

Deirdre Griffin LaHue, Ph.D.

Academic Faculty, Assistant Professor
Department of Crop and Soil Sciences
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APPOINTMENT

Assistant Professor of Soil Quality and Sustainable Soil Management, January 2019 - Present
80% Research and Extension, 20% Teaching

EDUCATION

Ph.D., Soils and Biogeochemistry, University of California, Davis, 2018
Committee members: Dr. Kate M. Scow (Chair), Soil Microbial Ecology; Dr. Sanjai J. Parikh, Soil Chemistry;
Dr. Jorge R. Rodrigues, Soil Microbiology
National Science Foundation (NSF) Graduate Research Fellow

M.S., Soils and Biogeochemistry, University of California, Davis, 2015
Major professors: Dr. Kate M. Scow, Soil Microbial Ecology; Dr. Sanjai J. Parikh, Soil Chemistry

B.S., *Summa cum laude*, Environmental Science and Policy, University of Maryland, College Park, 2012
Concentration: Environment and Agriculture, Minor: Soil Science

PUBLICATIONS¹

A. Professional Articles, Refereed

Li, M., Schmidt, J.E., **LaHue, D.G.**, Lazicki, P.A., Kent, A., Machmuller, M.B., Scow, K.M., Gaudin, A.C.
2020. Impact of irrigation strategies on tomato root distribution and rhizosphere processes in an organic system.
Frontiers in Plant Science. 11:360. (1, 3, 4, 5, 6)

Shackelford, G.E., Kelsey, T.R., Sutherland, W.J., Kennedy, C.M., Wood, S.A., Gennet, S., Karp, D.S.,
Kremen, C., Seavy, N.E., Jedlicka, J.A., Graveur, K., Kross, S.M., Bossio, D.A., Muñoz-Sáez, A., **LaHue,**
D.G., Garbach, K., Ford, L.D., Felice, M., Reynolds, M.D., Rao, D.R., Boomer, K., LeBruhn, G., Dicks, L.V.
2019. Evidence synthesis as the basis for decision analysis: A method of selecting the best agricultural practices
for multiple ecosystem services. *Frontiers in Sustainable Food Systems*. 3:83. (3, 6)

Margenot, A.J., **Griffin, D.E.**, Alves, B.S.Q., Rippner, D.A., Li, C., Parikh, S.J. 2018. Substitution of peat moss
with softwood biochar for soil-free marigold growth. *Industrial Crops and Products*. 112: 160-169. (3, 4, 5, 6)

¹Key to indicators or description of contributions to Publications and Creative Work: 1 = Developed the initial idea; 2 = Obtained or provided funds or other resources; 3 = Collected data; 4 = Analyzed data; 5 = Wrote/created product; 6 = Edited product; 7 = Student paper; * = Corresponding author.

Griffin, D.E.*, Wang, D., Parikh, S.J., Scow, K.M. 2017. Short-lived effects of walnut shell biochar on soils and crop yields in a long-term field experiment. *Agriculture, Ecosystems, and Environment*. 236: 21-29. **(1, 2, 3, 4, 5, 6)**

Wang, D., **Griffin, D.E.**, Parikh, S.J., Scow, K.M. 2016. Impact of biochar amendment on soil water soluble carbon in the context of extreme hydrological events. *Chemosphere*. 160: 287-292. **(3, 6)**

Griffin, D.E. 2012. Managing Abiotic Factors of Compost to Increase Soilborne Disease Suppression. *Journal of Natural Resources and Life Sciences Education*. 41: 31-34. **(1, 5, 6)** (Student paper competition winner)

B. Professional Articles, In review and in preparation

Submitted: Zhang, H., C. Miles, B. Gerdeman, **D.G. LaHue**, and L.W. DeVetter. 2020. Plastic mulch use in perennial fruit cropping systems – A review. *Sci. Hort.* Submitted. **(6)**

In prep: **LaHue, D.G.***, Tautges, N.E., Mahmood, A., Scow, K.M., Parikh, S.J. Soil texture impacts biochar effects on root growth and nodulation in cowpea (*Vigna unguiculata*). Intended journal: *Biochar*. **(1, 2, 3, 4, 5, 6)**

In prep: **LaHue, D.G.***, Gaudin, A.C.M., Scow, K.M. Investigating spatial patterns in the effects of subsurface drip irrigation on soil microbial biomass and diversity: implications for soil health. Intended journal: *Soil Biology and Biochemistry*. **(1, 2, 3, 4, 5, 6)**

