

## Tyler Steven Radniecki, Ph.D.

Assistant Professor

School of Chemical, Biological and Environmental Engineering

Web: <http://web.engr.oregonstate.edu/~radnieck/index.php>

<http://scholar.google.com/citations?user=l0n1JhgAAAAJ&hl=en>

103 Gleeson Hall  
Oregon State University  
Corvallis, OR 97331

Telephone: (541) 737-2491  
Office: MFD 204  
E-mail: [tyler.radniecki@oregonstate.edu](mailto:tyler.radniecki@oregonstate.edu)

---

### EDUCATION

**Yale University**, New Haven, CT

Ph.D. – Chemical and Environmental Engineering, 2005

**Yale University**, New Haven, CT

M.S. – Chemical and Environmental Engineering, 2001

**Bemidji State University**, Bemidji, MN

B.S. – Environmental Studies, (*summa cum laude*), 1999

### PROFESSIONAL EXPERIENCE

**Oregon State University**, School of Chemical, Biological & Environmental Engineering, Corvallis, OR  
Assistant Professor (2013 - present)

**San Diego State University**, Dept. of Civil, Construction & Environmental Engineering, San Diego, CA  
Assistant Professor and William E. Leonhard, Jr. Chair (2011 – 2013)

**Oregon State University**, School of Chemical, Biological & Environmental Engineering, Corvallis, OR  
Faculty Research Associate with Lewis Semprini (2005-2011)

**Yale University**, Department of Chemical & Environmental Engineering, New Haven, CT  
Graduate Research Associate with Roger L. Ely (1999-2005)

**Bemidji State University**, Department of Environmental Studies, Bemidji, MN  
Undergraduate Research Assistant with David Steffy (1998)

### HONORS AND AWARDS

- William E. Leonhard, Jr. Chair in Environmental Engineering, San Diego State University, 2011-2013
- National Science Foundation (NSF) Graduate Research Fellowship, Yale University, 2001-2004
- ASM Student Travel Grant, Yale University, 2001
- Graduate Fellowship, Yale University, 2001-2005
- Becton Graduate Fellowship (Engineering), Yale University, 1999
- Outstanding Environmental Studies Student, Bemidji State University, 1996-1999

### PROFESSIONAL AFFILIATIONS

- American Chemical Society
- American Institute of Chemical Engineers
- American Society for Microbiology

- Association of Environmental Engineering and Science Professors
- Association for Environmental Studies and Sciences
- Nitrification Network
- Oregon Nanoscience and Microtechnologies Institute
- Safer Nanomaterials and Nanomanufacturing Initiative
- Society of Environmental Toxicology and Chemistry

## **SOURCES OF INDEPENDENT FUNDING**

**Grant Title:** “Anaerobic digestion of fats, oils and greases for enhanced biogas production”

**Funding Agency:** United States Department of Agriculture – Water Resource and Policy Institute Training Grant

**Award Amount:** \$5,060

**Award Duration:** May 1 – August 31, 2013

**Institution:** San Diego State University

**Role:** Sole-PI

**Grant Title:** “Increased methane production from the anaerobic digestion of fats, oils and greases”

**Funding Agency:** San Diego State University – University Grants Program

**Award Amount:** \$9,999

**Award Duration:** January 1, 2012 – December 31, 2012

**Institution:** San Diego State University

**Role:** Sole-PI

**Grant Title:** “Investigating the influence of biological macromolecules on the toxicity and accumulation of silver nanoparticles on nitrifying bacteria”

**Funding Agency:** United States Department of Agriculture – Water Resource and Policy Institute Training Grant

**Award Amount:** \$5,060

**Award Duration:** May 1 – August 31, 2012

**Institution:** San Diego State University

**Role:** Sole-PI

**Grant Title:** “Investigating the influence of capping agents on silver nanoparticle toxicity to nitrifying bacteria, interactions with macromolecules and mobility in aqueous environments”

**Funding Agency:** United States Department of Agriculture – Water Resource and Policy Institute Training Grant

**Award Amount:** \$5,060

**Award Duration:** May 1 – August 31, 2012

**Institution:** San Diego State University

**Role:** Sole-PI

**Grant Title:** “Anaerobic treatment of San Diego Zoo Safari Park storm water and restaurant waste”

**Funding Agency:** United States Department of Agriculture – Water Resource and Policy Institute Training Grant

**Award Amount:** \$5,060

**Award Duration:** May 1 – August 31, 2012

**Institution:** San Diego State University

**Role:** Sole-PI

**Grant Title:** “The impact of various carbon sources on denitrification in a constructed wetland”

**Funding Agency:** San Diego State University – University Grants Program

**Award Amount:** \$9,984

**Award Duration:** January 1, 2012 – December 31, 2012

**Institution:** San Diego State University

**Role:** Sole-PI

**Grant Title:** “Inhibition of *Nitrosomonas europaea* by Ag<sup>+</sup> and Ag-NP: Determining the influence of aqueous chemistry, capping agents, growth stage and gene expression on inhibition.”

**Funding Agency:** National Science Foundation – CBET – Environmental Health and Safety of Nanotechnology

**Grant Number:** 1067572

**Award Amount:** \$331,179

**Award Duration:** April 1, 2011 - March 31, 2014

**Institution:** Oregon State University/San Diego State University

**Role:** Co-PI

**Collaborators:** Dr. Lewis Semprini (Lead PI - Oregon State University)

**Grant Title:** “Identifying the inhibition and expression of sentinel genes of the bacteria *Nitrosomonas europaea* upon exposure to metal-oxide nanoparticles.”

**Funding Agency:** Safer Nanomaterials and Nanomanufacturing Initiative – University of Oregon (United States Air Force Research Laboratories)

**Award Amount:** \$240,000

**Award Duration:** July 1, 2009 – June 30, 2011

**Institution:** Oregon State University

**Role:** Co-PI

**Collaborators:** Dr. Lewis Semprini (Lead PI - Oregon State University), Dr. Jeff A. Nason (Co-PI - Oregon State University) and Dr. Daniel J. Arp (Co-PI – Oregon State University)

**Grant Title:** “Nitrification inhibition of *Nitrosomonas europaea* by metal-oxide nanoparticles”

**Funding Agency:** Oregon State University – College of Engineering Exploratory Grant

**Award Amount:** \$20,000

**Award Duration:** January 1, 2008 – December 31, 2008

**Institution:** Oregon State University

**Role:** Co-PI

**Collaborators:** Dr. Lewis Semprini (Lead PI - Oregon State University)

**Grant Title:** “Creation of Shotgun DNA Microarrays to Examine Global Gene Expression Patterns in Unsequenced Ammonia Oxidizing Bacteria Exposed to Various Nitrification Inhibitors.”

