

THOMAS H. DELUCA
Cheryl Ramberg-Ford and Allyn C. Ford Dean
College of Forestry
Oregon State University

Room 311 Peavy Forest Science Center
Oregon State University
Corvallis, OR 97331, USA

tom.deluca@oregonstate.edu
<https://www.forestry.oregonstate.edu/>
541-737-1535

ADMINISTRATIVE RESPONSIBILITIES

- Manage a large program on forestry and natural resource sciences
- Provide vision and direction for a diverse faculty and staff in natural resource sciences
- Oversee undergraduate curricula and graduate curricula with ~1,200 students
- Oversee eleven outlying research forests
- Provide leadership on natural resource and environmental issues
- Serve the University through leadership on committees, planning, and outreach

RESEARCH INTERESTS

- Carbon and nitrogen dynamics of natural and disturbed ecosystems
- Forest ecology and ecosystem ecology
- Influence of restoration activities on ecosystem function
- Fire as a driver of ecosystem processes in forest ecosystems
- Nitrogen fixation in terrestrial ecosystems
- Soil resource sustainability as influenced by land management

EDUCATION

Ph.D. Iowa State University, May 1993. Soil Science (Soil Microbiology and Biochemistry).
Dissertation: Paired prairie and cultivated soils: Soluble organics and nitrogen dynamics.

M.S. Montana State University, March 1987. Soils. Thesis: Band applications of elemental sulfur inoculated with *Thiobacillus thioparus* to increase nutrient availability.

B.S. University of Wisconsin-Madison, December 1984. Soil Science, Natural Science Option.

PROFESSIONAL HISTORY

2020 – Present Dean and Professor, College of Forestry, Oregon State University, Corvallis, OR

2017-2020. Dean and Professor, W.A. Franke College of Forestry and Conservation, Director of the Montana Forest and Conservation Experiment Station, University of Montana, Missoula, Montana

2012–2017. Director and Professor, School of Environmental and Forest Sciences, University of Washington, Seattle, Washington

2009 – 2012. Professor and NERC-University Joint Chair in Environmental Sciences, Bangor University, Bangor, Gwynedd, LL57 2UW, United Kingdom

2009 – 2018. Senior Research Scientist. Institute for Subarctic Alpine Research, Silver Museet, Arjeplog, Sweden.

2006 – 2009. Senior Scientist/Forest Ecologist, Ecological and Economic Research Department, The Wilderness Society, Bozeman, MT

2006 – 2013. Adjunct Professor of Forest Soils, Department of Forest Management, College of Forestry, The University of Montana, Missoula, MT

2000- 2008. Guest Professor of Forest Ecology, Department of Forest Vegetation Ecology (now Forest Ecology and Management), Swedish University of Agricultural Sciences (SLU), Umeå Sweden.

2003- 2006. Professor of Forest Soils, Department of Ecosystem and Conservation Sciences, College of Forestry and Conservation, University of Montana, Missoula, MT.

1998 - 2003. Associate Professor of Forest Soils, School of Forestry, University of Montana, Missoula, MT (awarded tenure in 1999)

1994 - 1998. Assistant Professor of Forest Soils, School of Forestry, University of Montana.

1993 - 1994. Assistant Professor of Agroecology, Sustainable Systems, Slippery Rock University, Slippery Rock, PA.

1990 - 1993. Research Associate, Leopold Center for Sustainable Agriculture, Iowa State University, Ames, IA.

1988-1990. Environmental Specialist III, Montana Department of Agriculture Environmental Management Division, Helena, MT.

1987-1988. Research Assistant, Plant Pathology, North Carolina State University, Raleigh, NC.