In prep: **LaHue, D.G.***, T. Una, B. Schacht, G. LaHue, L. DeVetter, C. Benedict. Alternative Tillage in Raspberry Alleyways to Reduce Costs and Improve Soil Health. Intended journal: *HortTechnology*. **(1, 2, 3, 4, 5, 6)**

In prep: DeVetter, L.W., B.C. Strik, J.A. Fernandez-Salvador, **D.G. LaHue**, C. Benedict, et al. PNW 598: Commercial Red Raspberry Production in the Pacific Northwest, Revision 2020. Chapters 4, 5, 7. *Pacific Northwest Extension Publication*. **(5, 6)**

In prep: Rodriguez, A.M., T.R. Alexander, C.A. Miles, **D.G. LaHue**, B.S. Gerdeman. Renewed Focus on Biological Control Use in Southern Puerto Rico Agriculture. Intended Journal: *HortScience*. **(6, 7)**

In prep: Waterhouse, H., Aburto, F., Reese, G., **LaHue, D.G.**, Salls, W.B., Rippner, D.A., O'Geen, A.T., et al. Improved rangeland management for landscape multifunctionality and soil health. Intended journal: *SOIL*. **(1, 3, 4, 5, 6)**

GRANTS and EXTRAMURAL AWARDS²

Year	Funded			Unfunded		
	Number	Total	My program	Number	Total	My program
2020	7	\$181,011	\$72,806	3	\$16,754,187	\$631,101
2019	9	\$1,096,118	\$535,634	2	\$13,700,000	\$563,689
Total	16	\$1,277,129	\$608,440	5	\$30,454,187	\$1,194,790

A. Funded Grants and Contracts (Current)

Total awarded: \$1,277,129; **Total to my program:** \$608,440

²Key to indicators or description of contributions to Grants and Extramural Work: 1 = Developed the initial idea; 2 = Developed research design and hypotheses; 3 = Authorship of grant applications; 4 = Developed and/or managed budget; 5 = Managed personnel and project activities

Assessing the soil health of Eastern Washington specialty crops: hops, onion, potato, pulses, sweet corn, tree fruit, and wine grapes. Seman-Varner, R., **D.G. LaHue (Co-Lead PI, WSU lead)**, A. McGuire. Washington State Department of Agriculture, Specialty Crop Block Grant Program (WSDA SCBG), 9/2019 – 9/2022, \$499,996 (1, 2, 3, 4, 5, \$440,399).

WSU Biosolids Research & Extension Activities. A. Bary, **D. Griffin LaHue**, M. Flury. Northwest Biosolids, 7/2020 - 6/2021, \$36,000 (2, 3, 4, 5, \$5,700).

Managing the potato microbiome for improved soil and potato health. **D.G. LaHue (PI), T. Sullivan**. Northwest Potato Research Consortium (NPRC), 3/2020-3/2021, \$42,519 (1, 2, 3, 4, 5, \$24,451).

Demonstration of the Benefits of Subirrigation Using Water Level Control Structures for Improved Agricultural Irrigation Water Use. N. Embertson, C. Clark, G. LaHue, **D.G. LaHue (Co-PI)**. NRCS Conservation Innovation Grant (NRCS CIG), 1/2020 – 12/2022, \$415,291 (2, 3, 4, 5, \$44,674).

Measuring and mitigating soil compaction in raspberry fields for improved soil conditions. **D.G. LaHue (PI)**, C. Benedict, H. Neely, G.T. LaHue. Washington Red Raspberry Commission Research Grant, 3/2020 - 3/2021, \$10,000 (2, 3, 4, 5, \$10,000).

Improving the Potential for Nutrient Recovery to Contribute to Improved Nutrient Export and Nutrient Management by Dairies. Yorgey, G., K. Hills, **D.G. LaHue (Co-PI)**, K. Rajagopalan. WSU Applied Bioenergy Research Program (Appendix A), 1/2020 - 12/2021, \$59,953 (2, 3, 4, 5, \$5,097).

Valuing nitrogen release from high organic matter soils, Year 2. G.T. LaHue, **D.G. LaHue (Co-PI)**, L.W. DeVetter, C. Benedict. Washington Blueberry Commission Research Grant (WBC), 3/2020-3/2021, \$16,640, (2, 3, 4, \$0).

Evaluating cover crop suitability for improved soil health in vegetable seed systems. **D.G. LaHue (PI)**, L. du Toit, B. Gerdeman, D., McMoran, S. Seefeldt. Northwest Agricultural Research Foundation (NARF), 1/2020 - 1/2021, \$12,402 (1, 2, 3, 4, 5, \$12,402).

