

SHELBY C. MCCLELLAND, Ph.D.

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EDUCATION	Colorado State University Fort Collins, CO Doctor of Philosophy Ecology <i>Advisor: Meagan Schipanski, Ph.D.</i>	2021
	Colorado State University Fort Collins, CO Graduate Certificate Data Analysis	2019
	Cornell University, College of Agriculture and Life Sciences Ithaca, NY Bachelor of Science International Agriculture and Rural Development, <i>Cum Laude</i> <i>Advisor: Johannes Lehmann, Ph.D.</i>	2014

SCIENTIFIC EXPERTISE & INTERESTS	Agroecology, agroecological intensification, biodiversity, biogeochemistry, carbon dioxide removal, COMET-Farm, dairy science, database management, data collection and entry, DayCent, ecosystem ecology, ecosystem modeling, enteric methane, greenhouse gas emissions, livestock sustainability, natural climate solutions, negative emission technologies, plant sampling, rangeland management, soil biology, soil carbon sequestration, soil health.	
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WORK EXPERIENCE	Graduate Research Assistant Colorado State University Dept. of Crop and Soil Sciences, Fort Collins, CO <i>Supervisor: Meagan Schipanski, Ph.D.</i>	June 2017-May 2021
	Research Analyst Environmental Defense Fund Office of the Chief Scientist, San Francisco, CA <i>Supervisor: Lisa Moore, Ph.D.</i>	June 2015-May 2017
	Staff Research Associate UC ANR UC Sierra Foothill Research and Extension Center, Browns Valley, CA <i>Supervisor: Jeremy J. James, Ph.D.</i>	March 2015-June 2015

TEACHING EXPERIENCE	Teaching Assistant Department of Soil and Crop Sciences General Crops, Colorado State University; <i>Supervisor: Meagan Schipanski, Ph.D.</i>	2017 – 2020
	Undergraduate Teaching Assistant Department of Crop and Soil Sciences Introduction to Field Crops, Cornell University; <i>Supervisor: Timothy Setter, Ph.D.</i>	2014

HONORS & AWARDS	Gary “Pete” Peterson Dryland Scholarship	2019
	Colorado State University Graduate Student Council Travel Award	2019
	Graduate Degree Program in Ecology Travel Award	2019
	American Society of Agronomy, Cover Crop Division, Oral Presentation, 3 rd place	2019
	Front Range Student Ecology Symposium Oral Presentation, 2 nd place	2019
	Annie’s Sustainable Agriculture Scholarship	2018
	Aurora Organic Dairy Academic Scholarship	2018
	Front Range Student Ecology Symposium Poster Contest, 1 st place	2018
	NSF Graduate Research Fellowship, Honorable Mention	2016
	Meinig Family Cornell National Scholar	2011 – 2014

INVITED TALKS &	McClelland, S.C. “Compost improves soil health and food productivity.” State of the	
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- PRESENTATIONS** Science: Looking forward to 2030 and beyond. *School of Global Environmental Sustainability*. Colorado State University. Fort Collins, CO. February 19, 2020
- McClelland, S.C. “Statement to the Koronivia Joint Work on Agriculture Workshop ‘Improved nutrient use and manure management towards sustainable and resilient agricultural systems’ on behalf of the Research and Independent NGOs.” 25th Conference of the Parties. *United Nations Framework Convention on Climate Change*. Madrid, Spain. December 2-13, 2019.
- McClelland, S.C. “You, Me, and the UNFCCC – An ecologist’s experience at COP 24.” ECOL 592. *Graduate Degree Program in Ecology*. Colorado State University. Fort, Collins, CO. October 02, 2019.
- McClelland, S.C. “You, Me, and the UNFCCC – An ecologist’s experience at COP 24.” Departmental Seminar Series. *Department of Soil and Crop Sciences*. Colorado State University. Fort, Collins, CO. April 04, 2019.
- McClelland, S.C., Wroten, K., Trejo, M., de Jong, N., McCormick, G., Tomlin, H. “Food for Our Future.” 24th Conference of the Parties. *United Nations Framework Convention on Climate Change*. Katowice, Poland. December 2-14, 2018.
- McClelland, S.C. and Leach, A. “The Environmental Impacts of Food Production.” *Eat for Your Life*. Fort Collins, CO. September 15, 2018.
- McClelland, S.C. “EDF & Agriculture: How we work.” *Cornell Dairy Science Club*. San Francisco, CA. January 21, 2017.