PUBLICATIONS

Publications in Refereed Journals

- Zhang, J., J. Luo, T.H. **DeLuca**, S. Sun, G. Wang, X. Sun, Z. Hu, C. Song, W. Zhang. 2021. Biogeochemical stoichiometry of soil and plant functional groups along a primary successional gradient following glacial retreat on the eastern Tibetan Plateau. *Global Ecology and Conservation* 26:01491 <https://doi.org/10.1016/j.gecco.2021.e01491>.
- Pulido-Chavez, F. E.C. Alvarado T.H. **DeLuca**, R.L. Edmonds and S.I. Glassman. 2021. High-severity wildfire reduces richness and alters composition of ectomycorrhizal fungi in low-severity adapted ponderosa pine forests. *Forest Ecology and Management* 485: 118923. doi.org/10.1016/j.foreco.2021.118923.
- Gao, S and T.H. **DeLuca**. 2021. Influence of fire retardant and pyrogenic carbon on microscale changes in soil nitrogen and phosphorus. *Biogeochemistry* <https://doi.org/10.1007/s10533-020-00746-8>
- DeLuca** T.H., M.J. Gundale, R.J. Brimmer, S. Gao. 2020. Pyrogenic carbon generation from fire and forest restoration treatments. *Frontiers in Forests and Global Change* 3: DOI=10.3389/ffgc.2020.00024
- Callahan, S.T. A. Bidwell, C. Lin, T.H. **DeLuca**, and P.C. Tobin. 2020. Effects of copper exposure and increased temperatures on Collembola in western Washington, USA. *City and Environment Interactions* 4:100026.
- Gao, S. and T.H. **DeLuca**. 2020. Biochar alters nitrogen and phosphorus dynamics in a western rangeland ecosystem. *Soil Biology and Biochemistry* 148: 107868.
- Hill, P.W. R. Broughton, J. Bougoure, W. Havelange, K.K. Newsham, H. Grant, D. Murphy, P. Clode, C. Brown, S. Ramayah, K.A. Marsden, R. Quilliam, P. Roberts, D.J. Read, T.H. **DeLuca**, R.D. Bardgett, D.W. Hopkins, D.L. Jones. 2019. Fungal root endophytes facilitate the acquisition of organic nitrogen from ancient soil organic matter by Antarctic angiosperms. *Ecology Letters* 39:2111-2119.
- Bidwell, A.L., S.T. Callahan, P.C. Tobin, B.K. Nelson, T.H. **DeLuca**. 2019. Quantifying elemental composition of mosses in western Washington USA. *Science of the Total Environment* 693:133404.
- Gao, S. and T.H. **DeLuca**. 2019. Use of microdialysis to assess short-term soil soluble N dynamics with biochar additions. *Soil Biology & Biochemistry* 136:107512.
- Sun, S. Y. Wu, J. Zhang, G. Wang, T.H. **DeLuca**, W. Zhu, A. Li, M. Duan and L. He. 2019. Soil warming and nitrogen deposition alter soil respiration, microbial community structure and organic carbon composition in a coniferous forest on eastern Tibetan Plateau. *Geoderma* 353:283-292
- Mason, K.E. S. Oakley, L. Street, M. Arróniz-Crespo, D.L. Jones, T.H. **DeLuca**, N. Ostle. 2019. Boreal forest floor greenhouse gas emissions across a *Pleurozium schreberi*-dominated, wildfire-disturbed chronosequence. *Ecosystems* 22: 1381–1392.
- Duan, M., A. Li, Y. Wu, Z. Zhao, C. Peng. T.H. **DeLuca**, S. Sun. 2019. Differences of soil CO₂ flux in two contrasting subalpine ecosystems on the eastern edge of the Qinghai-Tibetan Plateau: A four-year study. *Atmospheric Environment* 198:166-174.

- Gao, S., T.H. **DeLuca**, and C.C. Cleveland. 2019. Biochar additions alter phosphorus and nitrogen availability in agricultural ecosystems: a meta-analysis. *Science of the Total Environment* 654:463-472.
- Hörnberg, G., T. Josefsson, T.H. **DeLuca**, L. Liedgren, L. Östlund, O. Zackrisson, and I. Bergman, 2018. Anthropogenic use of fire led to degraded Scots pine-lichen forest in northern Sweden. *Anthropocene* 24:14-29.
- Gao, S. and T.H. **DeLuca**. 2018. Wood biochar impacts soil phosphorus dynamics and microbial communities in organically-managed croplands. *Soil Biology and Biochemistry* 126:144–150.
- Pingree, M.R.A. and T.H. **DeLuca**. 2018. The influence of fire history on soil nutrients and vegetation cover in mixed severity fire regime forests of the eastern Olympic Peninsula, Washington, USA. *Forest Ecology & Management* 422: 95–107.
- Scott; D., R.L. Bradley, J-P. Bellenger, D. Houle, M. Gundale, K. Rousk, and T.H. **DeLuca**. 2018. Anthropogenic deposition of heavy metals and phosphorus may reduce biological N₂ fixation in boreal forest mosses. *Science of the Total Environment* 630:303-310.
- Gao, S., K. Hoffman-Krull, and T.H. **DeLuca**. 2017. Soil biochemical properties and crop productivity following application of locally produced biochar at organic farms on Waldron Island, WA. *Biogeochemistry* 136:31–46.
- Pingree, M.R.A. and T.H. **DeLuca**. 2017. Function of wildfire-deposited pyrogenic carbon in terrestrial ecosystems (Mini-Review). *Frontiers in Environmental Science* 30: doi.org/10.3389/fenvs.2017.00053.
- Pingree, M.R.A., K. Makoto, and T.H. **DeLuca**. 2017. Interactive effects of charcoal and earthworm activity increase bioavailable phosphorus in sub-boreal forest soils. *Biology and Fertility of Soils* 53:873–884.
- Eisenhauer, N., P.M. Antunes, A.E. Bennett, K. Birkhofer, A. Bissett, M.A. Bowker, T. Caruso, B. Chen, D.C. Coleman, W. de Boer, P. de Ruiter, T. H. **DeLuca**, F. Frati, B.S. Griffiths, M. M. Hart, S. Hättenschwiler, J. Haimi, M. Heethoff, N. Kaneko, L.C. Kelly, H.P. Leinaas, Z. Lindo, C. Macdonald, M.C. Rillig, L. Ruess, S. Scheu, O. Schmidt, T.R. Seastedt, N.M. van Straalen, A.V. Tiunov, M. Zimmer, J.R. Powell. 2017. Priorities for research in soil ecology. *Pedobiologia* 63:1-7.
- Sun, S-Q, T. Liu, Y-H. Wu, G-X. Wang, B. Zhu, T.H. **DeLuca**, Y-Q. Wang, J. Luo. 2017. Ground bryophytes regulate net soil carbon efflux: evidence from two subalpine ecosystems on the east edge of the Tibet Plateau. *Plant & Soil* 417:363–375.
- Cutler, N., M. Arróniz-Crespo, L.E. Street, D.L. Jones, D.L. Chaput, T.H. **DeLuca**. 2017. Long-term recovery of microbial communities in the boreal bryosphere following fire disturbance. *Microbial Ecology* 73:75–90.
- Gao, S. and T.H. **DeLuca**. 2016. Influence of biochar on soil nutrient transformations, nutrient leaching, and crop yield. *Advances in Plants & Agriculture Research* 4(5) 00150. DOI: 10.15406/apar.2016.04.00150.
- Gao, S., K. Hoffman-Krull, A.L. Bidwell, and T.H. **DeLuca**. 2016. Locally produced wood biochar increases nutrient retention and availability in agricultural soils of the San Juan Islands, USA. *Agriculture, Ecosystems and the Environment* 233: 43–54.
- Pingree, M.R.A., E.E. DeLuca, D.T. Schwartz, T.H. **DeLuca**. 2016. Adsorption capacity of wildfire-produced charcoal from Pacific Northwest forests. *Geoderma* 283:68–77.