Evaluating potential trade-offs of cover crop species on soilborne pathogens and pests in the context of soil health. **D.G. LaHue (PI)**, L. du Toit, B. Gerdeman, D., McMoran, S. Seefeldt. Washington State Department on Pesticide Registration (WSCPR), 1/2020 -1/2021, \$11,953 (1, 2, 3, 4, 5, \$11,953).

Biosolids, Cover Cropping, and Grazing for Synergistic Soil Health Benefits. A. Bary, **D.G. LaHue (Co-PI)**. King County Department of Natural Resources and Parks, Resource Recovery Division, 1/2020 – 12/2021, \$51,497 (1, 2, 3, 4, 5, \$8,500)

Improving potato system sustainability through locally relevant soil health indicators. **D.G. LaHue, (PI)**. WSU New Faculty Seed Grant, 5/2019-8/2021, \$16,014 (1, 2, 3, 4, 5, \$16,014).

Planning Grant: New mulch technologies and improved end-of-life management. L.W. DeVetter (PI), C. Miles, **D.G. LaHue (Co-PI)**, M. Flury, M. Bolda, S. Wortman, S. Agehara, C. Benedict, H. Liu, T. Marsh, T. Chi, S. Galinato, K. Englund, M. Perez-Garcia, G. Yorgey, J. Goldberger, L. McGowen. United States Department of Agriculture Specialty Crop Research Initiative (USDA SCRI), 9/2019 – 8/2020, \$49,796 (\$0).

A Review of Synergistic Climate-Smart Agricultural Practices for the US Climate Alliance States. **D.G. LaHue**, J. Moore-Kucera., American Farmland Trust contract, 6/2019-12/2021, \$12,000 (2, 4, 5, \$12,000).

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Reducing alleyway tillage to decrease costs and improve soil health. **D.G. LaHue, (PI)**, G.T. LaHue, L.W. DeVetter, C. Benedict. Washington Red Raspberry Commission Research Grant (WRRC), 3/2019-3/2020 \$7,070 (2, 3, 4, 5, \$7,070).

Valuing nitrogen release from high organic matter soils. G.T. LaHue, **D.G. LaHue (Co-PI)**, L.W. DeVetter, C. Benedict. Washington Blueberry Commission Research Grant (WBC), 3/2019-3/2020, \$15,739 (2, 3, 4, \$0).

Cover crop alternatives for potato growers in western Washington. **D.G. LaHue**, D. McMoran, S.S. Seefeldt. Northwest Potato Research Consortium (NPRC), 4/2019 - 12/2020, \$20,259 (2, 3, 4, 5, \$10,380).

B. Grants Under Review

Total pending: \$2,917,815, Total pending to my program: \$405,533

Soil compaction and soil health: Predicting the changes to on-farm hydrology using field-scale soil compaction mapping and dynamic parameterization. H. Neely, D. Griffin LaHue, USDA NIFA AFRI Foundational and Applied Science, \$500,000 (2, \$0).

From Farmers to Soil Health Managers: Participatory Design of On-Farm Trials to Stimulate Adoption of Innovative Conservation Techniques by Historically Underserved Farmers in the Puget Sound Region. M. Frazier, R. Smith, **D. Griffin LaHue (Co-PI)**, G.T. LaHue, M. Ostrom, K. Smith, D. Collins. USDA NRCS Conservation Innovation Grant (CIG), On-Farm Demonstration. 1/2021 – 12/2023, \$593,135 (1, 2, 3, 4, 5, \$125,807).

Portable Trace Gas Analysis System: Improving Nutrient Cycling and Emissions in Organics Recycling, Soil Amendments, and Management Practices. D. Collins, J.E. Amonette, **D. Griffin LaHue (Co-PD)**, A. Dhingra, G. Yorgey, USDA NIFA Equipment Grant Program, \$360,000 (2, 3, \$0).

Enhancing Human Health and Nutrition from Soil to Society using Quinoa as a Model Crop Species. K. Murphy, **D. Griffin LaHue**, G. Ganjyal, F. Carbonero. Foundation for Food and Agriculture Research (FFAR): Seeding Solutions, 1/2021 - 12/2024, \$1,000,000 (2, 3, 4, 5, \$249,818).

