

Curriculum Vitae

Sarah L Strauss

Assistant Professor, Soil Microbiology
Soil and Water Sciences Department
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Education

Ph.D., Plant Biology, Arizona State University, Tempe, AZ May 2010
Dissertation: Mechanisms and patterns of soil carbon and nitrogen cycling in two extreme environments

BA, Biology and Environmental Science, Washington University, St. Louis, MO May 2002

Professional Affiliations

International Society for Microbial Ecology (ISME)
Soil Science Society of America (SSSA)
American Phytopathological Society (APS)

Research Experience

Research Specialist, University of California Davis Genome Center, Davis, CA 2015 - 2016

Postdoctoral Research Associate (GS-11), USDA-ARS Crops Pathology & Genetics Research Unit, Davis, CA 2012 - 2015

Postdoctoral Research Affiliate (GS-9), USDA-ARS Tree Fruit Research Laboratory, Wenatchee, WA 2010 - 2012

Refereed Publications

Strauss SL and Kluepfel DA (2015) Anaerobic soil disinfestation: a chemical-independent approach to pre-plant control of plant pathogens. *Journal of Integrative Agriculture* 14: 2309-2318

Burns KN, Kluepfel DA, **Strauss SL**, Bokulich NA, Cantu DA, Steenwerth KL (2015) Vineyard soil bacterial diversity and composition revealed by 16S rRNA genes: differentiation by geographic features. *Soil Biology and Biochemistry* 91: 232-247

Strauss SL, Stover J, Kluepfel DA (2015) Impact of biological amendments on *Agrobacterium tumefaciens* soil survival. *Applied Soil Ecology* 87: 39-48

Mazzola M, Hewavitharana SS, **Strauss SL**, Shennan C (2015) Anaerobic soil disinfection and Brassica seed meal amendment alter soil microbiology and system resistance. Submitted to International Journal of Fruit Science

Mazzola M, Hewavitharana SS, **Strauss SL** (2014) Transformation of the rhizosphere microbiome, resistance to pathogen re-infestation, and improved apple production in response to Brassica seed meal soil amendment. *Phytopathology* 105:460-469

Strauss SL, Reardon CL, Mazzola M. (2014) The response of ammonia-oxidizer activity and community structure to fertilizer amendment of orchard soils. *Soil Biology and Biochemistry* 68: 410-418

Mazzola, M and **Strauss SL**. (2013) Resilience of orchard replant soils to pathogen re-infestation in response to Brassicaceae seed meal amendment. *Aspects of Applied Biology* 119: 69-77

Reardon CL, **Strauss SL**, Mazzola M (2013) Changes in available nitrogen and nematode abundance in response to Brassica seed meal amendment of orchard soil. *Soil Biology and Biochemistry* 57: 22-29

Strauss SL, Garcia-Pichel F, Day TA. (2012) Soil microbial carbon and nitrogen transformations at a glacial foreland on Anvers Island, Antarctic Peninsula. *Polar Biology* 35: 1459-1471

Strauss SL, Day TA, Garcia-Pichel F (2011) Nitrogen cycling in desert biological soil crusts across biogeographic regions in the Southwestern United States. *Biogeochemistry* 108: 171-182

Strauss SL, Ruhland CT, Day TA (2009) Trends in soil characteristics along a recently deglaciated foreland on Anvers Island, Antarctic Peninsula. *Polar Biology* 32:1779-1788

Day TA, Ruhland CT, **Strauss SL**, Park JH, Kreig ML, Krna MA, Bryant DM (2009) Response of plants and the dominant microarthropod, *Cryptopygus antarcticus*, to warming and contrasting precipitation regimes in Antarctic tundra. *Global Change Biology* 15:1640-1651

Park JH, Day TA, **Strauss S**, Ruhland CT (2006) Biogeochemical pools and fluxes of carbon and nitrogen in a maritime tundra near penguin colonies along the Antarctic Peninsula. *Polar Biology* 30:199-207

Presentations

Strauss SL, Browne G, Kluepfel DA. Effect of anaerobic disinfection on soilborne phytopathogenic agents and microbial community under tree-crop nursery conditions. Annual meeting of the Soil Science Society of America, Minneapolis, MN Fall 2015

