**Anne E. Taylor**

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**Professional preparation**

Oregon State University, Corvallis Bioresource Research B.S., 2000

Oregon State University, Corvallis Environmental Soil Science M.S., 2001

Oregon State University, Corvallis Environmental Engineering Ph.D., 2008

**Appointments**

2017 – present: Assistant Professor Senior Research

2014 – 2017: Research Associate, Department of Crop and Soil Science, Oregon State University

2008 -2013: Postdoctoral Research Associate, Department of Crop and Soil Science, Oregon State University

2002 – 2003: Faculty Research Assistant. Oregon State University

**Research interests**

* Physiological attributes of nitrification in soils
* Contributions of ammonia-oxidizing crenarchaea and bacteria to soil ammonia-oxidation
* Physiological and molecular approaches to characterize the properties of alkene metabolism

**Professional service**

2009: Co-organizer of Nitrification Network Workshop for Graduate Students and Early Stage Investigators. 1st International Conference on Nitrification, Louisville, TN.

**Reviewing activities** (Journals):

Frontiers in Microbiology

Soil Biology and Biochemistry

Federation of European Microbiological Societies

Soil Science Society of America Journal

Environmental Science and Pollution Research

Water Resources

Applied Microbiology and Biotechnology

**Teaching activities**

**Courses taught:**

Microbial Process Design, ENVE 541, Winter 2013

**Guest Lecturer:**

Soil Microbial Ecology, CSS 645. Fall 2012, Fall 2011

Microbial Ecology, MB 448/558. Guest lecturer. Spring 2009 – 2012

Microbial Ecology, MB 448/558. Weekly recitation section. Spring 2012

Biology of Soil Ecosystems, CSS 455/555. Winter 2012, Winter 2013

General Microbiology, MB 302. Fall 2010

**Student advising**

**Current students:**

Ashley Waggoner, Soil Science graduate student

**Past students:**

Gavin Jones, Soil Science graduate. 2017

Andrew Giguere, Soil Science PhD graduate. 2017

Monique LaJeunese, Chemical Engineering student

Clint Cheney, Chemical Engineering student

Paige Molzahn, Environmental Engineering graduate student. 2016

Winnie Wang, Microbiology graduate student.

Mackenzie Frey, OSU Microbiology graduate. 2015

Spencer Helterline, OSU engineering student. 2013

Kc Taylor, OSU Microbiology graduate. 2014

Brina Tennigkeit. OSU Microbiology graduate. 2013

Michael Dobie, OSU Microbiology graduate. 2012

Carter Haag, OSU Microbiology graduate. 2011

Tom Wanzek, OSU Soil Science graduate. 2010

Sandra Dooley, Gonzaga University graduate. 2009

Stanford Taylor, Brigham Young University graduate. 2007

**Invited Speaker**

**2013. 3rd International Conference on Nitrification. Tokyo, Japan.** Plenary Lecture**.** Use of aliphatic n-alkynes to discriminate soil nitrification activities of ammonia-oxidizing thaumarchaea and bacteria.

**2014. Eastern Oregon Agricultural Research Center Annual Farm Fair and Trade Show.** **Madras, OR.** Use of aliphatic n-alkynes to discriminate soil nitrification activities of ammonia-oxidizing thaumarchaea and bacteria.

**2014. Institute of Ecology and Evolution seminar series. University of Oregon. Eugene, OR**. Discriminating between soil nitrification activities of ammonia-oxidizing thaumarchaea and bacteria in a range of Oregon soils.

**2016. EPA R10 AFO/CAFO Workshop. Oregon State University, Corvallis OR.** Effects of Digested Dairy Manure on Soil Microbe Populations.

**2017. USDA-NIFA AFRI, Bioeconomy, Climate, Agroecosystems Annual Project Director (PD) Meeting**. October 20- 23, 2017. The Westshore Grand Tampa, Florida. The Impact of Archaeal and Bacterial Nitrifiers on the Fate of Digester N Applied to Fodder Crops.

