

ENVIRONMENTAL ENGINEERING  
O R E G O N S T A T E U N I V E R S I T Y  
College of Engineering

**NASON, Jeffrey A.**  
Associate Professor

**BIRTH DATE 03/18/1975**

**DEGREES**

B.S., Chemical Engineering, Cornell University, 1997  
M.S., Civil and Environmental Engineering, Cornell University, 2002  
Ph.D., Civil Engineering, The University of Texas at Austin, 2006

**ACADEMIC POSITIONS**

Associate Professor, School of Chemical, Biological and Environmental Engineering, Oregon State University, Corvallis, OR, September 2013-present  
Assistant Professor, School of Chemical, Biological and Environmental Engineering, Oregon State University, Corvallis, OR, January 2007-September 2013  
Graduate Research Assistant, Environmental and Water Resources Engineering, The University of Texas at Austin, Austin, TX, August 2002-December 2006.  
Teaching Assistant, Department of Civil and Environmental Engineering, Cornell University, Ithaca, NY, August 2000-May 2002.

**NON-ACADEMIC POSITIONS**

Engineer II, Water/Wastewater Group, Parametrix, Inc., Sumner, WA, January 1998-June 2000

**FIELDS OF SPECIALIZATION**

Particle Removal in Water and Wastewater Treatment  
Physical/Chemical Processes for Water and Wastewater Treatment  
Aquatic Chemistry  
Mathematical Modeling of Treatment Processes  
Fate and Transport of Engineered Nanomaterials in the Environment  
Stormwater Treatment

**AWARDS**

NSF CAREER AWARD, 2013-2018  
EPA STAR Graduate Fellowship (US Environmental Protection Agency), 2004-2006  
Abel Wolman Graduate Fellowship (American Water Works Association), 2004-2006  
NWRI Graduate Fellowship (National Water Research Institute), 2004-2006

THRUST 2000 Fellowship (The University of Texas at Austin), 2002-2006

## **TEACHING**

### **Courses**

CBEE 211 – Material Balances and Stoichiometry  
ENVE 425/525 – Air Pollution Control  
ENVE 532 – Aquatic Chemistry: Natural and Engineered Systems  
ENVE 535 – Physical and Chemical Treatment Processes  
CHE 507 – Graduate Seminar

### **Curriculum Development**

Implementation of a web-based science and engineering (WISE) learning tool in CBEE 211  
Implementation of a studio based course architecture in CBEE 211

### **Education Research**

Correlation of student attitudes and learning approaches to conceptual learning

## **PROFESSIONAL ACTIVITIES**

### **Registration**

Engineer in Training, Washington, November 1998

### **Professional Societies**

American Water Works Association (AWWA)  
American Chemical Society (ACS)  
American Society for Engineering Education (ASEE)  
American Society of Environmental Engineering and Science Professor (AEESP)  
International Water Association (IWA)  
American Institute of Chemical Engineers (AIChE)

### **Committees**

AWWA Particle Contaminants Research Committee (Chair)  
AWWA University Student Activities Committee (Chair)

### **Consulting**

Oregon Association of Clean Water Agencies – literature review of pharmaceuticals in landfills  
Albany-Millersburg Water Treatment Plant, CH<sub>2</sub>M Hill, and Siemens Water Technologies – investigation of particulate issues surrounding membrane integrity issues at the Albany-Millersburg Membrane Treatment Plant.  
Chemica Technologies – contaminant removal by novel adsorbents

**Reviewer**

*US EPA*

*Environmental Science and Technology*

*International Journal of Environmental and Waste Management*

*Water, Air and Soil Pollution*

*Journal of Environmental Engineering*

*Environmental Technology*

*US Geological Survey*

*Separation Science and Technology*

*National Science Foundation (CBET-Environmental Engineering)*

**RELEVANT PUBLICATIONS**

- Choi, Y.H.; Nason, J.A.; Kweon, J.H. (2013) Effects of aluminum hydrolysis products and natural organic matter on nanofiltration fouling with PACl coagulation pretreatment. *Separation and Purification Technology* 120 (13), 78–85.
- Nason, J.A., Sprick, M.S., and Bloomquist, D.J. (2012) Determination of copper speciation in highway stormwater runoff using competitive ligand exchange – adsorptive cathodic stripping voltammetry. *Water Research* 46 (17), 5788-5798.
- Nason, J.A., Bloomquist, D.J., and Sprick, M.S. (2012) Factors influencing dissolved copper concentrations in Oregon highway stormwater runoff. *Journal of Environmental Engineering* 138 (7), 734-742.
- Nason, J.A., McDowell, S.A., and Callahan, T.W. (2012) Effects of Natural Organic Matter Type and Concentration on the Aggregation of Citrate-Stabilized Gold Nanoparticles. *Journal of Environmental Monitoring* 14 (7) 1885-1892
- Radniecki, T.S., Stankus, D.P., Neigh, A., Nason, J.A., and Semprini, L. (2011) Influence of liberated silver from silver nanoparticles on nitrification inhibition of *Nitrosomonas europaea*. *Chemosphere* 85 (1) 43-49.
- Truong, L., Moody, I.S., Stankus, D.P., Nason, J.A., Lonergan, M.C., and Tanguay, R.L. (2011) Differential stability of lead sulfide nanoparticles influences biological responses in embryonic zebrafish. *Archives of Toxicology* 85 (7), 787-798.
- Stankus, D.F., Lohse, S.E., Hutchison, J.E., and Nason, J.A. (2011) Interactions between natural organic matter and gold nanoparticles stabilized with different organic capping agents. *Environmental Science and Technology* 45 (8), 3238-3244.
- Nason, J.A., and Gorczyca, B. (2011) Evolving coagulation and flocculation roles. in Recent research every utility manager needs to know about. Speight, V. and Via, S. eds. *Journal of the American Water Works Association* 103 (1) 49-51.
- Nason, J.A. (2011) Understanding clarification. in Recent research every utility manager needs to know about. Speight, V. and Via, S. eds. *Journal of the American Water Works Association* 103 (1) 51.