**CONFERENCE
ABSTRACTS &
PRESENTATIONS**

- McClelland, S.C.**, Schipanski, M.E. “Above and belowground community responses to infrequent compost applications in semi-native and improved pastures.” *Ecological Society of America*. August 03-06, 2020.
- Arndt, C., Hristov, A.N., Price, W.J., **McClelland, S.C.**, Pelaez, A.M., Welchez, S.F.C., Oh, J., Bannik, A., Bayat, A.R., Crompton, L.A., Dijkstra, J., Eugène, M.A., Krebeab, E., Kreuzer, M., McGee, M., Martin, C., Newbold, C.J., Reynolds, C. K., Schwarm, A., Shingfield, K.J., Veneman, J.B., Yáñez-Ruiz, D.R., Yu, Z. “Successful strategies to reduce enteric methane emission from ruminants: A meta-analysis.” *American Dairy Science Association*. June 22-24, 2020.
- McClelland, S.C.**, Paustian, K., Schipanski, M.E. “Management of cover crops influences soil organic carbon stocks – A meta-analysis.” *American Society of Agronomy*. San Antonio, TX. November 10-13, 2019.
- McClelland, S.C.**, Conant, R., Haddix, M., Schipanski, M.E. “Ecosystem productivity and carbon storage under infrequent organic matter amendments.” *Front Range Student Ecology Symposium*. Fort Collins, CO. February 27-28, 2019.
- McClelland, S.C.**, Conant, R., Haddix, M., Schipanski, M.E. “Soil health impacts of infrequent compost application in an irrigated perennial pasture system.” *Soil Science Society of America*. San Diego, CA. January 6-9, 2019.
- Jackman, J., **McClelland, S.C.**, Schipanski, M.E. “Impact of compost soil amendment on nitrogen availability in grazed perennial grassland.” *Soil Science Society of America*. San Diego, CA. January 6-9, 2019.

McClelland, S.C., Paustian, K., Sanderson, J., Schipanski, M.E. “Nitrogen and herbivore-induced effects on soil carbon sequestration in the Colorado shortgrass steppe.” *Front Range Student Ecology Symposium*. Fort Collins, CO. February 13-15, 2018.

**PEER-REVIEWED
PUBLICATIONS**

McClelland, S.C., Paustian, K., Schipanski, M.E. (2020). Management of cover crops in temperate climate influences soil organic carbon stocks – A meta-analysis. *Ecological Applications*. <http://doi.org/10.1002/eap.2278>

Garbowski, M., Avera, B., Bertram, J., Courkamp, J., Gray, J., Hein, K., Lawrence, R., McIntosh, M., **McClelland, S.C.**, Post, A., Slette, I., Winkler, D., Brown, C. (2020). Getting to the root of restoration: Considering root traits for improved restoration outcomes under drought and competition. *Restoration Ecology*.

McClelland, S.C., Paustian, K., Williams, S., and Schipanski, M.E. (*accepted*). Modeling cover crop biomass production and related emissions to improve farm-scale decision-support tools. *Agricultural Systems*.

Arndt, C., Hristov, A.N., Price, W.J., **McClelland, S.C.**,...& Zhongtang, Y. (*in review*). Effective Strategies to Mitigate Enteric Methane Emissions by Livestock. *PNAS*.

Niu, M., Kebreab, E., Hristov, A. N., Oh, J., Arndt, C., Bannink, A.,..., **McClelland, S.C.**,... & Crompton, L. A. (2018). Prediction of enteric methane production, yield and intensity in dairy cattle using an intercontinental database. *Global Change Biology*. <https://doi.org/10.1111/gcb.14094>

McClelland, S.C., Arndt, C., Gordon, D.R., Thoma, G. (2018). Type and number of environmental impact categories used in livestock life cycle assessment: A systematic review. *Livestock Science*. ISSN 1871-1413

Wezel, A., Soboksa, G., **McClelland, S.**, Delespesse, F. Boissau, A. (2015). The blurred boundaries of ecological, sustainable, and agroecological intensification. A review. *Agronomy for Sustainable Development*. DOI 10.1007/s13593-015-0333-y

**SYNERGISTIC
ACTIVITIES**

Conferences and workshops

Jumpstarting the New Carbon Economy, Columbia University, January 27-28, 2020

Coming to the Table! Building an equitable and inclusive college together, Colorado State University, January 23, 2020

Summer Soil Institute, Colorado State University, June 11-22, 2018

Proposal reviews

Alfred P. Sloan Foundation

Professional affiliations

American Society of Agronomy

Soil Science Society of America

Ecological Society of America

Professional service, leadership, and volunteer activities

School of Global Environmental Sustainability, Sustainability Leadership Fellow (2020-2021)

Soil Carbon Working Group, New Carbon Economy Consortium, Member (2020)

Graduate Degree Program in Ecology, New Student Mentor (2020-2021)

New Carbon Economy Consortium Conference, Biological Solutions Track Co-organizer (2020)

Graduate Degree Program in Ecology Executive Committee, Student Representative (2019-2020)

United Nations Framework Convention on Climate Change, Conference of the Parties, Colorado State University Delegate (2018-2019)
Front Range Student Ecology Symposium, Vice-President & Organization Committee Chair (2019), Volunteer (2018-2020)
Research and Extension Experience for Undergraduates (REEU), Colorado State University, Mentor (2018-2019)
Graduate Women in Science, Science Communication Outreach Volunteer (2017-2018)

SKILLS

Language: French – B2, working professional fluency.

Software: Adobe Dreamweaver, Microsoft Word, Excel, and PowerPoint, Latex, EndNote, Google Suite, R, Simile, and WordPress; basic HTML, CSS, and Python.

REFERENCES

Available upon request.