- Doty, S.L., A.W. Sher, N.D. Fleck, M. Khorasani, R.E. Bumgarner, Z. Khan, A.W.K. Ko, S-H. Kim and T.H. **DeLuca**. 2016. Variable nitrogen fixation in wild *Populus*. **PLoS One**: DOI:10.1371/journal.pone.0155979.
- Abbott, B.W. et al. (**DeLuca** 38th author). 2016. Biomass offsets little or none of permafrost carbon release from soils, streams, and wildfire: an expert assessment. **Environmental Research Letters** 11:034014
- DeLuca**, T.H., H.C. Glanville, M. Harris, B.A. Emmett, M.R.A. Pingree, L. L. de Sosa, C. Morenà, D. L. Jones. 2015. A biologically-based approach to evaluating soil phosphorus availability across complex landscapes. **Soil Biology and Biochemistry** 88:110-119.
- Östlund, L., G. Hörnberg, T.H. **DeLuca**, L. Liedgren, P. Wikström, O. Zackrisson, and T. Josefsson, 2015. Intensive land use in the Swedish mountains between AD 800 and 1200 led to deforestation and ecosystem transformation with long-lasting effects. **Ambio** 44:508–520.
- Rousk, K., D.L. Jones, T.H. **DeLuca**. 2014 Moss-nitrogen input to boreal forest soils: tracking ¹⁵N in a field experiment. **Soil Biology and Biochemistry** 72:100-104.
- Lucchini, P., R.S. Quilliam, T.H. **DeLuca**, T. Vamerali, and D.L. Jones. 2014. Increased bioavailability of metals in two contrasting agricultural soils treated with waste wood-derived biochar and ash. **Environmental Science and Pollution Research** 72:100-104..
- Lucchini P, Quilliam RS, **DeLuca** TH, Vamerali T, Jones DL. 2014. Does biochar application alter heavy metal dynamics in agricultural soil? **Agriculture, Ecosystems & Environment** 184:149-157.
- Rousk K., D.L. Jones, and T.H. **DeLuca**. 2014. Exposure to nitrogen does not eliminate N₂ fixation in the feather moss *Pleurozium schreberi* (Brid.) Mitt. **Plant and Soil** 374:513-521.
- Rousk K., D.L. Jones and T.H. **DeLuca**. 2014. The resilience of nitrogen fixation in feather moss (*Pleurozium schreberi*)-cyanobacteria associations after a drying and rewetting cycle. **Plant and Soil**, 377:159-167.
- Rout, M.E., T.H. Chrzanowski, T.K., Westlie, T.H. **DeLuca**, R.M. Callaway, W.E. Holben. 2013. Bacterial endophytes enhance competition by invasive plants. **American Journal of Botany** 100:1726-37.
- DeLuca**, T.H. O. Zackrisson, I. Bergman, B. Díez, and B. Bergman. 2013. Diazotrophy in alluvial meadows of Subarctic river systems. **PLoS One** 8:e77342.
- DeLuca**, T.H. O. Zackrisson, I. Bergman, and G. Hörnberg. 2013. Historical land use and resource depletion in spruce-*Cladina* forests of Northern Sweden. **Anthropocene** 1:14-22.
- Rousk, K., D.L. Jones, T.H. **DeLuca**. 2013. Moss-cyanobacteria associations as biogenic sources of nitrogen in boreal forest ecosystems. **Frontiers in Terrestrial Microbiology** 4:150.
- Jones, D.L., P. Cross, P.J.A. Withers, T.H. **DeLuca**, D.A. Robinson, R.S. Quilliam, I.M. Harris, D.R. Chadwick and G. Edwards-Jones. 2013 Nutrient stripping: the global disparity between food security and soil nutrient stocks. **Journal of Applied Ecology** 50:851-862.
- Rousk, K., D.L. Jones, O. Zackrisson, J. Rousk, and T.H. **DeLuca**. 2013. Feather moss nitrogen acquisition across natural fertility gradients in boreal forests. **Soil Biology & Biochemistry** 61:86-95
- Rousk, K., T.H. **DeLuca**, J. Rousk. 2013. The cyanobacterial role in the resistance of feather mosses to decomposition - toward a new hypothesis. **PLoS One** 8(4): e62058. doi:10.1371/journal.pone.0062058 (Number of citations: 2)