Adding value to anaerobic digesters for long-term viability – Improving soil health with AD fiber. G.T. LaHue, **D. Griffin LaHue**, G. Yorgey, C. Benedict. Environmental Protection Agency. 1/2021- 12/2022, \$299,680 (1, 2, 3, 4, 5, \$29,908).

The impact of tillage on soil microbial community resilience and the consequences for potato production. T. Potter (PD), **D. Griffin LaHue (Primary Mentor)**, USDA NIFA AFRI Postdoctoral Fellowship Program. 7/2021 – 6/2023, \$165,000 (2, 3, 5).

C. Previously Funded Competitive Grants (UC Davis)

Demonstrating impacts of cover crops and compost on soil carbon and greenhouse gas emissions in irrigated tomatoes. Scow, K.M., R. Schmidt, **D.E. Griffin (Co-author)**, L. Crothers. California Department of Food & Agriculture (CDFA), Healthy Soils Program Demonstration Project, 2017-2020, \$250,000 (1, 2, 3, 4, \$0).

Effects of irrigation and management practices on soil health and crop properties of processing tomatoes, Scow, K.M., **D.E. Griffin (Co-author)**, L. Crothers, D. Wang. California Tomato Research Institute (CTRI) Grant, 2017, \$30,000 (1, 2, 3, 4, 5, \$0).

²Key to indicators or description of contributions to Grants and Extramural Work: 1 = Developed the initial idea; 2 = Developed research design and hypotheses; 3 = Authorship of grant applications; 4 = Developed and/or managed budget; 5 = Managed personnel and project activities

FELLOWSHIPS, HONORS, and AWARDS

Total Awarded: \$188,520

NSF Graduate Research Fellowship Program, 2014-2018 (\$102,000 stipend, \$36,000 institutional support)

1st Place Winner, Poster Competition, Organic Management Systems Community, ASA-CSSA-SSSA Annual Meeting, Tampa, FL, Oct. 2017

1st Place Winner, Poster Competition, American Society of Agronomy - California Chapter Annual Meeting, Fresno, CA, Jan. 2017

Henry A. Jastro Research Award, Soils and Biogeochemistry Graduate Group, UC Davis, 2013-2014, 2014-2015, 2016-2017 (\$7720)

Graduate Student Association Travel Award, UC Davis, 2016 (\$500)

University of California-Davis and Humanities Graduate Research Award, 2013-2014, 2015-2016 (\$3000)

Trellis Fund Recipient, Horticulture Innovation Lab, UC Davis, 2015 (\$1000)

1st Place Winner, Poster Competition, Soil Biology and Biochemistry Division, ASA-CSSA-SSSA Annual Meeting, Long Beach, CA, Nov. 2014

Beatrice Oberly & S. Atwood McKeehan Fellowship, UC Davis, 2014-2015 (\$20,000 stipend, \$16,100 institutional support)

Bert & Nell Krantz Fellowship, UC Davis, 2013-2014 (\$1700 stipend)

Graduate Studies Travel Grant, UC Davis, 2013 (\$500)

Soils & Biogeochemistry Graduate Group Fellowship, 2012-2013 (\$8900 stipend, \$20,250 institutional support)

PRESENTATIONS

A. Academic oral presentations

LaHue, D.G., Biosolids as an organic matter source for improved soil health. BioFest, Blaine, WA, September 10, 2019. (*Invited presentation*)

Griffin, D.E. What you've always wanted to know about the nitrogen cycle. Healthy Soils, Healthy Region Workshop, Pendleton, OR, March 12, 2019. (*Invited presentation*)

Griffin, D.E., Gaudin, A.C.M., Scow, K.M. A spatial investigation of the impacts of subsurface drip irrigation on soil quality and the microbiome. Oral presentation at the Soil Science Society of America Annual Meeting, San Diego, CA, January 7, 2019.

Griffin, D.E., D. Wang, S.J. Parikh, K.M. Scow. Short-lived Effects of Walnut Shell Biochar in a Long-term Field Experiment. Oral presentation at ASA-CSSA-SSSA Annual Meetings, Phoenix, AZ, November 6-9, 2016.

Torbert, E. (presenter), **D.E. Griffin**, C. Peterson, K.M. Scow. Managing carbon sequestration for organic agriculture. Presented at a conference of the Organic Fertilizer Association of California, December 3, 2015.

Scow, K.M. (presenter), K. Gravuer, **D.E. Griffin**, R. Schmidt. Managing Soil Biology to Increase Sustainability of Conventional Farming Systems: Learning from Long Term Experiments. ASA-CSSA-SSSA Annual Meetings, Long Beach, CA, November 2-5, 2014.