**Funding Agency:** National Science Foundation Graduate Fellowship Award

**Award Amount:** \$130,500

**Award Duration:** June 1, 2001 - May 31, 2004

**Institution:** Yale University

## **SOURCES OF INDEPENDENT FUNDING - PENDING**

**Grant Title:** “IGERT: An interdisciplinary program to advance sustainable materials innovation”

**Funding Agency:** National Science Foundation – Integrated Graduate Education and Research Traineeship (IGERT)

**Grant Number:**

**Award Amount:** \$3,500,000 (Pending) (\$140,000 -Expected Radniecki Share)

**Award Duration:** July 1, 2013 – June 30, 2018 (Pending)

**Institution:** University of Oregon/Oregon State University/San Diego State University

**Role:** Co-PI

## **RESEARCH EXPERIENCE**

**San Diego State University/Oregon State University** **2011-present**

“Inhibition of *Nitrosomonas europaea* by silver ions ( $\text{Ag}^+$ ) and silver nanoparticles (Ag-NP): Determining the influence of aqueous chemistry, capping agents, growth stage and gene expression on inhibition.”

**Collaborators:** Dr. Lewis Semprini, School of Chemical, Biological and Environmental Engineering, Oregon State University, Corvallis, OR and nanoComposix, Inc., San Diego, CA

- Conducted ecotoxicological studies of *Nitrosomonas europaea* cells exposed to  $\text{Ag}^+$  and Ag-NP in the presence of biological macromolecules (alginate – representative lipopolysaccharide and BSA – representative protein).
- Conducted sorption studies examining how biological macromolecules and natural organic matter influences the binding of  $\text{Ag}^+$  and Ag-NPs to *Nitrosomonas europaea* cells.
- Synthesized Ag-NPs with various capping agents (*e.g.* citrate, PVP, PVA and tetra-amines) and characterized the Ag-NPs with dynamic light scattering (DLS) and transmission electron microscopy (TEM).
- Created triangular shaped Ag-NPs through photocatalysis methods.
- Created a high-throughput nitrification inhibition assay to be used to examine  $\text{Ag}^+$  and Ag-NP inhibition under a wide variety of conditions.
- Imaged the interactions of Ag-NP with *Nitrosomonas europaea* cells in the presence of  $\text{Mg}^{2+}$  and humic acids using TEM and Small Angle X-ray Scattering (SAXS) with collaboration of the Jim Hutchinson lab at the University of Oregon.
- Created and supervised 6 independent undergraduate research projects.
- Created and supervised 3 high school student research projects.
- Supervised 2 OSU and 3 SDSU master student projects.
- Submitted 1 manuscript for publication and published 1 conference proceedings.
- Delivered 3 conference and invited presentations.
- Created a partnership with nanoComposix, Inc. for future research.

**San Diego State University** **2012-2013**

“The complete anaerobic treatment of wastewater, fats, oils and greases (FOG) for energy production and sustainable water treatment.”

**Collaborators:** San Elijos Joint Power Authority wastewater treatment plant, Carlsbad, CA

- Created and optimized single-stage anaerobic digesters for biogas production from FOG.

- Increased biogas production from FOG 200% through the incorporation of multistage anaerobic digesters.
- Fully characterized all wastewater parameters and biogas composition for all anaerobic digesters.
- Created and supervised 5 undergraduate research projects.
- Created and supervised 1 high school student research project.
- Created a partnership with the San Elijos Joint Power Authority for digester materials and consultation for full-scale operations.

**San Diego State University****2011-present**

“Molecular characterization of increased antibiotic resistance in bacteria exposed to sub-inhibitory concentration of antibiotics commonly found in wastewater.”

**Collaborators:** Dr. Temesgon Garoma, Department of Civil, Construction & Environmental Engineering, San Diego State University, San Diego, CA

- Examined how exposure to non-inhibitory concentrations of antibiotics can lead to increased antibiotic resistance in *Nitrosomonas europaea* and *Pseudomonas putida* bacteria.
- Quantified the rate of development of antibiotic resistance after initial exposure to the ciprofloxacin (a common antibiotic).
- Quantified the rate of loss of antibiotic resistance after the exposure to ciprofloxacin is stopped.
- Quantified the rate of antibiotic resistance development after the bacteria were re-exposed to ciprofloxacin.
- Created and supervised 3 undergraduate research projects.
- Created and supervised 1 high school student research project.

**Oregon State University****2009-2011**

“Assessing the ecotoxicity of engineered nanoparticles – Creating nanotoxicological models and assessing the risk of current and future engineering nanoparticles to the natural and engineered environment”

**Collaborators:** Dr. Lewis Semprini and Dr. Jeffrey A. Nason, School of Chemical, Biological and Environmental Engineering, Oregon State University, Corvallis, OR, and Jim Hutchison and Erik Richman, CAMCOR, University of Oregon, Eugene, OR

- Conducted ecotoxicological studies of *Nitrosomonas europaea* cells exposed to ZnO nanoparticles. Physiological and transcriptional responses to ZnO nanoparticles were compared to previously identified responses to elemental Zn<sup>2+</sup>.
- Conducted ecotoxicological studies of *Nitrosomonas europaea* cells exposed to Ag<sup>+</sup> ions and Ag nanoparticles. Physiological and transcriptional responses were compared and contrasted. The influence of media composition was examined.
- Conducted physical/chemical assays with Ag nanoparticles to determine how sample preparation, pH and trace metals affected Ag nanoparticle aggregation and dissolution rates.
- Examined how the presence of natural organic matter, biological proteins and biological carbohydrate affected Ag nanoparticle toxicity, aggregation and dissolution in the presence and absence of UV light.
- Co-authored a funded OSU College of Engineering exploratory grant to examine the toxicological effects of metal oxide nanoparticles on *Nitrosomonas europaea*.

- Created and supervised 4 independent undergraduate research projects.
- Co-authored a funded AFRL/ONAMI SNNI grant to examine the inhibition of *Nitrosomonas europaea* by metal oxide nanoparticles.
- Co-authored an IWW-USGS full proposal on nanoparticle toxicity to *Nitrosomonas europaea*.
- Co-authored a funded NSF proposal to examine the inhibition of *Nitrosomonas europaea* by Ag nanoparticles.
- Created and supervised 3 undergraduate research projects
- Created and supervised 2 high school student research project
- Published 1 peer reviewed manuscript and 3 conference proceedings.
- Submitted a second manuscript for publication in a peer reviewed journal.
- Delivered 8 conference and invited presentations.