- DeLuca, T.H., S.A. Zewdie, O. Zackrisson, J. R. Healey, D.L. Jones.** 2013. Bracken fern promotes an open nitrogen cycle in heathland soils. **Plant and Soil** 367:521-534.
- Quilliam, R.S., D.L. Jones, T.H. **DeLuca.** 2013. Biochar application reduces nodulation but increases nitrogenase activity in clover. **Plant and Soil** 366:83-92.
- Quilliam, R.S. T.H. **DeLuca, S. Rangelcroft, B Emmett D.L. Jones.** 2013. Is biochar a source or sink for polycyclic aromatic hydrocarbon (PAH) compounds in agricultural soils? **Global Change Biology-Bioenergy** 5:96–103.
- Quilliam, R.S. K.A. Marsden, C. Gertler, J. Rousk, T.H. **DeLuca, Davey L. Jones.** 2012. Nutrient dynamics, microbial growth and weed emergence in biochar amended soil are influenced by time since application and reapplication rate. **Agriculture, Ecosystems and the Environment** 158:192– 199.
- Farrell, M. P. Hill, J. Farrar, T.H. **DeLuca, P. Roberts, K. Kieland, R. Dahlgren, D. Murphy, P. Hobbs, R. Bardgett, D.L. Jones.** 2012. Oligopeptides represent a preferred source of organic N uptake: A global phenomenon? **Ecosystems** 16:133-145.
- Das Gupta, S. and T.H. **DeLuca.** 2012. Short-term changes in belowground C, N stocks in recently clear felled Sitka spruce plantations on podzolic soils of North Wales. **Forest Ecology and Management** 281:48-58.
- Ackermann, K., O. Zackrisson, J. Rousk, D.L. Jones, T.H. **DeLuca.** 2012. N₂ fixation in feather mosses is a sensitive indicator of N deposition in boreal forests. **Ecosystems** 15:986-998.
- Quilliam, R.S., K.A. Marsden, C.Gertler, J.Rousk, T.H. **DeLuca, D.L. Jones.** 2012. Nutrient dynamics, microbial growth and weed emergence in biochar amended soil are influenced by time since application and reapplication rate. **Agriculture, Ecosystems, and Environment** 158: 192-199.
- Leppi, J.C., T.H. **DeLuca, S. Harrar, S.W. Running.** 2012. August stream discharge trends exhibit impacts of climate change in the Central-Rocky Mountains of North America. **Climatic Change** 112:997-1014.
- Jones, D.L., J. Rousk, G. Edwards-Jones, T.H. **DeLuca, and D.V. Murphy.** 2012. Biochar-mediated changes in soil quality and plant growth in a three year field trial. **Soil Biology and Biochemistry** 45:113-124.
- Makoto, K., M. Hirobe, T.H. **DeLuca, S.V. Bryanin, V.F. Procopchuk, K. Takayoshi.** 2011. Effects of fire-derived charcoal on soil properties and seedling regeneration in a recently burned *Larix gmelinii/Pinus sylvestris* forest. **Journal of Soils and Sediments** 11:1317-1322.
- DeLuca, T.H. and C.A. Zabinski.** 2011. Prairie ecosystems and the carbon problem. **Frontiers in Ecology and the Environment** 9:407–413.
- Jones, D.L., D.V. Murphy, M. Khalid, W. Ahmad, G. Edwards-Jones, and T.H. **DeLuca.** 2011. Short-term biochar-induced increase in soil respiration is both biotically and abiotically mediated. **Soil Biology and Biochemistry** 43:1723-1731.
- Keeling, E., A. Sala, and T.H. **DeLuca.** 2011. Lack of fire has limited physiological impact on old-growth ponderosa pine in dry montane forests of North Central Idaho. **Ecological Applications** 21:3227–3237.