- Nason, J.A. and Lawler, D.F. (2010) Modeling particle size distribution dynamics during precipitative softening. *Journal of Environmental Engineering* 136 (1), 12-21.
- Nason, J.A. and Lawler, D.F. (2009) Particle size distribution dynamics during precipitative softening: declining solution composition. *Water Research* 43 (2), 303-312.
- Nason, J.A. and Lawler, D.F. (2008) Particle size distribution dynamics during precipitative softening: constant solution composition. *Water Research* 42 (14), 3667-3676.
- Kim, J., Nason, J.A. and Lawler, D.F. (2008) Influence of surface charge and particle size on attachment in granular media filtration. *Environmental Science and Technology* 42 (7), 2557-2562.
- Kim, J., Nason, J.A. and Lawler, D.F. (2006) Zeta potential distributions in particle treatment processes. *Journal of Water Supply: Research and Technology – AQUA*, 55(7-8), 461-470.
- Lawler, D.F. and Nason, J.A. (2006) Granular media filtration: Old process, new thoughts. *Water Science and Technology*, 53(7), 1-7.
- Lawler, D. F. and Nason, J. A. (2005) Integral water treatment plant modeling: Improvements for particle processes. *Environmental Science and Technology*, 39(17), 6337-6342.
- Lawler, D. F. and Nason, J. A. (2004) The scientific basis of flocculator design. *Water Science and Technology*, 50(12), 155-162.

## RESEARCH

### Current Research

- “CAREER: Development of traceable metal oxide nanomaterials for examining environmental transport and fate” National Science Foundation, CBET – Environmental Health and Safety of Nanotechnology Program, \$454,887, June 2013 – June 2018.
- “Interactions between engineered nanoparticles in aqueous systems: roles of engineered capping agents and natural organic matter” National Science Foundation, CBET – Environmental Health and Safety of Nanotechnology Program, \$304,488, June 2011 – June 2014.
- “Assessment of copper removal from highway stormwater runoff using fish bone meal: laboratory and field studies. Oregon Department of Transportation, \$360,294, April 2011 – June 2014.

### Previous Research

- “Identifying the Inhibition and Expression of Sentinel Genes of the Bacteria *N. europaea* Upon Exposure to Metal Oxide Nanoparticles,” with L. Semprini, D. Arp, and T. Radniecki, Safer Nanomaterials and Nanomanufacturing Initiative – University of Oregon (Air Force Research Lab), \$240,000, July 2009 – July 2011.

“Copper speciation in highway stormwater runoff as related to bioavailability and toxicity to ESA-listed salmon species” Oregon Department of Transportation, \$388,204, September 2007 – June 2010.

“Synthesis of traceable nanoparticles for studying the fate and transport of engineered nanomaterials in aquatic systems” US Geological Survey/Oregon State University Institute for Water and Watersheds, \$35,991, February 2009 – February 2010.

“Probing interactions between engineered nanoparticles and natural organic matter: implications for environmental fate, transport and toxicity” Oregon State University General Research Fund, \$8,666, April 2009 – April 2010.

### **COLLABORATORS**

Desmond F. Lawler: University of Texas at Austin; Jinkeun Kim: Korean Water Resources Corporation; Peter O. Nelson: Oregon State University; Stacey Harper: Oregon State University; Alex Yokochi: Oregon State University; Lew Semprini: Oregon State University; Tyler Radniecki: Oregon State University; JiHyang Kweon: Konkuk University, S. Korea; James. E. Hutchison: University of Oregon; Robert Tanguay: Oregon State University; May Nyman: Oregon State University; Mark Johnson: U.S. EPA

### **GRADUATE AND POSTDOCTORAL ADVISORS**

M.S.–James J. Bisogni Jr. (Cornell); Ph.D.–Desmond F. Lawler (University of Texas)

### **GRADUATE STUDENTS**

Don Bloomquist (M.S. 2009); Matt Sprick (M.S. 2009); Ian Maguire (M.S. 2009); Dylan Stankus (M.S. 2011); Hsiao Wen Huang (M.S. 2012); Shannon McDowell (M.S. 2012); Justin Provolt (M.S. 2013); Brian Smith (M.S. 2013); Brian Rowbotham (M.S. 2013); Jason Silvertooth (M.S. expected 2014); Dan Pike (M.S. expected 2014); Alyssa Deline (Ph.D. expected 2018)