

## CURRICULUM VITAE

### Adrian C. Gallo

1686 SW Knollbrook Pl  
Corvallis, OR 97333

[adriancgallo@icloud.com](mailto:adriancgallo@icloud.com)

mobile: (925) 354 – 6772

### RESEARCH INTERESTS

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I have a passion for communicating science to the public and to keep learning new things. I hope to use my environmental science skills to encourage the best management practices and to promote healthy sustainable communities. My specialties include system level analysis, biogeochemistry, ecosystem ecology, and landscape analysis. One goal for my career is to leave Earth, and its people, in better shape than when I entered it.

### EDUCATION

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| 2022 | Ph.D. in Sustainable Forest Management with a specialization in soil science. Oregon State University, OR. Dissertation title: <i>Tracing sources of soil organic matter through time, across ecosystems, and down profiles.</i> |
| 2016 | M.S. in Sustainable Forest Management. Thesis title: <i>Response of soil temperature, moisture, and respiration two years following intensive organic matter and compaction manipulations in Oregon Cascade Forests.</i>         |
| 2013 | B.S. Soil Science, Geology Minor. California Polytechnic State University, CA. Undergraduate thesis title: <i>Variability in soil climate and respiration on managed timber stands.</i>  |

### PROFESSIONAL EXPERIENCE

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| 2020      | <b>Agriculture Extension Communications Intern. Oregon State University.</b><br>Researching, interviewing, and writing stories on Oregon agricultural issues such as: weeds in organic systems, quinoa production, advancements in precision agriculture, wheat virus monitoring, healthy eating, invasive grasses, and higher-ed funding for Indigenous youth. |
| 2019-2020 | <b>Freelance Consultant. Indigo Agriculture Inc.</b><br>Analyzed and provided feedback on climate smart agricultural practices for water quality benefits and their durability for carbon sequestration.  |
| 2016-2022 | <b>Graduate Research Assistant. Oregon State University.</b><br>Ph.D. focused on examining and interpreting soil qualities from deserts, grasslands, and forests in ecosystems across North America.  |
| 2013-2016 | <b>Graduate Research Assistant. Oregon State University.</b><br>M.S. on intensive forest biomass removals on soil biophysical properties.   |
| 2013-2021 | <b>House Director. Phi Kappa Psi Fraternity - Oregon Beta Chapter.</b><br>Oversaw operations of a non-profit with Chapter expenses of ~\$500,000 per year, managing COVID response, emergency insurance claims, mentoring ~40 live-in members, & facilitating conflict resolution meetings.   |

- 2012 **Watershed Restoration Scientist. USDA Forest Service & Geological Society of America.**  
Partnered with a team to generate soils data to inform forest and recreational management actions. Classified areas with GIS and field reconnaissance notes to target management efforts on areas with the greatest potential for restoration. Created professional presentations and proposed multi-objective projects to USDA Forest Service managers.
- 2010/2011 **Biological Science Technician of Natural Resources. USDA Forest Service. Craig, Alaska. 2011 Award for Outstanding Job Performance**  
Examined site qualities with a focus on risk mitigation of tree harvesting on steep backcountry slopes. Regular days included driving on narrow logging roads, hiking in mountainous/remote terrain, identifying and delineating wetlands, and conducting Northern Goshawks bird surveys. Some days required helicopter transport on short notice. Part of an interdisciplinary team of scientists to advance a practical and defensible 10-yr timber harvest plan.