- Hill, P., R. Quilliam, T.H. **DeLuca**, J. Farrar, M. Farrell, P. Roberts, K. Newsham, D. Hopkins, R. Bardgett and D.L. Jones. 2011. Acquisition and assimilation of nitrogen as peptide-bound and D-enantiomers of amino acids by wheat. *PLOS-One* 6, e19220
- Gundale, M.J., T.H. **DeLuca**, and A. Nordin. 2011. Bryophytes attenuate anthropogenic nitrogen inputs in boreal forests. *Global Change Biology* 17:2743–2753.
- Yakimov, M.M., V. La Cono, F. Smedile, M. Ferrer, T.H. **DeLuca**, P.N. Golyshin, and L.Giuliano. 2011. Contribution of crenarchaeal autotrophic ammonia oxidizers to the dark primary production in Tyrrhenian Deep Waters (Central Mediterranean Sea). *ISME Journal* 5:945-961.
- DeLuca**, T.H., G.H. Aplet, H. B. Wilmer, and J. Burchfield. 2010. The unknown trajectory of forest restoration: a call for ecosystem monitoring. *Journal of Forestry* 108:288-295.
- Naficy, C., A. Sala, E. G. Keeling, J. Graham, T.H. **DeLuca**. 2010. Interactive effects of historical logging and fire exclusion on contemporary structure of ponderosa pine/Douglas-fir forests of the Northern Rockies. *Ecological Applications* 20:1851-1864.
- Ball, P.M., M.D. MacKenzie, T.H. **DeLuca**, and W.B. Holben. 2010. Wildfire and charcoal enhance AOB in forests of the Inland Northwest. *Journal of Environmental Quality* 39:1243-1253.
- Bisbing, S.M., P. Alaback and T.H. **DeLuca**. 2010. Carbon storage in old-growth and second growth fire-dependent western larch (*Larix occidentalis* Nutt.) forests of the Inland Northwest, USA. *Forest Ecology and Management* 259:1041–1049.
- Burgoyne, T.A. and T.H. **DeLuca**. 2009. Non-symbiotic nitrogen fixation as influenced by forest restoration treatments in Western Montana. *Forest Ecology and Management* 258:1369-1375.
- DeLuca**, T.H. and V. Archer. 2009. Forest soil quality standards should be quantifiable. *Journal of Soil and Water Conservation* 64:118A-123A.
- Zackrisson, O., T.H. **DeLuca**, F. Gentili, A. Sellstedt, and A. Jäderlund. 2009. Nitrogen-fixation in boreal *Hylocomium splendens* communities. *Oecologia* 160:309-319.
- DeLuca**, T.H., O. Zackrisson, M.J. Gundale, and M-C. Nilsson. 2008. Ecosystem feedbacks and nitrogen fixation in boreal forests. *Science* 320:1181.
- Gundale, M.J., S. Sutherland, and T.H. **DeLuca**. 2008. Fire, native species, and soil resource interactions regulate the spatio-temporal invasion pattern of *Bromus tectorum*. *Ecography* 31:201-210.
- Nilsson, M-C., D.A. Wardle and T.H. **DeLuca**. 2008. Belowground and aboveground consequences of interactions involving live plant species mixtures and dead organic substrate mixtures. *Oikos* 117:439-449.
- DeLuca**, T.H. and G.H. Aplet. 2008. Charcoal and carbon storage in forest soils of the Rocky Mountain West. *Frontiers in Ecology and the Environment* 6:18-24.
- Walters, D.K. and T.H. **DeLuca**. 2007. Salt-lick induced soil disturbance in the Teton Wilderness, USA. *Range Ecology and Management* 60:675-679.
- Liedgren, L.G., I.M. Bergman, G. Hörnberg, O. Zackrisson, E. Hellberg, L. Östlund, T. **DeLuca**. 2007. Radiocarbon dating of prehistoric hearths in alpine northern Sweden: problems and possibilities. *Journal of Archaeological Science* 34:1276-1288
- DeLuca**, T.H. and O. Zackrisson. 2007. *Juniperus communis* enhances soil fertility in arctic ecosystems. *Plant and Soil* 294:147-155.

- DeLuca**, T.H., O. Zackrisson, F. Gentili, A. Sellstedt, M-C. Nilsson. 2007. Ecosystem controls on nitrogen fixation in boreal feather moss communities. **Oecologia** 152:121-130.
- Gundale, M.J. and T.H. **DeLuca**. 2007. Charcoal and litter extracts alter soil solution chemistry and growth of *Koeleria macrantha* in the ponderosa pine/Douglas-fir ecosystem. **Biology and Fertility of Soils** 43:303-311.
- Kurth, V.J. M.D. MacKenzie, and T.H. **DeLuca**. 2006. Estimating the charcoal content of mineral soils. **Geoderma** 137:135-139.
- Keeling, E.G., A. Sala, and T.H. **DeLuca**. 2006. Effects of fire exclusion on forest structure and composition in unlogged ponderosa pine/Douglas-fir forests. **Forest Ecology and Management** 237:418-428.
- DeLuca**, T.H. and A. Sala. 2006. Frequent fire alters nitrogen transformations in ponderosa pine stands of the Inland Northwest. **Ecology** 87:2511-2522.
- MacKenzie, M.D. and T.H. **DeLuca**. 2006. Resin adsorption of carbon and nitrogen as influenced by season and time since fire. **Soil Science Society America Journal** 70:2122-2129.
- MacKenzie, M.D. and T.H. **DeLuca**. 2006. Charcoal and shrubs modify soil processes in ponderosa pine forests of western Montana. **Plant and Soil** 287:257-266.
- Gundale, M.J. and T.H. **DeLuca**. 2006. Temperature and source material influence the chemical properties of charcoal in the ponderosa pine/Douglas-fir ecosystem. **Forest Ecology and Management** 231:86-93.
- Gundale, M.J., K.L. Metlen, C.E. Feidler, and T.H. **DeLuca**. 2006. Nitrogen spatial heterogeneity increases diversity following restoration in a ponderosa pine forest, Montana. **Ecological Applications** 16:479-489.
- MacKenzie, D.M., T.H. **DeLuca**, and A. Sala. 2006. Fire exclusion and nitrogen mineralization in low elevation forests of western Montana. **Soil Biology and Biochemistry** 38:952-961.
- DeLuca**, T. H., M.D. MacKenzie, M.J. Gundale, and W.E. Holben. 2006. Wildfire-produced charcoal directly influences nitrogen cycling in forest ecosystems. **Soil Science Society America Journal** 70:448-453.
- Thorpe, A., V. Archer, and T.H. **DeLuca**. 2006. The invasive forb, *Centaurea maculosa*, increases phosphorus availability in Montana grasslands. **Applied Soil Ecology** 32:118-122.
- Gentili F., M-C. Nilsson, O. Zackrisson, T.H. **DeLuca** and A. Sellstedt. 2005. Feather moss-N₂ fixing cyanobacteria association: physiological and molecular diversity of the associative cyanobacteria genera. **Journal of Experimental Botany** 56:3121-3127.
- Hart, S.C., T.H. **DeLuca**, G.S. Newman, M.D. MacKenzie, and S.I. Boyle. 2005. Post-fire vegetative dynamics as drivers of microbial community structure and function in forest soils. **Forest Ecology and Management** 220:166-184.
- Gundale, M.J. W.M. Jolly, and T.H. **DeLuca**. 2005. Susceptibility of a northern hardwood forest to exotic earthworm invasion. **Conservation Biology** 19:1075-1083.
- Gundale, M.J., T.H. **DeLuca**, C.E. Fiedler, P.W. Ramsey, M.G. Harrington, J.E. Gannon. 2005. Restoration management in a Montana ponderosa pine forest: effects on soil physical, chemical and biological properties. **Forest Ecology and Management**. 213:25-38.
- Lesica, P. and T.H. **DeLuca**. 2004. Is tamarisk allelopathic? **Plant and Soil** 267:357-365.
- Zackrisson, O, T.H. **DeLuca**, M-C. Nilsson, A. Sellstedt, and Berglund. 2004. Nitrogen fixation increases with successional age in boreal forests. **Ecology** 85:3327-3334.