Wang, D. (presenter), K.M. Scow, **D.E. Griffin**, S.J. Parikh, D. Yan, H. Wang. The Impacts of Biochar on Soil Nutrient Leaching in the Context of Extreme Hydrological Processes. SSSA Ecosystem Services Conference, Sacramento, CA, March 3-6, 2014.

Scow, K.M. (presenter), **D.E. Griffin**, L.C.R. Silva. The Anthropocene and Soil Biology. ASA-CSSA-SSSA Annual Meetings, Cincinnati, OH, October 21-24, 2012.

B. Extension oral presentations

Audience demographics (WSU presentations only): Total (~701); Farmers (~248); Other agricultural professionals (~102); Policy professionals (~50)

LaHue, D.G. Opening the Black Box: Integrating soil biology into soil health testing and system management. Columbia Basin Soil Health Working Group meeting, July 21, 2020. Audience: 12 potato industry professionals (processors, commissioners), 5 farmers, 10 researchers (*Invited by Washington Potato Commission*)

LaHue, D.G., D. McMoran, S. Seefeldt, T. Una, B. Maupin. Cover crop alternatives for potato growers in Western Washington. Western Washington Annual Potato Workshop, February 21, 2020. Audience: ~ 35 growers and agricultural professionals (*Invited presentation*)

LaHue, D.G., G.T. LaHue, C. Benedict, K. Hills. Facilitated listening session road-mapping soil health in western Washington, December 17, 2019. Audience: 27, including 13 Skagit farmers (potato, vegetable seed, bulbs, dairy) and 5 consultants/industry representatives. (*Facilitator, Event co-organizer*).

Koenig, R., C. Kruger, **D.G. LaHue (co-presentation)**. Managing soil health in potatoes. 2019 Potato Summit of the Washington Potato Commission, Spokane, WA, December 10, 2019. Audience: ~60 attendees, 45 growers, 15 agricultural professionals (*Invited presentation*).

D.G. LaHue, T. Una, B. Schacht, C. Benedict, G.T. LaHue, L.W. DeVetter. Alternative tillage in raspberry alleyways to reduce costs and improve soil health. Small Fruit Conference, Lynden, WA, December 5, 2019. Audience: ~30 attendees, ~10 farmers.

D.G. LaHue, Soil health across Washington State. Pacific Northwest Vegetable Association Conference, Kennewick, WA, November 20, 2019. Audience: ~50 farmers and consultants (*Invited presentation*).

LaHue, D.G. Soil health concepts and management. Training for farmers in Viva Farms Cultivating Success Program, Mount Vernon, WA, October 24, 2019. Audience: ~ 20 farmers (*Invited presentation*).

LaHue, D.G. The Ins and Outs of Soil Carbon. Presentation organized by WSU Island County Extension, Coupeville, WA, October 21, 2019. Audience: 42 attendees, 20 farmers, 1 county commissioner (*Invited presentation*).

LaHue, D.G., G.T. LaHue. Soil management for growing better fruit. Snohomish County Fruit Society, Snohomish, WA, September 12, 2019. Audience: ~20 amateur fruit growers (*Invited presentation*).

LaHue, D.G., G.T. LaHue, D. Stranik. Soil health on the dairy. Soil health workshop for dairy farmers in Whatcom County. Put on in collaboration with the Whatcom County Conservation District, Lynden, WA, September 5, 2019. Audience: ~25 dairy farmers (Invited presentation).

LaHue, D.G., G.T. LaHue. Soils and Climate Change. Presentation to the Transition Fidalgo and Friends community group, Anacortes, WA, August 26, 2019. Audience: ~ 50 attendees (Invited presentation).

LaHue, D.G. What does soil health mean for agriculture in Washington State? Demonstration presentation at the WSU Congressional and Legislative Staff Tour, August 13, 2019. Audience: ~ 50 federal legislative staffers

LaHue, D.G., G.T. LaHue. What is soil health? Presentation at the WSU Mount Vernon NWREC Annual Field Day, July 11, 2019. Audience: ~75 attendees, ~15 farmers (Featured and invited presentation).

LaHue, D.G., G.T. LaHue, E. Schuh. Soil challenges in Western Washington. Soil health workshop for farmers in Snohomish County. Put on in collaboration with the Snohomish County Conservation District, Stanwood, WA, June 6, 2019. Audience: ~20 farmers (Invited workshop; Event co-organizer).