#### TEACHING EXPERIENCE

- 2022 Winter **Graduate Teaching Assistant.** Forest Ecosystems & Society 240 – Forest Biology. Oregon State University.
- 2021 Fall **Instructor of Record.** SOIL 205 & SOIL 206 – Intro to Soil Science Lecture & Intro to Soil Science Laboratory. Oregon State University. Cascades Campus, Bend, OR.
- 2020 Fall **Graduate Teaching Assistant.** Soil 102 – Intro to Environmental Science. Oregon State University.
- 2019 Fall **Graduate Teaching Assistant.** Forest Engineering 430/530 – Watershed Processes. Oregon State University.
- 2019-2021 Spring **Instructor of Record.** Forestry 206 & 208 – Forest Soils Lecture/Lab. Designed forestry field trips teaching students soil sampling techniques for sustainable timber harvesting and agronomic production. Oregon State University.
- 2018 Spring **Graduate Teaching Assistant.** Forestry 206 – Forest Soils Lab for Intro to Soils Science & Forestry 208 – Forest Soils [Online version]. Oregon State University.
- 2012-2013 **Laboratory Manager.** Natural Resource Management & Environmental Sciences (NRES) Dept. California Polytechnic State University, CA.
- 2012 Fall & Winter **Student Instructor.** SOIL 121 – Intro to Soil Science Lab. Natural Resource Management & Environmental Sciences (NRES) Dept. California Polytechnic State University.

#### AWARDS & EXTRA CURRICULARS

- 2020-Present **Member** of the National Association for the Advancement of Colored People (NAACP), Linn-Benton County Branch in Oregon. Committees include: Communications, Environmental & Climate Justice.
- 2020-Present **Member** of the Society for Advancing Chicanos, Hispanics, & Native Americans in Science (SACNAS).

2019	<b>Award.</b> Best Student Presentation in the Soil Chemistry division. “Roots to Regolith: Sources of Organic Matter across the National Ecological Observatory Network (NEON) Soil Plots”. San Antonio, TX.
2018-2020	<b>Contributor.</b> Soils Matter Blog, Soil Science Society of America. Topics include porous pavement, sediment erosion, and mountain biking.
2015-2022	<b>Podcast Producer and Writer.</b> <a href="#">Inspiration Dissemination</a> . Science communication radio show & blog for OSU graduate students. See primary authored <a href="#">blog posts</a> (n=35) and podcast episode library (co-host n=80). Stories include environmental toxicology, water issues in the West, green energy transition, invasive species, human-bear interactions, microplastics in fish, social trust, and environmental justice issues.
2015	<b>Award.</b> Western Forestry Grad Research Symposium (WFGRS) Best Overall Presentation entitled: <i>Biophysical responses in soil following intensive biomass removals and compaction treatments</i> . Corvallis, OR.
2014	<b>Award.</b> Best Poster in Session – Wildland Soils Division. SSSA. Long Beach, CA.
2014	<b>Award.</b> Rick Strachan Graduate Research Fellowship. FERM Dept. Corvallis, OR.
2013	<b>Award.</b> Professional Soil Scientist of the Year. Natural Resources & Environmental Sciences Department. California Polytechnic State Univ., CA.
2011	<b>Award.</b> Certificate of Outstanding Job Performance. USDA Forest Service. Craig, AK.
2011	<b>Award.</b> Royce Lambert Undergraduate Scholarship. NRES Dept. San Luis Obispo, CA.
2008	<b>Award.</b> Outstanding Senior Athlete of the Year. Deer Valley High School. Antioch, CA.

#### ACADEMIC SERVICES

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2015-2022	<b>Member.</b> American Geophysical Union (AGU).
2015-2020	<b>Member.</b> Northwest Forest Soils Council (NWFSC).
2015-2017	<b>Executive Board Member.</b> Oregon Society of Soil Scientists (OSSS) at Oregon State University.
2015-2016	<b>Executive Board Member.</b> Association of Graduate Soil Scientists (AGSS) at Oregon State University.
2015	<b>Lead Organizer.</b> The annual Western Forestry Graduate Research Symposium (WFGRS) at Oregon State University.
2013-Present	<b>Member.</b> Oregon Society of Soil Scientists (OSSS).
2012-2022	<b>Member.</b> Geological Society of America (GSA).
2011-2013	<b>Member.</b> California Forest Soil Council (CFSC).
2009-2019	<b>Member.</b> Crops Science Society of America (CSSA) & Agronomy Society of America (ASA).
2009-Present	<b>Member.</b> Soil Science Society of America (SSSA).