- Mackenzie, D.M., T.H. **DeLuca**, and A. Sala. 2004. Forest structure and organic matter analysis along a fire chronosequence in the low elevation forests of western Montana. **Forest Ecology and Management** 203:331-343.
- Berglund, L., T.H. **DeLuca**, and O. Zackrisson. 2004. Activated carbon amendment to soil alters nitrification rates in Scots pine forests. **Soil Biology and Biochemistry** 36:2067-2073.
- Switalski, T.A., J.A. Bissonette, T.H. **DeLuca**, C.H. Luce, and Mary Ann Madej. 2004. Watershed benefits and impacts from road removal: a review. **Frontiers in Ecology and the Environment** 2:21-28.
- Knudson, J.A., T. Meikle and T.H. **DeLuca**. 2003. Role of mycorrhizal fungi and phosphorus in the arsenic tolerance of Basin wildrye. **Journal Environmental Quality** 32:2001-2006.
- DeLuca**, T.H., O. Zackrisson, M-C. Nilsson, A. Sellstedt. 2002. Quantifying nitrogen-fixation in feather moss carpets of boreal forests. **Nature** 419:917-920.
- DeLuca**, T.H., M-C. Nilsson, and O. Zackrisson. 2002. Nitrogen mineralization and phenol accumulation along a fire chronosequence in northern Sweden. **Oecologia** 133:206-214.
- Zabinski, C.A., **DeLuca**, T.H., D.C. Cole, and O. Seastone-Moynahan. 2002. Impact and restoration of subalpine campsites in the Eagle Cap Wilderness. **Restoration Ecology** 10:275-281.
- Six, D., M. Vander Meer, T. **DeLuca**, P. Kolb. 2002. Pine engraver, *Ips pini* (Say), colonization of logging residues created using alternative slash management systems in western Montana. **Western Journal of Applied Forestry**. 17:96-100.
- Choromanska, U. and T.H. **DeLuca**. 2002. Microbial activity and nitrogen mineralization in forest mineral soils following heating: evaluation of post-fire effects. **Soil Biology and Biochemistry** 34:263-271.
- Choromanska, U. and T.H. **DeLuca**. 2001. Prescribed fire alters the effect of wildfire on soil biochemical properties in a ponderosa pine forest. **Soil Science Society of America Journal** 65:232-238.
- Lesica, P. and T.H. **DeLuca**. 2000. Sweetclover: A Potential Problem for the Northern Great Plains. **Journal of Soil Water Conservation** 55:259-261.
- DeLuca**, T.H. and K.L. Zouhar. 2000. Effects of selection harvest and prescribed fire on the soil nitrogen status of ponderosa pine forests. **Forest Ecology and Management** 138:263-271.
- Morse, C.C., I. V. Yevdokimov, and T.H. **DeLuca**. 2000. In situ extraction of rhizosphere organic compounds from contrasting plant communities. **Communications in Soil Science and Plant Analysis** 31:725-742.
- Newland, J. and T.H. **DeLuca**. 2000. Influence of fire on native nitrogen fixing plants and the soil N status of ponderosa pine forests in western Montana. **Canadian Journal Forest Research** 30:274-282.
- Callaway, R.M., T.H. **DeLuca**, and W.L. Ridenour. 1999. Herbivores used for biological control increase the competitive ability of target weeds. **Ecology** 80:1196-1201.
- Zlatnik, E.J., T.H. **DeLuca**, K.S. Milner and D.S. Potts. 1999. Soil conditions and site productivity on terraced ponderosa pine stands in western Montana. **Western Journal Applied Forestry**. 14:35-40.
- DeLuca**, T.H. 1998. Soluble anthrone reactive carbon as an assay of available carbon in forest soils. **Soil Biology and Biochemistry** 30:1293-1299.