**Oregon State University****2010-2011**

“Assessing how the dispersant Corexit 9500A influences the ecotoxicity of crude oil – Understanding how dispersed crude oil may affect regional nitrogen cycling”

**Collaborators:** Dr. Lewis Semprini, School of Chemical, Biological and Environmental Engineering, Oregon State University, Corvallis, OR

- Determined the acute and chronic toxicity of the crude oil dispersant, Corexit 9500A, on *Nitrosomonas europaea*.
- Determined the acute and chronic toxicity of the crude oil alone on *Nitrosomonas europaea*.
- Determined the acute and chronic toxicity of various ratios of Corexit 9500A/crude oil mixtures on *Nitrosomonas europaea*.
- Examined the gene expression and cell size change of *Nitrosomonas europaea* when exposed to Corexit 9500A, crude oil and Corexit 9500A/crude oil mixtures.
- Identified how the weathering of the Corexit 9500A, crude oil and mixtures affected their toxicity on *Nitrosomonas europaea*.
- Identified how exposing Corexit 9500A, crude oil and mixtures to UV light affected their toxicity on *Nitrosomonas europaea*.
- Created and supervised 2 independent undergraduate research projects.
- Published 1 peer reviewed manuscript and 1 conference proceeding.
- Delivered 2 conference and invited presentations.

**Oregon State University****2010-2011**

“Co-metabolism of glycerol by monooyxgenases – Creating high value chemicals, fuel and electricity from waste glycerol generated from biodiesel production”

**Collaborators:** Dr. Lewis Semprini, School of Chemical, Biological and Environmental Engineering, Oregon State University, Corvallis, OR

- Evaluated the sensitivity of *Nitrosomonas europaea* to glycerol.
- Determined the co-metabolic oxidative by-products produced by *Nitrosomonas europaea*'s oxidation of glycerol.
- Created and supervised 1 independent undergraduate research project.

**Oregon State University****2005-2009**

“Physiological and molecular characterization of *Nitrosomonas europaea* exposed to various anthropogenic chemicals – Potential for anthropogenic chemical biosensors, toxicological models and improved biological nutrient removal”

**Advisors:** Dr. Lewis Semprini and Dr. Mark E. Dolan, School of Chemical, Biological and Environmental Engineering, Oregon State University, Corvallis, OR

- Identified unique stress response (“sentinel”) genes and proteins in *Nitrosomonas europaea* cells exposed to aromatic hydrocarbons using Affymetrix microarrays, qRT-PCR and 2D-protein gel electrophoresis.
- Created kinetic models of nitrification inhibition in *Nitrosomonas europaea* by aromatic hydrocarbons.
- Linked the expression of phenol sentinel genes with decreases in cell diameter in *Nitrosomonas europaea* cells exposed to polar aromatic hydrocarbons.
- Evaluated the suitability of sentinel genes identified for Zn<sup>2+</sup>, Cd<sup>2+</sup> and phenol for possible biosensor applications in long-term (3 month) continuously cultured chemostat studies.
- Examined the sensitivity of *Nitrosomonas europaea*, *Nitrosococcus mobilis* and *Nitrosomonas eutropha* to gradients of various salts.
- Compared and contrasted the physiological and transcriptional responses of *Nitrosomonas europaea* in biofilms vs. continuously cultured vs. planktonic cells.
- Compared and contrasted the physiological and transcriptional responses of *Nitrosomonas europaea* cells to phenol inhibition in a natural biofilm and in an artificial sol-gel biofilm.
- Used sol-gel technology to create artificial biofilms containing genetically modified *Nitrosomonas europaea* with a green fluorescent protein (GFP)-tagged chloroform sentinel gene for further development of a chloroform-induced nitrification inhibition biosensor.
- Mentored 5 graduate students working on nitrification inhibition studies involving molecular biology techniques, biofilms and emerging pharmaceutical contaminants.
- Created and supervised 11 independent undergraduate research projects.
- Created and supervised 1 independent high school student research project.
- Co-authored a pre-proposal to NSF on the creation of molecular-based nitrification inhibition biosensors.
- Published 5 peer reviewed manuscripts, 1 peer reviewed book chapter and 1 conference proceeding.
- Delivered 14 conference and invited presentations.

**Yale University****2000-2005**

“Physiological and transcriptional responses of *Nitrosococcus mobilis* to nitrification inhibitors – Examining whole genome gene responses in unsequenced organisms”

**Advisor:** Dr. Roger L. Ely, Chemical Engineering Department, Environmental Engineering Program, Yale University, New Haven, CT

- Created a novel approach towards monitoring global gene expression in unsequenced organisms (*e.g. Nitrosococcus mobilis*) using Shotgun DNA Microarrays.
- Conducted high-throughput molecular cloning, PCR amplifications, purifications, sequencing and bioinformatic database mining.

- Identified 28 previously unsequenced genes that were differentially expressed in *Nitrosococcus mobilis* exposed to nitrification inhibitors (CuSO<sub>4</sub>, ZnCl<sub>2</sub>, NaCN, alkaline and acidic shifts in pH).
- Examined the expression of the identified genes based on exposure time and inhibitor concentration.
- Hypothesized the function of 4 “hypothetical proteins” based on observed physiological and transcriptions responses in combination with bioinformatic sequence data.
- Constructed a conceptual mechanistic inhibition and recovery model for *Nitrosococcus mobilis* cells exposed to the previously mentioned nitrification inhibitors based on the observed physiological (*e.g.* metabolic enzyme kinetics, affect of trace metals) and transcriptional data.
- Mentored 2 undergraduate research projects and supervised 12 undergraduate work-study students.
- Published 3 peer reviewed manuscripts and 1 conference proceeding.
- Delivered 1 conference presentation.

**Bemidji State University****1998-1999**

“Municipal Solid Waste (MSW) Characterization of Boise Forte Indian Reservation and Waste Minimization Audit of the Fortune Bay Resort & Casino – Examining the influence of cultural and societal differences on MSW composition”

**Advisors:** Dr. David Steffy and Dr. Stephen Spigorelli, Department of Environmental Studies, Bemidji State University, Bemidji, MN

- Conducted a waste minimization audit on Fortune Bay Resort & Casino (Tower, MN) in an effort to increase water and electrical efficiencies, reduce the volume of municipal solid waste, increase the volume of recycling and composting and decrease the amount of pesticides used on site.
- Conducted a statistical study of the municipal solid waste composition of the Boise Forte Reservation (Nett Lake, MN) in comparison to the MN state average to determine if culture and lifestyle significantly altered the composition of the municipal solid waste being produced.
- Published 1 peer reviewed manuscripts and 1 conference proceeding.

**TEACHING EXPERIENCE****Assistant Professor***Oregon State University*

2013 - present

*Corvallis, OR***Courses**

ENVE 421/521 – Water and Wastewater Characterization

CHE/ENVE/BIOE 415 – Senior Process Unit Operations Lab

**Assistant Professor***San Diego State University*

2011 – 2013

*San Diego, CA*



### **Courses**

ENVE 355 – Introduction to Environmental Engineering  
ENVE 496 – Environmental Chemistry for Environmental Engineers  
ENVE 646 – Environmental Microbial Processes  
ENVE 648 – Biological Processes and Bioremediation

### **Curriculum Development**

- Created a new course for the environmental engineering curriculum – Environmental Chemistry for Environmental Engineers.
- Resurrected ENVE 646 (which had not been taught for 5 years) with new design, text and course materials.
- Introduced a new text to both ENVE 355 and ENVE 648.
- Introduced “Poll Everywhere” to the ENVE 355 classroom to encourage increased class participation in a large classroom setting (80+ students)
- Introduced video podcasts (Camtasia Relay) of lectures to ENVE 355 and ENVE 496 for on-demand access to course materials.