## RESEARCH PROJECTS

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2018-2019	Learning Innovation Grant through Oregon State University for development of a 3D-printed landslide model. Co-Author with Dr. Erin Rooney. \$12,000
2017-2019	Effects on soil and aquatic organic matter in a southern Appalachian hardwood forest: A rapid assessment across the terrestrial-aquatic interface following the Great Smokey Mountains National Park fire of 2016. NSF – Macrosystems Biology.
2016-2022	A Continental scale assessment of the linkages between soil organic matter stabilization mechanisms, controls, and vulnerability. National Science Foundation – Macrosystems Biology.
2013-2016	Northwest Advanced Renewables Alliance (NARA): A new vista for green fuels, chemicals, and environmentally preferred products (EPPs) USDA-AFRI.

## PUBLICATIONS

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<i>In Prep</i>	<b>A.C. Gallo</b> , M. Bowman, K.A. Heckman, L.E. Nave, M. SanClements, C.W. Swanston, B.D. Strahm, K. Lajtha, T.L. Weiglein, J.A. Hatten. <i>Accounting for soil organic matter signatures across the continental US and down soil profiles.</i>
<i>In Prep</i>	<b>A.C. Gallo</b> , J.A. Hatten, S. Holub, K. Lajtha, K. Littke. <i>Root carbon contributions are uniform across intensive biomass removal treatments resulting in soil carbon storage resiliency.</i>
2023	Heckman, K.A., L.E. Nave, M. Bowman, <b>A.C. Gallo</b> , J.A. Hatten, L.M. Matosziuk, A.R. Possinger, M. SanClements, B.D. Strahm, T.L. Weiglein, C. Rasmussen, C.W. Swanston. <i>Moisture-driven divergence in mineral-associated soil carbon persistence.</i> Proceedings of the National Academy of Science (PNAS). 2023. <a href="https://doi.org/10.1073/pnas.2210044120">https://doi.org/10.1073/pnas.2210044120</a>
2023	J. Egan, D.M. McKnight, M.M. Bowman, M.D. SanClements, <b>A.C. Gallo</b> , J.A. Hatten, L.M. Matosziuk. <i>Identifying photochemical alterations of dissolved pyrogenic organic matter using fluorescence spectroscopy.</i> Aquatic Sciences. <a href="https://doi.org/10.1007/s00027-022-00919-7">https://doi.org/10.1007/s00027-022-00919-7</a>
2022	<b>A.C. Gallo</b> , J.A. Hatten, S. Holub, K. Lajtha, K. Littke, D. Maguire. <i>Short-term effects on soil temperature, moisture and soil respiration two years following intensive organic matter and compaction manipulations in the Oregon Cascades.</i> Forest Ecology and Management. <a href="https://doi.org/10.1002/saj2.20485">https://doi.org/10.1002/saj2.20485</a>
2022	A.R. Possinger, A.R., T.L. Weiglein, M. Bowman, <b>A.C. Gallo</b> , J.A. Hatten, K.A. Heckman, L. Matosziuk, L.E. Nave, M. SanClements, C.W. Swanston, B.D. Strahm. <i>Lignin and fungal abundance modify manganese effects on soil organic carbon persistence.</i> Geoderma. <a href="https://doi.org/10.1016/j.geoderma.2022.116070">https://doi.org/10.1016/j.geoderma.2022.116070</a>