- Blagodatsky, S.A., Yevdokimov, I.V., and **DeLuca**, T.H. 1998. Efficiency and selectivity of two methods for microbial biomass N determination. **Eurasian Soil Science**. 30:1015-1023.
- DeLuca**, T.H., W.A. Patterson, W.A. Freimund, D.N. Cole. 1998. Influence of llamas, horses, and hikers on soil erosion from established recreation trails in Western Montana. **Environmental Management** 22:255-262
- DeLuca**, T.H. and D.K. DeLuca. 1997. Composting for feedlot manure management and soil quality. **Journal of Production Agriculture** 10: 235-240.
- DeLuca**, T.H. and E.L. Lynch. 1997. Assessment of amendments in the reclamation of an abandoned mine in Montana. **Intermountain Journal of Science**. 3: 38-46.
- Lesica, P. and T.H. **DeLuca**. 1996. Long term harmful effects of crested wheatgrass on Great Plains grassland ecosystems. **Journal of Soil Water Conservation** 51:407-408.
- DeLuca**, T.H., L.E. Drinkwater, B.A. Wiefeling, and D. DeNicola. 1996. Free-living nitrogen-fixing bacteria in temperate cropping systems: Influence of nitrogen source. **Biology and Fertility of Soils** 23:140-144.
- DeLuca**, T.H. 1995. Row crop agriculture: Putting America's soils on a white bread diet. **Journal of Soil and Water Conservation** 50:262-263. (editorial)
- DeLuca**, T.H. and D.R. Keeney. 1995. Short-term transformations of 15NO_3^- in paired prairie and cultivated soils. **Applied Soil Ecology** 2:131-135.
- DeLuca**, T.H. and D.R. Keeney. 1994. Soluble carbon and nitrogen pools of prairie and cultivated soils: Seasonal dynamics. **Soil Science Society of America Journal** 58:835-840.
- DeLuca**, T.H. and D.R. Keeney. 1993. Glucose induced nitrate assimilation in prairie and cultivated soils. **Biogeochemistry** 21:167-176.
- DeLuca**, T.H. and D.R. Keeney. 1993. Soluble anthrone reactive carbon in soils: Effect of carbon and nitrogen amendments. **Soil Science Society of America Journal** 57:1296-1300.
- DeLuca**, T.H. and D.R. Keeney. 1993. Use of ethanol stabilized chloroform as a fumigant for estimating microbial biomass by reaction with ninhydrin. **Soil Biology Biochemistry** 25:1297-1298.
- Keeney, D.R. and T.H. **DeLuca**. 1993. Des Moines River nitrate in relation to watershed agricultural practices: 1945 vs 1980s. **Journal of Environmental Quality** 22:289-292.
- DeLuca**, T.H. and D.R. Keeney. 1993. Soluble organics and extractable nitrogen in paired prairie and cultivated soils of Central Iowa. **Soil Science** 155:219-227.
- Keeney, D.R. and T.H. **DeLuca**. 1992. Biomass as an energy source for the Midwestern U.S. **American Journal of Alternative Agriculture** 7:39-46.
- DeLuca**, T.H., D.R. Keeney, and G.W. McCarty. 1992. Effect of freeze-thaw events on mineralization of soil nitrogen. **Biology and Fertility of Soils** 14:116-120.
- DeLuca**, T.H., E.O. Skogley, and R.E. Engle. 1989. Band applied elemental sulfur to enhance the phytoavailability of phosphorus in alkaline calcareous soils. **Biology and Fertility of Soils** 7:346-350.

Refereed Book Chapters and Selected Non-Refereed Publications

- DeLuca**, T.H. and S. Gao. **2020**. Fire, Soil, and Post-Fire Recovery. Chain Reaction (Chemists Without Borders Newsletter). 32:3-4.