LaHue, D.G., G.T. LaHue. The soils under your feet: Exploring their diversity, formation, and management. Anacortes Science Café, Anacortes, WA, May 15, 2019. Audience: ~20 attendees, including high school students (Invited presentation).

LaHue, D.G., Miles, C. Legumes for Your Garden. WSU Skagit County Master Gardeners, Mount Vernon, WA, April 9, 2019. Audience: ~50 Master Gardeners (Invited presentation).

LaHue, D.G., Collins, D., Cappellazzi, S. Recommended sampling methods for on-farm soil health monitoring. Healthy Soils, Healthy Region Workshop, Pendleton, OR, March 12, 2019. Audience: ~ 30 agricultural professionals (Invited presentation).

LaHue, D.G. Panel discussion on soil health. Western Washington Fruit Research Foundation Annual Field Day, Mount Vernon, WA, March 2, 2019. Audience: ~50 amateur tree fruit growers (Invited panelist and presenter).

LaHue, D.G., Stacey, N., Borner, A. Understanding and managing soil health for crop production. Extension workshop at the San Juan County Agricultural Summit, WSU San Juan County Extension, February 2, 2019. Audience: ~ 30 farmers (Invited presentation).

From UC Davis:

Griffin, D.E., K. Le Baudour, K.M. Scow, S.A. Vosti. Putting an economic value on cover crops: Impacts on profitability and soil quality in a conventional tomato system. Talk presented at the 2017 Annual Field Day for the Russell Ranch Sustainable Agriculture Facility, Agricultural Sustainability Institute, UC Davis, June 14, 2017.

Griffin, D.E. The deal with biochar: The good, the bad, and the uncertain. Workshop presentation to 60 Master Gardeners, University of California Cooperative Extension, Santa Clara County, May 16, 2017.

Griffin, D.E., D. Wang, S.J. Parikh, K.M. Scow. Short-lived Effects of Walnut Shell Biochar in a Long-term Field Experiment. Oral presentation at ASA-CSSA-SSSA Annual Meetings, Phoenix, AZ, November 6-9, 2016.

Griffin, D.E. Impacts of microbes and biochar on soil health. Workshop presentation to 100 Master Gardeners, California Center for Urban Horticulture, October 15, 2016.

Griffin, D.E., D. Wang, K.M. Scow. How does biochar impact nutrient cycling? Potential effects on nitrogen availability, soil structure, and yields. Talk presented at the 2015 Annual Field Day for the Russell Ranch Sustainable Agriculture Facility, Agricultural Sustainability Institute, UC Davis, May 21, 2015.

Griffin, D.E., D. Wang, K.M. Scow, S.J. Parikh. Impacts of Biochar Amendment on Soil Nutrient Availability and Crop Growth. Talk presented at the 2014 Annual Field Day for the Russell Ranch Sustainable Agriculture Facility, Agricultural Sustainability Institute, UC Davis, May 28, 2014.

Griffin, D.E., K.M. Scow, E. Torbert, T. Hollemans, I. Herrera. Biochar Research at Russell Ranch. Poster presented at the 2013 Annual Field Day for the Russell Ranch Sustainable Agriculture Facility, Agricultural Sustainability Institute, UC Davis, May 28, 2013.

C. Selected Poster Presentations (UC Davis)

Griffin, D.E., D. Wang, A.C.M. Gaudin, J.E. Schmidt, S.J. Parikh, K.M. Scow. How do moisture patterns in subsurface drip irrigation impact soil health in organic systems? Poster presented at the ASA-CSSA-SSSA Annual Meetings, Tampa, FL, October 2017. (1st place winner in Organic Management Systems Community)

Griffin, D.E., D. Wang, S.J. Parikh, K.M. Scow. Effects of walnut shell biochar on microbial communities and nutrient cycling in a long-term field experiment. Poster presented at the Soil Ecology Society Meeting, Fort Collins, CO, June 2017.

Griffin, D.E., D. Wang, S.J. Parikh, K.M. Scow. Short-lived effects of walnut shell biochar in a long-term field experiment. Poster presented at the American Society of Agronomy - California Chapter Annual Meeting, Fresno, CA, January 2017. (1st place winner in poster competition)

Griffin, D.E., D. Wang, K.M. Scow, S.J. Parikh. 2014. Effects of biochar on soil microbial communities and nitrogen cycling in two California nutrient management systems. Poster presented at ASA-CSSA-SSSA Annual Meetings, Long Beach, CA, November 2014. (1st place winner in Soil Biology and Biochemistry Division)

Griffin, D.E., K.M. Scow, S.J. Parikh. 2013. Interactions of biochar with legume-rhizobia symbiosis. Poster presented at ASA-CSSA-SSSA Annual Meetings, Tampa, FL, November 2013.