### **Faculty Research Associate (Course Instructor)**

*Oregon State University*

2005 – 2011  
*Corvallis, OR*

#### **Courses**

ENVE 422/522 – Environmental Engineering Design (2009)  
ENVE 541 – Microbial Processes in Environmental Engineering Molecular Lab (2007)

### **Teaching Assistant (Guest lecturer)**

*Yale University*

1999-2005  
*New Haven, CT*

#### **Courses**

ENVE 120a – Introduction to Environmental Engineering (2001-2002)

## **INFORMAL TEACHING EXPERIENCE**

### **Guest Lecturer (Environmental Engineering Graduate Seminar)**

Environmental Engineering, Oregon State University, 2009

### **Guest Lecturer (Fundamentals of Environmental Engineering)**

Environmental Engineering, Oregon State University, 2007

### **Guest Lecturer (High School Lab Course on Nitrification Inhibition)**

Crescent Valley High School, Corvallis, OR, 2007

### **Guest Lecturer (Introduction to Environmental Engineering)**

Environmental Engineering, Yale University, 2001-2002

### **Peer Academic Assistant (Math and Science Tutor)**

First Year Residential Experience, Bemidji State University, Bemidji, MN, 1997-1998

## **UNDERGRADUATE RESEARCH & HONORS THESIS SUPERVISION**

I have created and supervised several undergraduate research projects. The results of these projects have been presented as posters and oral presentations at the funding agencies conferences. In addition, I have co-supervised Honors College Senior Thesis research projects.

### San Diego State University

- **Carol Stein, Rubens Bragagnollo Filho, Tyler Kirkendall and Rachelle Huber** 2013  
"Examining the influence of FOG (fats, oils and greases) loading rates on the production of methane from two-stage anaerobic digesters"
- **Issa El Haddad** 2013  
"Chronic silver ion toxicity to continuously cultured *Nitrosomonas europaea* cells"
- **Matthew Tallone** 2013  
"The influence of silver nanoparticle shape and capping agent on toxicity and interactions with biological macromolecules."
- **Mark Rein and Jenny Seto** 2013  
"Antibiotic resistance of *Pseudomonas putida* to ciprofloxacin (CIP) at environmentally relevant concentrations"  
(Presented at the 2013 Student Research Symposium, San Diego State University, San Diego, CA)
- **Alyssa Deline and Kelsey Beyer** 2013  
"Synthesis and toxicity of silver nanoparticles with different capping agents and shapes"  
(Presented at the 2013 Student Research Symposium, San Diego State University, San Diego, CA)
- **Tyler Kirkendall and Rachelle Huber** 2013  
"Anaerobic codigestion of fats, oils and grease"  
(Presented at the 2013 Student Research Symposium, San Diego State University, San Diego, CA)
- **Anna Lucia Uribe** 2013  
"Silver ion affinity to macromolecules"  
(Presented at the 2013 Student Research Symposium, San Diego State University, San Diego, CA)
- **Issa El Haddad** 2013  
"Investigating the toxicity of silver ions to chronically exposed nitrifying bacteria"  
(Presented at the 2013 Student Research Symposium, San Diego State University, San Diego, CA)
- **Robert Godfrey, Rachelle Huber, Tyler Kirkendall and Carol Stein** 2013  
"Optimization of biogas production from anaerobic digesters"  
(Presented at the 2013 Student Research Symposium, San Diego State University, San Diego, CA)
- **Kelsey Beyer** 2013  
"Anaerobic digestion of fats, oils and greases for enhanced biogas production."  
(Presented on the USDA - Water Resource and Policy Institute website)
- **Matthew Tallone** 2012  
"Chronic silver nanoparticle inhibition of *Nitrosomonas europaea*."
- **Karina Sertich** 2012  
"Investigating antibiotic resistance in *Pseudomonas putida* cells exposed to environmental concentrations of antibiotics."
- **Kelsey Beyer** 2012  
"Effects of silver nanoparticle capping agents on toxicity."
- **Rachelle Huber** 2012  
"Anaerobic digestion of fats, oils and greases (FOG)."
- **Anna Uribe** 2012  
"Silver nanoparticle and silver ion toxicity towards *Nitrosomonas europaea*."
- **Rachelle Huber** 2012  
"Anaerobic treatment of San Diego Zoo Safari Park storm water and restaurant waste."  
(Presented on the USDA - Water Resource and Policy Institute website)
- **Issa El Haddad** 2012

- “Investigating the influence of biological macromolecules on the toxicity and accumulation of silver nanoparticles in nitrifying bacteria.”  
(Presented on the USDA - Water Resource and Policy Institute website)
- **Kelsey Beyer** 2012  
“Investigating the influence of capping agents on silver nanoparticle toxicity to nitrifying bacteria, interactions with macromolecules and mobility in aqueous environments.”  
(Presented on the USDA - Water Resource and Policy Institute website)
  - **Nicholas Barraza** 2012  
“Optimizing protocols to examine the chronic exposure to sub-inhibitory concentrations of silver ions and silver nanoparticles to *Nitrosomonas europaea*.”
  - **Robert Godfrey, Tanner Houston, Tyler Kirkendall and Mark Rein** 2012  
“Influence of biological macromolecules on silver nanoparticle induced inhibition to the ammonia oxidizing bacterium, *Nitrosomonas europaea*.”
  - **Theresa Rodriguez** 2012  
“Increase in antibiotic resistance in bacteria exposed to environmental concentrations of antibiotics.”
  - **Loren Slentz** 2012  
“Modeling chlorine distribution in a Honduran contact basin for drinking water treatment.”

### Oregon State University

- **Jamie Hughes** 2011  
“Inhibition of *Nitrosomonas europaea* by emerging contaminants.”  
(Presented at the Subsurface Biosphere Initiative -IGERT Symposium, Oregon State University, Corvallis, OR)
- **Danyelle Webb** 2011  
“The effect of BSA and Na-alginate on silver ion inhibition.”  
(Presented at the Subsurface Biosphere Initiative -IGERT Symposium, Oregon State University, Corvallis, OR)
- **Anees Sardari** 2010  
“Inquiries into nitrification inhibition in *Nitrosomonas europaea*.”  
(Presented at the Subsurface Biosphere Initiative -IGERT Symposium, Oregon State University, Corvallis, OR)
- **Margaret Schneider** 2010  
“The use of Corexit 9500A oil dispersant increases crude oil’s toxicity towards ammonia oxidizing bacteria.”  
(Presented at the Johnson Fellowship Symposium, Oregon State University, Corvallis, OR and the 2010 AIChE Annual Student Conference, Salt Lake City, UT)
- **Joe Anderson** 2010  
“Influence of pH and trace metals on silver nanoparticle-induced nitrification inhibition of *Nitrosomonas europaea*.”  
(Presented at the Subsurface Biosphere Initiative -IGERT Symposium, Oregon State University, Corvallis, OR and the 2010 AIChE Annual Student Conference, Salt Lake City, UT)
- **Caslin Gilroy (Honors Baccalaureate of Science in Bioengineering)** 2009  
“Correlation of NE 1545 expression and cell size in *Nitrosomonas europaea* exposed to a suite of aromatic hydrocarbons.”  
(Defended at Oregon State University, Corvallis, OR)
- **Kristin Egan** 2009  
“Silver nanoparticle-induced nitrification inhibition of *Nitrosomonas europaea*.”

