SE, Rice D, Dooher B, Alvarez PJ. Will ethanol-blended gasoline affect groundwater quality? Environ Sci Technol. 1;35(1):24A, 26A-30A, 2001.

Gulensoy N, Alvarez PJ. Diversity and correlation of specific aromatic hydrocarbon biodegradation capabilities. Biodegradation. 10(5):331-40, 1999.

Grant Awards:
Research Training Grant: Gene Expression in Bioremediation, National Science Foundation (NSF), $1,600,000, 9/1/96-8/31/01

Biostimulation of BTX degradation with environmentally benign aromatic substrates, United States Environmental Protection Agency (USEPA/OER), $246,342, 10/1/95-9/30/98

Enhancement of bioremediation: Career Award , National Science Foundation (NSF), $285,000, 6/1/95-5/31/99

The role of elemental iron in biotransformations of halogenated xenobiotics , United States Environmental Protection Agency (USEPA/HSRC), $270,000, 5/1/95-4/30/98

Investigator(s):
Thomas J. Gross, Assistant Professor, Department of Internal Medicine; Michael W. Peterson, Associate Professor, Department of Internal Medicine

Project Title:
Fibrin Degradation Products Recruit Neutrophils to Asbestos-Exposed Airways

Year Funded:
1994

Amount Received:
$10,000

Investigator(s):
Vicki H. Grassian, Assistant Professor, Department of Chemistry

Project Title:
Thermal and Photochemical Catalytic Destruction of Hazardous Wastes on High Surface Area Oxides

Year Funded:
1994

Amount Received:
$10,000

Grant Awards:
National Science Foundation (NSF): V. Grassian, PI. Thermal and Photo-Assisted Reactions on Metal Oxide Particles, $275,000. 11/1/1996 – 10/31/2000.

United States Department of Energy (DOE):Co-Investigator, The Role of Heterogeneous Chemistry in the Photochemical Oxidant Cycle: A Combined Laboratory and Modeling Study, Greg Carmichael, PI, $1,113,864. 3/15/1998 – 3/14/2005.

National Science Foundation (NSF):Principal Investigator, Chemical Reactions of Environmental and Atmospheric Relevance on the Surface of Oxide Particles, $627,500. 7/1/2000 – 6/30/2004.

Investigator(s):
George R. Hallberg, Professor, University Hygienic Laboratory; Lee A. Friell, University Hygienic Lab Manager; Michael D. Wichman, UHL Chemist

Project Title:
The Occurrence of Metals in Iowa Soils: A Baseline for Exposure Assessment

Year Funded:
1994

Amount Received:
$10,000

Investigator(s):
Nancy A. Lynch, Faculty Associate, Department of Preventive Medicine and Environmental Health; Lacy Daniels, Professor, Department of Microbiology

Project Title:
Routes of Transmission of Helicobacter pylori

Year Funded:
1994

Amount Received:
$10,000

Investigator(s):
Thomas B. Casale, Professor, Department of Internal Medicine; Hal B. Richerson, Professor; Department of Internal Medicine; Eric A. Hoffman, Associate Professor; Department of Internal Medicine; Jeffrey R. Galvin, Assistant Professor, Department of Internal Medicine

Project Title:
Assessment of Dynamic Airway Responses in Asthma Using Ultrafast High Resolution CT

Year Funded:
1994

Amount Received:
$10,000

Grant Awards:
R01HL060158-01A2. E. Hoffman, PI. Inflammatory Parenchymal Lung Disease Structure/Function, 1999.

R01HL064368-05. E. Hoffman, PI. Image and Model Based Analysis of Lung Disease, 1999.