O'Geen, A.T., F.A. Aburto, A. D'Elia, M. Felice, **D.E. Griffin,** D. Rippner, G.L. Rees, W. Salls, K.M. Scow, Z. Tian, H. Waterhouse. Broadening Student Involvement in Research and Extension of Rangeland Soil Ecosystem Services. Poster presented at SSSA Ecosystem Services Conference, Sacramento, CA, March 3-6, 2014.

TEACHING ACTIVITIES

A. Course Involvement

Instructor, SSC 502: Special Topics in Soil Science – Soil Health Across Scales, Fall 2020

- Developing and leading a 2-credit course for graduate students to explore the latest soil health literature, think critically about application of soil health concepts to agricultural systems, and develop outreach outputs of key concepts

Assistant Instructor, AFS 401, Capstone course for the Agriculture and Food Systems Program. Spring 2020

- Supporting a WSU Everett student taking the course from off-campus
- Meeting once per week with Instructor Holly Henning-Yeager on class activities, assignments, and planning

B. Course Development

Co-lead for course development committee, UCORE ROOT Soils 105, Fall 2019 – Spring 2020

- Working with a group of Crop and Soil Science faculty to develop and propose a new introductory Soils course with the UCORE ROOT designation

C. Guest Lectures

LaHue, D.G., G.T. LaHue. Crop and Soils, Horticulture 2019 Statewide Tour. Hands-on unit on soil science, May 2019

LaHue, D.G. Soil health concepts and management. Training for farmers in Viva Farms Cultivating Success Program, Mount Vernon, WA, October 24, 2019. Audience: ~ 20 farmers (Invited presentation).

LaHue, D.G., G.T. LaHue. An introduction to soils and soil fertility. WA Master Gardener Training Program, April 21, 2020 (Invited lecture)

D. Previous Institution (UC Davis)

Guest Lecturer, Introduction to Soil Science, UC Davis, November 1, 2017

- Lectured on microbial respiration, redox reactions, and carbon and nitrogen cycles for a 145-student class
- Instructors: Drs. Randal Southard and Kate M. Scow

Guest Lecturer, Edible Landscape Internship Program, UC Davis, November 17, 2016

- Lectured on principles of soil ecology and the importance for soil health in agricultural systems

Teaching Assistant, Science and Society: Soil, Water, and Civilizations, UC Davis, March 2014 – June 2014

- Sole TA for 70 students; Assisted in leading discussions; Graded assessments and essays.
- Instructor: Dr. Sanjai J. Parikh

Teaching Assistant, Soil Microbiology Lecture and Laboratory, UC Davis, January 2014 – March 2014

- Sole TA for 45 students; Set up and taught two weekly laboratory sections, gave several lectures and led discussions, held office hours, graded assessments and lab reports, helped in designing curriculum.
- Instructor: Dr. Kate M. Scow

Guest Lecturer, Sustainability and Agroecosystem Management, UC Davis, April 30, 2014

- Lectured on the effects of biochar on soil microbial ecology and nutrient cycling in agricultural systems for a class of 50 students
- Co-lecture with Dr. Sanjai J. Parikh and Dr. Fungai N.D. Mukome
- Instructor: Dr. Steve Fonte

Guest Lecturer, Science and Society: Soil, Water, and Civilizations, UC Davis, May 14, 2013

- Lectured on the environment, society, and agriculture of Ancient Egypt for a class of 75 students
- Instructor: Dr. Sanjai J. Parikh

GRADUATE STUDENT MENTORSHIP

A. Advising

- Molly McIlquham, M.S. student in Soil Science (started Fall 2020)
- Kwabena Sarpong, Ph.D. student in Soil Science (started Spring 2020)
- Toby Una, M.S. student in Soil Science (started Fall 2019)
- Amy Cardenas, M.S. in Agriculture, Co-advised with Dr. Lisa Wasko DeVetter (started Fall 2019)