- (Presented at the Subsurface Biosphere Initiative -IGERT Symposium, Oregon State University, Corvallis, OR)
- **Joe Anderson** 2009  
 “Exploring how Group II elements protect *Nitrosomonas europaea* from Zn<sup>2+</sup>-induced nitrification inhibition.”  
 (Presented at the Johnson Fellowship Symposium, Oregon State University, Corvallis, OR and the 2009 AIChE Annual Student Conference, Seattle, WA)
  - **Caslin Gilroy** 2008  
 “Coupling cell membrane hydrophobicity and NE 1545 gene expression with cell size changes in *Nitrosomonas europaea* cells exposed to aromatic hydrocarbons.”  
 (Presented at the Howard Hughes Medical Institute Symposium, Oregon State University, Corvallis, OR)
  - **Kristin Egan** 2008  
 “Linking dipole moments of aromatic hydrocarbons to cell size changes in *Nitrosomonas europaea*.”  
 (Presented at the Subsurface Biosphere Initiative-IGERT Symposium, Oregon State University, Corvallis, OR)
  - **Michelle Adlong and Sarah Gaynor** 2007  
 “Testing salt inhibition in ammonia-oxidizing bacteria.”  
 (Presented at the Tektronix Symposium, Oregon State University, Corvallis, OR)
  - **Annabritt Coakley** 2007  
 “Inhibition of *Nitrosomonas europaea* by aromatic hydrocarbons.”  
 (Presented at the Johnson Fellowship Symposium, Oregon State University, Corvallis, OR)
  - **Caslin Gilroy** 2006  
 “Toluene inhibition on *Nitrosomonas europaea*.”  
 (Presented at the Tektronix Symposium, Oregon State University, Corvallis, OR)
  - **Laura U** 2002  
 “Creating an ammonia oxidizing bacteria gene library for the construction of a shotgun DNA microarray.”  
 (Presented at the STARS Symposium, Yale University, New Haven, CT)

## HIGH SCHOOL RESEARCH SUPERVISION

I have created and supervised several high school research projects. The results of these projects have been presented as posters and oral presentations at the funding agencies conferences.

### San Diego State University

- **Annie Surman, Varshini Parthasarathy and Amanda Shi** 2012  
 “Investigating the influence of ammonia concentrations on silver nanoparticle toxicity to *Nitrosomonas europaea*.”  
 (Presented to the Institute for Educational Advancement’s 2012 Apprenticeship Program – San Diego conference)
- **Calvin Klyman** 2012  
 “Increased antibiotic resistance in *Pseudomonas putida* cells exposed to environmental concentrations of ciprofloxacin.”  
 (Presented to the Institute for Educational Advancement’s 2012 Apprenticeship Program – San Diego conference)

- **Bismark Wong** **2012**  
 “Increased methane production from anaerobic digesters fed fats, oils and greases (FOG).”  
 (Presented to the Institute for Educational Advancement’s 2012 Apprenticeship Program – San Diego conference)

### Oregon State University

- **Paige Matthews and Rachel Grudt** **2010**  
 “The role of trace metals in protecting *Nitrosomonas europaea* from silver-induced nitrification inhibition.”  
 (Presented at the Summer Experience in Science and Engineering for Youths (SESEY) Symposium, Oregon State University, Corvallis, OR)
- **Kristin Egan** **2006**  
 “Salt inhibition on *Nitrosomonas europaea*.”  
 (Presented at the Apprenticeships in Science and Engineering, Saturday Academy, Portland, OR)

## ACADEMIC TRAINING and WORKSHOPS

### **San Diego State University, San Diego, CA**

- Frontiers in Environmental Engineering Education Workshop – AEESP 2012
- NSF CAREER Workshop – AEESP 2011
- iClickers – Center for Teaching and Learning (CTL) Workshop 2011
- Getting Grants: Useful Principles of Acquisition- SDSURF Workshop 2011
- Understanding Cost Sharing 2011
- Blackboard 9.1 Sneak Preview Workshop 2011
- Candidate’s Statement on Teaching – CTL Workshop 2011
- Developing Your Candidate’s Statement on Professional Growth – CTL 2011

### **Oregon State University, Corvallis, OR**

- Nitrification Network Workshop for Graduate Students and Early Stage PI’s 2009
- Grantsmanship/Mentoring Workshop 2008-2009
- The Future Professoriate 2008
- Emerging Technologies in Classroom Teaching 2008
- Environmental Health Entrepreneurship Academy, UC-Davis 2007  
 Tahoe Center for Environmental Science, Incline Village, NV.
- How Grading Rubrics Can Make Your Teaching Life Easier 2007
- Discover Your Teaching Philosophy 2006
- Survival Skills for Instructors New to Teaching 2006
- Proposal Writing Workshop 2006

### **Yale University, New Haven, CT**

- Advances in Genome Technology and Bioinformatics, Woods Hole 2002  
 Marine Biological Laboratory, Woods Hole, MA

## ACADEMIC/PROFESSIONAL SERVICE

### Chaired Conference Sessions

- Environmental Nanotechnology - Designing "safer" nanoparticles: 2013

The need for interdisciplinary education and research  
(AEESP National Meeting)

### **College of Engineering – San Diego State University**

- Honors and Awards Committee Chair 2011-2013
- Engineers Without Borders Faculty Mentor 2011-2013
- Conducted Fundamentals of Engineering (FE) exam review session 2011-2013
- SDSU Student Research Symposium Judge 2012-2013
- Presented my research for Engineers Without Borders informational meeting 2012
- Panelist for the Engineers Without Borders Screening of the “Blue Gold” Documentary 2011

### **Association of Environmental Engineering and Science Professors (AEESP)**

- Internet Resource Committee Member 2012-present
- National Webpage Master 2013-present
- National Listserv Manager 2012-2013

### **Journal Reviewer**

- *BMC Microbiology*
- *Ecotoxicology and Environmental Safety*
- *Journal of Environmental Science and Health, Part A*
- *Environmental Science & Technology*
- *Microbiology*
- *Sensors*
- *Environmental Engineering Science*
- *Water Science and Technology: Water Supply*
- *Marine Pollution Bulletin*
- *Water Research*