- 2022 Rooney, E., V.L. Bailey, K.F. Patel, A.R. Possinger, **A.C. Gallo**, M. Bergmann, M. SanClements, R.A. Lybrand. *The impact of freeze-thaw history on soil carbon response to experimental freeze-thaw cycles*. Journal of Geophysical Research – Biogeosciences. <https://doi.org/10.1029/2022JG006889>
- 2022 Rooney, E., V.L. Bailey, K.F. Patel, M. Dragila, A.K. Battu, A.C. Buchko, **A.C. Gallo**, J. Hatten, A.R. Possinger, O. Qafoku, L. R. Reno, M. SanClements, T. Varga, R.A. Lybrand. *Soil pore network response to freeze-thaw cycles in permafrost aggregates*. Geoderma. <https://doi.org/10.1016/j.geoderma.2021.115674>
- 2021 A.R. Possinger, A.R., T.L. Weiglein, M. Bowman, **A. Gallo**, J.A. Hatten, K.A. Heckman, L. Matosziuk, L.E. Nave, M. SanClements, C.W. Swanston, B.D. Strahm. *Climate effects on subsoil carbon loss mediated by soil chemistry*. Environmental Science and Technology. <https://doi.org/10.1021/acs.est.1c04909>
- 2021 Weiglein, T.L, M. Bowman, **A.C. Gallo**, J.A. Hatten, K.A. Heckman, L. Matosziuk, L.E. Nave, A.R. Possinger, M. SanClements, C.W. Swanston, B.D. Strahm. *Key predictors of soil organic matter vulnerability to mineralization differ with depth at a continental scale*. Biogeochemistry. <https://doi.org/10.1007/s10533-021-00856-x>
- 2021 L.E. Nave, M. Bowman, **A. Gallo**, J.A. Hatten, K.A. Heckman, L. Matosziuk, A.R. Possinger, M. SanClements, J. Sanderman, B.D. Strahm, T.L. Weiglein, C.W. Swanston. 2021. *Patterns and predictors of soil organic carbon storage across a continental-scale network*. Biogeochemistry. <https://doi.org/10.1007/s10533-020-00745-9>
- 2020 *\*Invited Review* Carter, T.L, L.L. Jennings, Y. Pressler, **A.C. Gallo**, A.A. Berhe, E. Marin-Spiotta, C. Shepard, T. Ghezzehei, K.L. Vaughan. 2020. *Towards diverse representation and inclusion in soil science in the United States*. Soil Science Society of America Journal. <https://doi.org/10.1002/saj2.20210>
- 2020 Heckman, K.A., L.E. Nave, M. Bowman, **A. Gallo**, J.A. Hatten, L.M. Matosziuk, A.R. Possinger, M. SanClements, B.D. Strahm, T.L. Weiglein, C. Rasmussen, C.W. Swanston. *Divergent controls on carbon concentration and persistence between forests and grasslands of the conterminous US*. Biogeochemistry. <https://doi.org/10.1007/s10533-020-00725-z>
- 2020 Littke, K., T. Harrington, R. Slesak, S. Holub, J. Hatten, **A. Gallo**, W. Littke, R. Harrison, E. Turnblom. *Impacts of organic matter removal and vegetation control on nutrition and growth of Douglas-fir at three Pacific Northwestern Long-Term Soil Productivity sites*. Forest Ecology and Management. <https://doi.org/10.1016/j.foreco.2020.118176>
- 2020 Matosziuk, L., **A. Gallo**, J. Hatten, K.D. Bladon, D. Ruud, M. Bowman, J. Egan, K. Heckman, M. SanClements, B. Strahm, T. Weiglein. 2020.

- Short-term effects of recent fire on the production and translocation of pyrogenic carbon in Great Smoky Mountains National Park.* *Frontiers in Forest and Global Change.*  
<https://doi.org/10.3389/ffgc.2020.00006>
- 2020 M. SanClements, R.H. Lee, E. Ayres, K. Goodman, M. Jones, F. Furfen, K. Thibault, R. Zulueta, J. Roberti, C. Lunch, **A. Gallo**. *Collaborating with NEON.* BioScience.  
<https://doi.org/10.1093/biosci/biaa005>
- 2019 Nave, L.E., A. Covarrubias Ornelas, P.E. Drevnick, **A. Gallo**, J.A. Hatten, K.A. Heckman, L. Matosziuk, M. Sanclements, B.D. Strahm, T.J. Veverica, T.L. Weiglein, C.W. Swanston. *Carbon-mercury interactions in Spodosols assessed through density fractionation, radiocarbon analysis, and soil survey information.* *Soil Science Society of America Journal.*  
<https://doi.org/10.2136/sssaj2018.06.0227>