B. Graduate Student Committees

- Srijana Shrestha, M.S. student in Horticulture, Advisor: Dr. Carol Miles (started Spring 2020)
- Alec Blume, M.S. in Agriculture, Advisor: Dr. Beverly Gerdeman (started Spring 2020)
- Chris Benedict, Ph.D. student in Crop Science, Advisor: Dr. Ian Burke (started Spring 2020)
- Jameson Goff, M.S. student, Western Washington University, Advisor: Dr. Andy Bach (started Fall 2019)
- Rachel Breslauer, Ph.D. student in Crop Science, Advisor: Dr. Kevin Murphy (started Fall 2019)
- Merri Metcalfe, Ph.D. student in Crop Science, Advisor: Dr. Stephen Jones (started Fall 2019)
- Qianwen Lu, Ph.D. student in Horticulture, Advisor: Dr. Lisa Wasko DeVetter (started Fall 2018)
- Anais Rodriguez, M.S. in Agriculture, Chair: Dr. Carol Miles (graduated Spring 2020)

C. Undergraduate Student Advising

- Samantha Hordyk, undergraduate student (Reed College), worked in Soil Health Lab, May-Aug 2019
- Noah Ray, CAHNRS Undergraduate Intern, May-Aug 2020

SERVICE

A. University

1. Washington State University

- **Executive Steering Committee Member**, WA Soil Health Initiative (July 2019 – present)
- **Organizer**, Brown Bag Seminar, WSU Mount Vernon NWREC (December 2019 – present)
- **Co-organizer**, WSU NWREC Pesticide License Recertification Virtual Seminar Series (August – Nov 2020)
- **Search Committee Member**, Director for WSU Mount Vernon NWREC, Chair: Dr. Richard Zack (Spring 2020)
- **Search Committee Member**, WA Oilseed Cropping Systems (WOCS) Extension Agronomist, Department of Crop and Soil Sciences, Chair: Dr. Ian Burke (Summer 2019)
- **Search Committee Member**, Scientific Assistant, Vegetable Horticulture Program, WSU Mount Vernon NWREC, Chair: Dr. Carol Miles (Spring 2019)

2. UC Davis

- **Search Committee Member**, Academic Coordinator position, Agricultural Sustainability Institute, UC Davis (May 2017)
- **Graduate Student Representative**, Soils and Biogeochemistry Graduate Group Executive Board (2016-2017)
- **Mentor**, Student and Landowner Education and Watershed Stewardship (SLEWS) program, Center for Land-Based Learning in Dixon, CA, Collaboration with growers, NRCS Resource Conservation Districts, and high schools to plant buffer strips of native perennials and teach students about conservation (2016-2018)
- **Mentor**, Department Land, Air, and Water Resources Undergraduate Mentorship Program, UC Davis, 2015
- **Co-creator and organizer**, Soils and Biogeochemistry Career Exploration Seminar, UC Davis, Seminar for Soils and Biogeochemistry graduate students to meet and learn from professionals from institutions including USDA-ARS, UC Cooperative Extension, USGS, state agencies, and private industry (2014)
- **Graduate Student Representative to Congress**, Soils, Wines, and Vines U.S. Congressional event, Sponsored by UC Davis and the Soil Science Society of America. Part of a team of 5 graduate students that met with members of the U.S. Congress to promote soil science and agricultural research (2014)

B. Reviewing Activities

- **Scientific journal articles:** *Soil Biology & Biochemistry* (2016: 1, 2017: 2); *Agronomy Journal* (2018: 2, 2019: 1); *Agriculture, Ecosystems and Environment* (2018: 1); *Frontiers in Plant Science* (2015:1); *PLOS ONE* (2019: 1); *Renewable Agriculture and Food Systems* (2019: 1)
- **Extension articles:** WSU (2019: 3)
- **White papers:** Center for Sustaining Agriculture and Natural Resources (2019: 1)
- **Proposals:** BIOAg Program (2020: 1); California Department of Food & Agriculture Healthy Soils Program (2018: 6)
- **Projects:** The Nature Conservancy, Review of Agricultural Management and Ecosystem Services Evidence

C. Professional Society Activities

- **Judge for Student Competition,** Soil Chemistry Division, Soil Science Society of America (November 2019)
- **Judge for Student Competition,** Soil Health Community, American Society of Agronomy (November 2019)

PROFESSIONAL SOCIETY MEMBERSHIP

- Soil Ecology Society, 2017-Present
- Soil Science Society of America (SSSA), 2011-Present
- Crop Science Society of America (CSSA), 2011-Present
- American Society of Agronomy (ASA), 2011-Present
- Students of Agronomy, Soils, and Environmental Sciences (SASES), 2011-2013
- Mid-Atlantic Association of Professional Soil Scientists (MAPSS), 2012-2013