### **Public Outreach Programs (San Diego State University, San Diego, CA)**

- Sponsored 5 High School Research Students Through the Institute for Educational Advancement’s Apprenticeship Program – San Diego 2012
- Represented the Environmental Engineering program during “Explore SDSU Exposition” – an open house for the community to learn about SDSU programs 2012-2013

### **Public Outreach Programs (Oregon State University, Corvallis, OR)**

- Sponsored High School Research Students Through the Summer Experience in Science and Engineering for Youth (SESEY) Program 2010
- Developed and Taught a High School Science Lab: 2007  
“The Affect of Copper on *Nitrosomonas europaea*: A Lab Course”
- “Nitrification and Wastewater Reclamation Workshop” **Radniecki, T.S., et. al.**, <http://nitrificationnetwork.org> 2007
- Sponsored High School Research Students Through the Apprenticeships in Science and Engineering (ASE), Saturday Academy Program 2006
- Tours of Current Lab Projects for High School Students 2006

## **JOURNAL PUBLICATIONS**

Ostermeyer, A.K., Kostigen Mumper, C., Semprini, L. and **T.S. Radniecki**, 2013 “Influence of bovine serum albumin and alginate on silver nanoparticle dissolution and toxicity to *Nitrosomonas europaea*” *Environmental Science and Technology*, v. 47, no. 24, pp 14403-14410  
DOI link: <http://dx.doi.org/10.1021/es4033106>

Kostigen Mumper, C., Ostermeyer, A.K., Semprini, L. and **T.S. Radniecki**, 2013 “Influence of ammonia on silver nanoparticle dissolution and toxicity to *Nitrosomonas europaea*” *Chemosphere*, v. 93, pp 2493-2498  
DOI link: <http://dx.doi.org/10.1016/j.chemosphere.2013.08.098>

**Radniecki, T.S.**, Schneider, M.C. and L. Semprini, 2012 “The influence of Corexit 9500A and weathering on Alaska North Slope crude oil toxicity to the ammonia oxidizing bacterium, *Nitrosomonas europaea*” *Marine Pollution Bulletin*, v. 68, no. 1-2, pp 64-70  
DOI link: <http://dx.doi.org/10.1016/j.marpolbul.2012.12.022>

**Radniecki, T.S.**, Stankus, D., Neigh, A., Nason, J. and L. Semprini, 2011 “Influence of liberated silver from silver nanoparticles on nitrification inhibition of *Nitrosomonas europaea*” *Chemosphere*, v. 85, no. 1, pp 43-49.  
DOI link: <http://dx.doi.org/10.1016/j.chemosphere.2011.06.039>

**Radniecki, T.S.**, Gilroy, C.A., Dolan, M.E. and L. Semprini, 2011 “Linking NE1545 expression with decreases in cell diameter in *Nitrosomonas europaea* cells exposed to aromatic hydrocarbons” *Chemosphere*, v. 82, no. 4, pp 514-520.  
DOI link: <http://dx.doi.org/10.1016/j.chemosphere.2010.10.083>

Lauchnor, E.G., **Radniecki, T.S.** and L. Semprini, 2011 “Biofilms of *Nitrosomonas europaea* exposed to phenol and toluene” *Biotechnology and Bioengineering*, v. 108, no. 4, pp 750-757.  
DOI link: <http://dx.doi.org/10.1002/bit.22999>

**Radniecki, T.S.** and R.L. Ely, 2011 “Transcriptional and physiological responses of *Nitrosococcus mobilis* to copper exposure” *Journal of Environmental Engineering*, v. 137, no. 5, pp 307-314  
DOI link: [http://dx.doi.org/10.1061/\(ASCE\)EE.1943-7870.0000338](http://dx.doi.org/10.1061/(ASCE)EE.1943-7870.0000338)

**Radniecki, T.S.**, Semprini, L. and M.E. Dolan, 2009 “Expression of *merA*, *amoA*, *hao* and *trxA* in continuously cultured *Nitrosomonas europaea* exposed to cadmium sulfate additions” *Biotechnology and Bioengineering*, v. 104, no. 5, pp 1004-1011.  
DOI link: <http://dx.doi.org/10.1002/bit.22454>

**Radniecki, T.S.**, Semprini, L. and M.E. Dolan, 2009 “Expression of *merA*, *amoA* and *hao* in continuously cultured *Nitrosomonas europaea* exposed to zinc chloride additions” *Biotechnology and Bioengineering*, v. 102, no. 2, pp 546-553.  
DOI link: <http://dx.doi.org/10.1002/bit.22069>

**Radniecki, T.S.**, Dolan, M.E. and L. Semprini, 2008 “Physiological and transcriptional responses of *Nitrosomonas europaea* to toluene and benzene inhibition” *Environmental Science and Technology*, v. 42, pp 4093-4098.  
DOI link: <http://dx.doi.org/10.1021/es702623s>

**Radniecki, T.S.** and R.L. Ely, 2008 “Zinc chloride inhibition of *Nitrosococcus mobilis*” *Journal of Biotechnology and Bioengineering*, v. 99, no. 5, pp 1085-1095.  
DOI link: <http://dx.doi.org/10.1002/bit.21672>

**Radniecki, T.S.** Gregory, L.G. and R.L. Ely, 2002 “Microarray techniques for assessing *in-situ* microbial metabolic activity” *Soil and Sediment Contamination: An International Journal*, v. 11, no. 3, pp 407.  
DOI link: <http://dx.doi.org/10.1080/20025891107320>

Lauchnor, E.G., **Radniecki, T.S.** and L. Semprini, 2011 “Gene expression in *Nitrosomonas europaea* during biofilm growth” (*in revision*).

**Radniecki, T.S.**, Richman, E., Nason, J., Hutchinson, J. and L. Semprini, 2011 “Influence of natural organic matter on silver and silver nanoparticle inhibition of *Nitrosomonas europaea* in the presence of divalent cations.” (*in preparation*).

## **BOOK CHAPTERS**

**Radniecki, T.S.** and E.G. Lauchnor “Investigating *Nitrosomonas europaea* stress biomarkers in batch, continuous culture and biofilm reactors”. In *Methods in Enzymology – Microbial Nitrification and Related Processes*, L.Y. Stein and M.G. Klotz (eds.), Academic Press, San Diego, CA, Vol. 496 (2011), pp. 217-246.

## **TRADE JOURNAL PUBLICATIONS**

Steffy, D.A. and **T.S. Radniecki**, 2000. “A Statistical Study of MSW of the Bois Forte Reservation, Nett Lake, Minnesota”. *Biocycle*, August-September.