- Strauss SL**, Browne G, Kluepfel DA. Control of Walnut Soilborne Phytopathogens Using Anaerobic Soil Disinfestation. Methyl Bromide Alternatives Outreach Annual Conference, San Diego, CA Fall 2015
- Strauss SL**, Browne G, Kluepfel DA. Effect of anaerobic soil disinfestation and vermicompost on soilborne pythopathogenic agents under tree-crop nursery conditions. Annual meeting of the American Phytopathological Society, Minneapolis, MN Summer 2014
- Strauss SL**, Browne G, Kluepfel DA. Effect of anaerobic soil disinfestation and vermicompost on soilborne pythopathogenic agents under tree-crop nursery conditions. University of California Postdoctoral Summer Seminar Series, Davis, CA Summer 2014
- Strauss SL**. The microbiology of agricultural research. Invited Speaker, Sonoma State University Spring Colloquium, Rohnert Park, CA Spring 2014
- Strauss SL**. Soil microbial ecology and disease suppression. Invited Speaker, Sonoma County Vineyard Technical Group, Sonoma, CA Spring 2014
- Strauss SL**. Using microbial ecology for soilborne disease suppression. Invited Speaker, Association of Applied Integrated Pest Management Ecologists, Monterey, CA Winter 2014
- Strauss SL**. Micro-managing: the effects of fertilizer on microbial nitrogen cycling in orchard soils. Invited Speaker, USDA-ARS Tree Fruit Research Lab/ Washington State University Extension Seminar, WSU Wenatchee Research & Extension Center Spring 2012
- Strauss SL**, Garcia-Pichel F, Day TA. Microbial colonization in recently exposed glacial forelands of the Antarctic Peninsula. Annual meeting of the Ecological Society of America, Albuquerque, NM Fall 2009
- Strauss SL**, Garcia-Pichel F, Day TA. Microbial colonization in recently exposed glacial forelands of the Antarctic Peninsula. American Society for Microbiology Arizona/Southern Nevada Branch Meeting, Arizona State University, Tucson, AZ Spring 2009
- Strauss SL**, Garcia-Pichel F, Day TA. Microbial activity and colonization in recently exposed glacial forelands of the Antarctic Peninsula. American Society for Microbiology Arizona/Southern Nevada Branch Meeting, Arizona State University, Tempe, AZ Spring 2008
- Strauss SL**, Garcia-Pichel F, Day TA. Microbial colonization in recently exposed glacial forelands of the Antarctic Peninsula. International Symposia on Environmental Biogeochemistry, Taupo, New Zealand Fall 2007

Strauss SL. Life and research in Antarctica. School of Life Sciences Seminar, Arizona State University, Tempe, AZ Fall 2006

Posters

Strauss SL, Kluepfel DA. Impact of biological amendments on *Agrobacterium tumefaciens* soil survival. Annual meeting of the American Phytopathological Society, Austin, TX Summer 2013

M Mazzola, **Strauss SL.** Changes in the apple rhizosphere microbiome associated with orchard system resilience conferred by *Brassicaceae* seed meal amendment. Annual meeting of the American Phytopathological Society, Austin, TX Summer 2013

Strauss SL, Mazzola M. The effect of organic amendments on microbial nitrogen cycling in orchard soils. Annual meeting of the Soil Science Society of America, San Antonio, TX Fall 2011

Strauss SL, Kidarsa T, Loper J, Mazzola M. Secondary metabolite production by *Pseudomonas fluorescens* strain Pf-5 confers protection against *Naegleria americana* in the wheat rhizosphere. Annual meeting of the Soil Science Society of America, San Antonio, TX Fall 2011

Ruhland CT, Krna MA, **Strauss SL,** Day TA. Effects of supplemental warming and precipitation on decomposition of Antarctic vascular plant litter. Annual meeting of the Ecological Society of America, Albuquerque, NM Fall 2009

Daddacha W, Ruhland CT, Krna MA, **Strauss SL,** Day TA, Secot T. Comparison of microbial plant litter degradation in transitional and established Antarctic Vascular Plant Ecosystems. American Society for Microbiology, Brookings, SD Fall 2006

Strauss SL, Day TA. Soil development and nutrient cycling during early succession of glacial forelands along the Antarctic Peninsula. Annual meeting of the Ecological Society of America, Memphis, TN Fall 2006

Ruhland CT, **Strauss SL,** Krna MA, Day, TA. The effects of supplemental warming and precipitation on growth and reproduction of Antarctic vascular plants. Annual meeting of the Ecological Society of America, Memphis, TN Fall 2006

Day, TA, Ruhland CT, Bryant DM, Krna MA, **Strauss SL.** Effects of warming and supplemental precipitation on CO₂ flux, nutrient cycling and primary production in Antarctic tundra. Annual meeting of the Ecological Society of America, Memphis, TN Fall 2006

Grants

Albrecht U and Strauss SL "Increasing citrus production efficiency and tolerance to HLB through manipulation of the root-soil environment" IFAS Citrus Initiative: awarded \$59,500	2016-2017
Kadyampakeni D, Morgan, K, Schumann A, and Strauss SL "Improving performance of HLB infected trees and root health under partial root zone drying" IFAS Citrus Initiative: awarded \$75,000	2016-2017
Kluepfel DA and Strauss SL "Anaerobic Soil Disinfestation against soilborne phytopathogenic agents" California Fruit Tree, Nut Tree, and Grapevine Improvement Advisory Board: awarded \$20,000	2015-2016
Kluepfel DA and Strauss SL "Anaerobic Soil Disinfestation against soilborne phytopathogenic agents" California Fruit Tree, Nut Tree, and Grapevine Improvement Advisory Board: awarded \$15,000	2014-2015
Strauss SL School of Life Sciences Travel Grant, Arizona State University, money awarded for travel to International Symposia on Environmental Biogeochemistry, Taupo, New Zealand	2007

Service Activities and Community Outreach

Ad hoc reviewer - Soil Biology and Biochemistry	2015
Ad hoc reviewer - Applied Soil Ecology	2014-2016
Volunteer, "Kinders Go to College," Yolo County Office of Education	2015
Ad hoc reviewer - Journal of Ecology	2014
Volunteer, "Dinner with a Scientist," Sacramento Area Science Project	2012, 2015
American Society for Microbiology Arizona/Southern Nevada Branch Meeting Committee	2008
Volunteer, Science Engineering and Environment Fair, Arizona State University, Tempe, AZ	2007
Arizona State University School of Life Sciences Ecology and Evolutionary Biology Graduate Student Representative	2007-2008
Volunteer, "Ask a Biologist," Arizona State University, Tempe, AZ	2004- 2010