**Refereed Journal Articles**

1. Taylor, A.E., and Bottomley, P.J. (2006). Nitrite production by *Nitrosomonas europaea* and *Nitrosospira* sp. AV in soils at different solution concentrations of ammonium. *Soil Biol Bioch* 38**,** 828–836.
2. A.E. Taylor, M. Dolan, P.J. Bottomley, L. Semprini. 2007. Utilization of fluoroethene as a surrogate for aerobic vinyl chloride transformation. Environmental Science and Technology 2007, 41, 6378-6383.
3. A.E. Taylor, L.H. Zeglin, D.D. Myrold, P.J. Bottomley. 2010. Evidence for different contributions of archaea and bacteria to the ammonia-oxidizing potential of diverse Oregon soils. Applied and Environmental Microbiology, vol. 76, p 7691-7698.
4. A.E. Taylor, D. Arp, P.J. Bottomley, L. Semprini. 2010. Extending the alkene substrate range of vinyl chloride utilizing *Nocardioides* sp. strain JS614 with ethene oxide. Applied Microbiology and Biotechnology, 87:2293–2302.
5. L.H. Zeglin, A.E. Taylor, D.D. Myrold, P.J. Bottomley. 2011. Bacterial and archaeal *amo*A gene distribution covaries with soil nitrification properties across a range of land uses. Environmental Microbiology Reports, 3:6:717-726.
6. A.E. Taylor, L.H. Zeglin, T.A. Wanzek, D.D. Myrold, P.J. Bottomley. 2012. Dynamics of ammonia oxidizing archaea and bacteria populations and contributions to soil nitrification potentials. ISME J, 6:2024-2032.
7. P.J. Bottomley, A.E. Taylor, D.D. Myrold. 2012. A Consideration of the relative contributions of different microbial subpopulations to the soil N cycle. Frontiers in Microbiology, 2012, 3:373.
8. A. E. Taylor, N. Vajrala, A.T. Giguere, A. I. Gitelman, D.D. Myrold, L. Sayavedra-Soto and P. J. Bottomley*.* 2013. Use of aliphatic n-alkynes to discriminate soil nitrification activities of ammonia-oxidizing thaumarchaea and bacteria. Applied and Environmental Microbiology, 79:21:6544-6551.
9. A.E. Taylor, Kc Taylor, B. Tennigkeit, M. Palatinszky, M. Stieglmeier, D. D. Myrold, C. Schleper, M. Wagner, P.J. Bottomley. 2015. Inhibitory effects of C2 to C10 1-alkynes on ammonia oxidation in two *Nitrososphaera* species. Applied and Environmental Microbiology, 81:6:1942-1948.
10. A.T. Giguere, A.E. Taylor, D.D. Myrold, P.J. Bottomley 2015. Nitrification responses of

soil ammonia-oxidizing archaea and bacteria to ammonium concentrations. Soil Science Society of America Journal, 79:1366-1374.

1. A.E. Taylor, A. Giguere, C. Zoebelein, D.D. Myrold, P.J. Bottomley. 2016. Modeling of soil nitrification response to temperature reveals fundamental thermodynamic differences between ammonia oxidizing archaea and bacteria. International Society for Microbial Ecology Journal, advance online publication, December 20, 2016; doi:10.1038/ismej.2016.179.
2. A.T. Giguere, A.E. Taylor, Y. Suwa, D.D. Myrold, P.J. Bottomley. 2016. Uncoupling of ammonia oxidation from nitrite oxidation: impact upon nitrous oxide production in non-cropped Oregon soils. Soil Biology and Biochemistry, 104:30 - 38.
3. A.T. Giguere, A.E. Taylor, D.D. Myrold, B.L. Mellbye, L.A. Sayavedra-Soto, and P.J. Bottomley. 2018. Nitrite-oxidizing activity adapts to nitrite accumulation in soil. FEMS Microbiology Ecology, in press.
4. A.E. Taylor, P.J. Bottomley, and L. Semprini. 2018. Contrasting growth properties of *Nocardioides* JS614 on three different vinyl halides. Applied Microbiology and Biotechnology, epub ahead of print.
5. A.E. Taylor, P. Molzahn, C. Cheney, M. LaJeunesse, M. Dolan, L. Semprini. 2018. Immobilization of *Methylosinus trichosporium* OB3b for liquid fuel production. Journal of Industrial Microbiology and Biotechnology, epub ahead of print.