## **CONFERENCE PROCEEDINGS PAPERS**

**Radniecki, T.S.**, Ostermeyer, A.K. and L. Semprini “Influence of humic acids and biological macromolecules on silver nanoparticle stability and toxicity to the ammonia oxidizing bacterium, *Nitrosomonas europaea*” *The 243<sup>rd</sup> American Chemical Society National Meeting and Exposition*, San Diego, California, March 25-29, 2012.

**Radniecki, T.S.**, Schneider, M. and L. Semprini “Influence of Corexit 9500A on the inhibition of the ammonia oxidizing bacterium, *Nitrosomonas europaea*, by crude oil” *The 243<sup>rd</sup> American Chemical Society National Meeting and Exposition*, San Diego, California, March 25-29, 2012.

Barlow, S.M, **Radniecki, T.S.** and L. Semprini “Development of a high-throughput assay for testing nanoparticle toxicity using the ammonia oxidizing bacteria *Nitrosomonas europaea*” *The 243<sup>rd</sup> American Chemical Society National Meeting and Exposition*, San Diego, California, March 25-29, 2012.

**Radniecki, T.S.**, Anderson, J.W., Schneider, M.C., Stankus, D.P., Nason, J.A. and L. Semprini, “Influence of biological macromolecules and aquatic chemistries on the inhibition of nitrifying bacteria by silver nanoparticles” Abstract H42C-02. Fall Meeting of the American Geophysical Union, San Francisco, CA December 13-17, 2010.

**Radniecki, T.S.**, “Silver nanoparticle inhibition of the ammonia oxidizing bacterium, *Nitrosomonas europaea*: Influence of aquatic chemistry on bioavailability and exposure.” *The 2010 American Institute of Chemical Engineers Annual Meeting*, Salt Lake City, UT November 7-12, 2010.



**Radniecki, T.S.**, Stankus, D.P., Anderson, J.W., Schneider, M.C., Nason, J.A. and L. Semprini, "Inhibition of *Nitrosomonas europaea* by silver nanoparticles in various aquatic chemistries" *The 240<sup>th</sup> American Chemical Society National Meeting and Exposition*, Boston, Massachusetts, August 22-26, 2010.

**Radniecki, T.S.**, Dolan, M.E. and L. Semprini, "Linking NE 1545 expression with decreases in cell diameter in *Nitrosomonas europaea* cells exposed to aromatic hydrocarbons," *Proceedings, 236<sup>th</sup> American Chemical Society National Meeting and Exposition, Processing of Organic Pollutants in Aquatic Systems: From Micropollutants to Industrial Contaminants*, Philadelphia, Pennsylvania, August 17-21, 2008.

Ely, R.L., Gregory, L.G. and **T.S. Radniecki**, "Construction of Gene Libraries on DNA Microarrays to Characterize Differential Gene Expression" *Abstracts of Papers of the American Chemical Society* 221: 16-BTEC, Part 2 APR 1, 2001.

Steffy, D.A. and **T.S. Radniecki**, "Compositional Comparison Between a Native American Reservation and the Non-Native Residential Municipal Solid Waste, Minnesota" *In Proceedings of the Sixteenth International Conference on Solid Waste Technology and Management*, Philadelphia, December 10-13, 661-670, 2000.

## **INVITED CONFERENCE PRESENTATIONS and SEMINARS**

**Radniecki, T.S.**, "The influence of wastewater constituents on silver nanoparticle toxicity to ammonia oxidizing bacteria" *Invited Seminar at the University of California, Los Angeles*, Los Angeles, California, June 5<sup>th</sup>, 2012.

**Radniecki, T.S.**, "The influence of wastewater constituents on silver nanoparticle toxicity to ammonia oxidizing bacteria" *Invited Seminar at the University of California, Santa Barbara*, Santa Barbara, California, June 7<sup>th</sup>, 2012.

**Radniecki, T.S.** "Influence of humic acids and biological macromolecules on silver nanoparticle stability and toxicity to the ammonia oxidizing bacterium, *Nitrosomonas europaea*" *The 243<sup>rd</sup> American Chemical Society National Meeting and Exposition*, San Diego, California, March 25-29, 2012.

**Radniecki, T.S.** "Influence of Corexit 9500A on the inhibition of the ammonia oxidizing bacterium, *Nitrosomonas europaea*, by crude oil" *The 243<sup>rd</sup> American Chemical Society National Meeting and Exposition*, San Diego, California, March 25-29, 2012.

**Radniecki, T.S.** "The influence of divalent cations and Suwannee River Humic Acids on silver ion and silver nanoparticle toxicity on the ammonia oxidizing bacterium, *Nitrosomonas europaea*" *Greener Nano 2011*, Cupertino, California, May 1-3, 2011.

**Radniecki, T.S.**, "Silver nanoparticle inhibition of the ammonia oxidizing bacterium, *Nitrosomonas europaea*: Influence of aquatic chemistry on bioavailability and exposure." *The 2010 American Institute of Chemical Engineers Annual Meeting*, Salt Lake City, UT November 7-12, 2010.

**Radniecki, T.S.** "Nitrification inhibition by silver nanoparticles: importance of nanoparticle characterization and dissolution" *OSU/PSU IGERT-SBI Conference*, Corvallis, Oregon, July 21, 2010.

**Radniecki, T.S.**, “Inhibition of *Nitrosomonas europaea* by silver nanoparticles” *The Society for Environmental Toxicology and Chemistry North America 30<sup>th</sup> Annual Meeting*, New Orleans, Louisiana, November 19-23, 2009.

**Radniecki, T.S.**, “Grant Writing 101” *Invited Seminar at the 1<sup>st</sup> International Conference on Nitrification Workshop for Graduate Students and Early Stage PI’s*, Louisville, Kentucky, July 10-11, 2009.

**Radniecki, T.S.**, “Molecular characterization of metal-induced nitrification inhibition: Strategies for improved biological nutrient removal and environmental health” *Invited Seminar at the University of California, Riverside*, Riverside, California, May 28<sup>th</sup>, 2009.

**Radniecki, T.S.**, “Molecular characterization of metal-induced nitrification inhibition: Strategies for improved biological nutrient removal and environmental health” *Invited Seminar at the University of California, Los Angeles*, Los Angeles, California, May 26<sup>th</sup>, 2009.

**Radniecki, T.S.** “Inhibition of nitrifying bacteria by heavy metals; Physiological and transcriptional responses upon exposure to Cu<sup>2+</sup>, Zn<sup>2+</sup> and Cd<sup>2+</sup>” *OSU/PSU IGERT-SBI Conference*, Newport, Oregon, June 15-17, 2008.

## **CONFERENCE PRESENTATIONS**

**Radniecki, T.S.**, Kostigen Mumper, K. and A.K. Ostermeyer, “Influence of ammonia and biological macromolecules on silver nanoparticle toxicity and adsorption to *Nitrosomonas europaea*” *The Association of Environmental Engineering and Science Professors Annual Meeting*, Golden, Colorado, July 15-16, 2013.