#### CONFERENCE PRESENTATIONS (First Author)

- 2019 Roots to Regolith: Sources of organic matter across the National Ecological Observatory Network (NEON) soil plots. Oral Presentation. SSSA. San Antonio, TX.
- 2019 Sources of organic matter: A latitudinal assessment of carbon contributions down soil profiles. Oral Presentation. San Diego.
- 2019 The morphology of burnt dirt: A pedologic investigation of fire history across ecosystems. Poster Presentation. SSSA. San Diego. **Best Poster in Student Session.**
- 2018 Root carbon contributions are uniform across intensive biomass removal treatments in a western Oregon Douglas-fir forest. North American Forest Soils Council Meeting. Poster Presentation. Quebec City, Quebec.
- 2017 Root carbon contributions are uniform across intensive biomass removal treatments in a Western Oregon Douglas-fir forest. SSSA. Oral Presentation. Tampa, FL.
- 2016 Does root carbon from harvest trees replace mineral carbon? Oral Presentation. AGU. San Francisco, CA.
- 2016 Does Root Carbon from Harvested Trees Replace Mineral Carbon? Effects of LTSP Treatments in a Western Oregon Douglas-fir Forest. Presentation. SSSA. Phoenix, AZ.
- 2015 Soil Organic Matter Dynamics in an Intensively Managed Douglas-fir Forest. Poster Presentation. SSSA. Minneapolis, MN.
- 2015 Soil Organic Matter Dynamics in an Intensively Managed Douglas-fir Forest. Poster Presentation. Annual NARA Conference. Spokane, WA
- 2015 Biophysical responses in soil following intensive biomass and compaction treatments. Oral Presentation. WFGRS. Corvallis, OR. **Best Overall Presentation.**

- 2015 Immediate response mechanisms to account for sustained tree growth following intensive biomass removal on LTSP sites. Northwest Forest Soils Council. Oral Presentation. Hood River, Oregon.
- 2014 Immediate response mechanisms to account for sustained tree growth following intensive biomass removal on long-term soil productivity (LTSP) sites. Poster Presentation. SSSA. Long Beach, CA. **Best Poster in Session.**
- 2014 Immediate response mechanisms to account for sustained tree growth following intensive biomass removal on long-term soil productivity (LTSP) sites. Poster Presentation. WFGRS. Corvallis, OR.
- 2014 Biophysical response in soil following intensive biomass and compaction treatments. Poster Presentation. Northwest Advanced Renewables Alliance (NARA) Annual Meeting. Seattle, WA.

SELECT CONFERENCE PRESENTATIONS (Co-Authored)

- 2019 Impact of freeze-thaw cycles on porosity in permafrost affected soils. Erin Rooney. SSSA. Oral Presentation. San Antonio, TX.
- 2019 Predictors of soil organic matter vulnerability to decomposition in mineral horizons from a continental-scale sample set. Tyler Weiglein. Oral Presentation. SSSA. San Antonio, TX.
- 2019 Linking nominal oxidation state of carbon from extracted soil organic matter to cumulative respiration from climate change incubations at a continental scale. Maggie Bowman. Oral Presentation. SSSA. San Antonio, TX.
- 2019 Linking carbon and nitrogen speciation with soil organic matter persistence at the continental scale. Angela Possinger. Oral Presentation. SSSA. San Antonio, TX.
- 2019 Fire effects on soil organic matter in a southern Appalachian hardwood forest: movement of fire-altered organic matter in soil and aquatic systems. Jeff Hatten. Oral Presentation. SSSA. San Diego, CA.
- 2017 Assessing soil organic C stability at the continental scale: An analysis of soil C and radiocarbon profiles across the NEON sites. Katherine Heckman. Oral Presentation. AGU. New Orleans, LA.
- 2017 Forest and rangeland soil and the carbon cycle. USFS National Soils Assessment. Jeff Hatten. Boise, ID.
- 2016 An assessment of soil organic matter stabilization mechanisms on a continental scale. Macrosystem Biology PI Meeting. Katherine Heckman. Poster Presentation. Washington, D.C.
- 2011 Heavy metals as indicators of Serpentinic soils. Oral Presentation. SSSA. Laurie Fraser. San Antonio, TX.