**Radniecki, T.S.**, Kostigen Mumper, K. and A.K. Ostermeyer, “Influence of ammonia and biological macromolecules on silver nanoparticle toxicity and adsorption to *Nitrosomonas europaea*” *Gordon Research Conference – Environmental Nanotechnology: Novel Approaches to Meet Global Challenges*, Stowe, Vermont, June 2-7, 2013.

**Radniecki, T.S.**, Schneider, M.C., and L. Semprini, “Nitrification inhibition by mixtures of Corexit 9500A and crude oil” *The Society for Environmental Toxicology and Chemistry North America 31<sup>st</sup> Annual Meeting*, Portland, Oregon, November 7-11, 2010.

**Radniecki, T.S.**, Stankus, D.P., Anderson, J.W., Schneider, M.C., Nason, J.A. and L. Semprini, “Inhibition of *Nitrosomonas europaea* by silver nanoparticles in various aquatic chemistries” *The 240<sup>th</sup> American Chemical Society National Meeting and Exposition*, Boston, Massachusetts, August 22-26, 2010.

**Radniecki, T.S.**, Stankus, D.P., Nason, J.A. and L. Semprini, “Influence of sample preparation on the sensitivity and repeatability of *Nitrosomonas europaea* silver nanoparticle inhibition assays” *Greener Nano 2010*, Portland, Oregon, June 17-18, 2010.

**Radniecki, T.S.**, Stankus, D.P., Nason, J.A. and L. Semprini, “Inhibition of *Nitrosomonas europaea* by silver nanoparticles” *ICEIN 2010: International Conference on the Environmental Implications of Nanotechnology*, Los Angeles, California, May 11-13, 2010.

Lauchnor, E., **Radniecki, T.S.** and L. Semprini, “Global gene expression comparisons between *Nitrosomonas europaea* biofilms and planktonic cells” *The American Society of Microbiology 110<sup>th</sup> General Meeting*, San Diego, California, May 23-27, 2010.

Swogger E., **Radniecki, T.S.** and L. Semprini. "Inhibition and cometabolism of toluene and phenol in *Nitrosomonas europaea* biofilms" *Processes in Biofilms 2009: From Fundamentals to Applications*. University of California, Davis, CA, September 13-16, 2009.

Swogger, E., **Radniecki, T.S.** and L. Semprini, "Biofilms of *Nitrosomonas europaea* exposed to phenol and toluene" *The 1<sup>st</sup> International Conference on Nitrification*, Louisville, Kentucky, July 6-10, 2009.

**Radniecki, T.S.**, Gilroy, C. and L. Semprini, "Zinc oxide nanoparticle inhibition of *Nitrosomonas europaea*" *Greener Nanosciences 2009*, Eugene, Oregon, March 2-3, 2009.

Swogger, E., **Radniecki, T.S.** and L. Semprini, "Transcriptional and physiological responses of *Nitrosomonas europaea* biofilms exposed to phenol" *The 7<sup>th</sup> International Symposium for Subsurface Microbiology*, Shizuoka, Japan, November 16-21, 2008.

**Radniecki, T.S.**, Dolan, M.E. and L. Semprini, "Linking NE1545 expression with decreases in cell diameter in *Nitrosomonas europaea* cells exposed to aromatic hydrocarbons" *The 236<sup>th</sup> American Chemical Society National Meeting and Exposition, Processing of Organic Pollutants in Aquatic Systems: From Micropollutants to Industrial Contaminants*, Philadelphia, Pennsylvania, August 17-21, 2008.

Swogger, E., **Radniecki, T.S.** and L. Semprini, "Growth and transcriptional response of *Nitrosomonas europaea* biofilms exposed to phenol" *OSU/PSU IGERT-SBI Conference*, Newport, Oregon, June 15-17, 2008.

**Radniecki, T.S.**, Semprini, L. and M.A. Dolan, "Physiological and transcriptional responses of continuously cultured *Nitrosomonas europaea* exposed to pulse additions of cadmium sulfate" *The American Society of Microbiology 108<sup>th</sup> General Meeting*, Boston, Massachusetts, June 1-5, 2008.

**Radniecki, T.S.**, Dolan, M.E. and L. Semprini, "Expression of *merA* in continuously cultured *Nitrosomonas europaea* cells exposed to zinc chloride spikes" *Gordon Research Conference on Applied and Environmental Microbiology*, South Hadley, Massachusetts, July 15-20, 2007.

**Radniecki, T.S.**, Dolan, M.E. and L. Semprini, "Detection of toluene and benzene 'sentinel genes' in *Nitrosomonas europaea* using microarrays and qPCR" *The American Society of Microbiology 107<sup>th</sup> General Meeting*, Toronto, Canada, May 21-25, 2007.

Sandborgh, S.C., **Radniecki, T.S.** and M.E. Dolan, "Effect of chlorobenzene on *Nitrosomonas europaea* physiology, Proteomics and Genetic Expression" *The American Society of Microbiology 107<sup>th</sup> General Meeting*, Toronto, Canada, May 21-25, 2007.

**Radniecki, T.S.**, Dolan, M.E. and L. Semprini, "Nitrification inhibition of *Nitrosomonas europaea* by toluene: kinetics and proteomics" *Gordon Research Conference on Environmental Sciences: Water*, Plymouth, New Hampshire, June 25-30, 2006.

**Radniecki, T.S.**, Gregory, L.G. and R.L. Ely, "The use of DNA microarrays to study differential gene expression in ammonia-oxidizing bacteria (AOB)" *The American Society for Microbiology Conference on Biodegradation, Biotransformation and Biocatalysis (B3)*, San Juan, Puerto Rico, October 2-6, 2001.

## **GRADUATE STUDENTS**

**Cameron Kostigen Mumper** (Masters of Science, Thesis) San Diego State University “Influence of ammonia, biological macromolecules and humic acids on the adsorption of silver nanoparticles to *Nitrosomonas europaea*” Graduated: July 2013.

**Ann-Kathrin Ostermeyer** (Masters of Science, Thesis) San Diego State University “The influence of bovine serum albumin (BSA) and alginate on silver nanoparticle stability and toxicity to the ammonia oxidizing bacterium, *Nitrosomonas europaea*” Graduated: August 2012.

**Kevin Csupak** (Masters of Science, Project) San Diego State University “Influence of growth rate on silver nanoparticle adsorption and silver ion toxicity to *Nitrosomonas europaea* cells continuously cultured in a chemostat reactor” August 2012 – May 2013.

**Erik Berliner** (Masters of Science, Project) San Diego State University “Cultivating anammox bacteria from wastewater sludge” August 2012 – May 2013.

**Arturo Garcia** (Masters of Science, Project) San Diego State University “Optimizing constructed wetland and activated sludge treatment processes to remove high concentrations of nitrates and fecal coliform bacteria” August 2011 – May 2012.