- DeLuca**, T.H. S. Gao, M.R.A. Pingree. 2019. Assessing soil biological health in forest ecosystems. Chapter 16. In: Page-Dumroese, D., M. Busse, C. Giardina, D. Morris. *Global Change and Forest Soils: Conservation of a Finite Natural Resource*. Elsevier (**Refereed**).
- DeLuca**, T.H. and S. Gao. 2019. Chapter 3. Use of Biochar in Organic Farming. Pp. 25-49. In: S. Chandran C. S. Thomas and M. R. Unni (eds). *Organic Farming: New Advances Towards Sustainable Agricultural Systems*. Springer, New York.
- DeLuca**, T.H. 2019. Asset stripping in developing countries: Agricultural depletion and export of soil nutrients. *Chain Reaction (Chemists Without Borders Newsletter)* 31:8-12.
- Olson, D.H., B. Van Horne, B. Bormann, R. L. Deal, T.H. **DeLuca**. 2017. Chapter 19: The future of human-forest ecosystem sustainability. Pp. 275-290. In: Olson, D.H. and B. Van Horne. *Revisiting the Northwest Forest Plan*. Island Press, Washington, DC. (**Refereed**)
- DeLuca**, T.H., M.J. Gundale, M.D. MacKenzie, and D.L. Jones. 2015. Bio-char effects on soil nutrient transformation. Chapter 15. In: Lehmann, J. and Joseph, S. (eds), 2nd ed. *Biochar for Environmental Management: Science and Technology*. Earthscan Publications Ltd, London. Pp 419-452. (**Refereed**)
- DeLuca**, T.H. 2011. Feathermosses, nitrogen fixation and the boreal biome. **IBERS Knowledge-Based Innovations 4:27-31**
- DeLuca**, T.H. 2009. Nutrient imbalances: Follow the waste. **Science** 326:665.
- DeLuca**, T.H., M.D. MacKenzie, and M.J. Gundale. 2009. Bio-char effects on soil nutrient transformation. Chapter 14. In: Lehmann, J. and Joseph, S. (eds). *Biochar for Environmental Management: Science and Technology*. Earthscan Publications Ltd, London. Pp 251-270. (**Refereed**)
- Crist, M., T.H. **DeLuca**, G.H. Aplet, and H. B. Wilmer. 2009. Forest restoration in the Rocky Mountain West. TWS Ecological Science Report. January 2009.
- DeLuca**, T.H., H. B. Wilmer, and G.H. Aplet. 2008. The unknown trajectory of forest restoration: a call for ecosystem monitoring. TWS Science and Policy Brief 2008:2. December 2008. 20 Pp.
- DeLuca**, T.H. 2008. Climate change, fire, and forest health. 32nd Annual Public Land Law Conference, Missoula MT. Pp. G 1-10.
- Wilmer, B. and T.H. **DeLuca**. 2008. Fire and Fuels Restoration Priority System: Using Mapping and Analysis to Help Prioritize Restoration Project. TWS Web Report. July 2008, Washington, DC.
- Francis, M. and T.H. **DeLuca**. 2007. Testimony before the House Select Committee on Energy Independence and Global Warming on Wildland Fire and the Climate Crisis. November 1, 2007. Washington DC.
- DeLuca**, T.H. 2007. Environmental benefits and consequences of biofuels development in the United States. The Wilderness Society Science and Policy Brief. April 2007. 12 pp
- DeLuca**, T.H. 2006. Looking at biofuels and bioenergy. **Science** 312:1743-1744.
- DeLuca**, T. H., M.D. MacKenzie, M.J. Gundale, and W.E. Holben. 2006. Wildfire-produced charcoal directly influences nitrogen cycling in forest ecosystems. **CSA News** 51:4-5.
- Switalski, T A., J. A. Bissonette, T. H. **DeLuca**, C. H. Luce, and M. A. Madej. 2003. Road removal: research needs. IO CET Conference Proceedings, Lake Placid, NY. pp 642-645.

- DeLuca**, T.H. and A. Vitateau. 2001. Influence of mine reclamation amendments on metal mobility and water pollution potential. Report 202. Montana Water Resources Center. 34 pp.
- DeLuca**, T.H. 2001. Invited letter to the editor regarding: Weinhold et al. 2001. Pasture management influences on soil properties in the Northern Great Plains. *Journal of Soil Water Conservation* 56:147.
- DeLuca**, T.H. 2000. Soils and nutrient considerations. pp 23-26. In: Smith, H.Y. (ed), *Bitterroot Ecosystem Management Program, What We Have Learned. Symposium Proceedings*, Missoula, MT RMRS - P - 17. USDA-FS, Ogden, UT.
- Zouhar, K.L. and T.H. **DeLuca**. 1999. Microbial response and nitrogen availability, selection cutting unit. Pp 38-40. In: Smith, H.Y. and S.F. Arno (eds), *Eighty-eight years of change in a managed ponderosa pine forest*. USFS-RMRS-GTR-23.
- DeLuca**, T.H. 1997. The Leopold Center for Sustainable Agriculture - United States - P.p. 409-415. In: *For all generations: Making World Agriculture more sustainable*. J. P. Madden and S. G. Chaplowe (eds.) WSA Publication.
- DeLuca**, T.H. and M.P. O'Herron. 1995. *Introductory soil science laboratory book*. University of Montana, School of Forestry, Missoula MT. 88 pp.
- DeLuca**, T. 1993. 100 years on a white bread diet. *Biodynamics* 193:4-5.
- DeLuca**, T.H. 1993. Paired prairie and cultivated soils: Soluble organics and nitrogen dynamics. Ph.D. Dissertation. Iowa State University, Ames, IA. 184 pp.
- DeLuca**, T.H. 1993. Review of the Leopold Center for Sustainable Agriculture. 197 pp.
- DeLuca**, T. and P. Johnson. 1990. RAVE: Relative aquifer vulnerability evaluation. *Mont. Dept. Agric. Tech. Bull.* 90-1.
- DeLuca**, T., L. Torma, J. Larson, and G. Algard. 1989. A survey of pesticide residues in groundwater in Montana. *Mont. Dept. Agric. Tech. Rept.* 89-1.
- DeLuca**, T.H. and G.A. Algard. 1989. Final programmatic environmental impact statement for the State of Montana Emergency Grasshopper Control Program. 45 pp. (232 pp).
- DeLuca**, T.H. (program manager). 1988. Draft programmatic environmental impact statement for the State of Montana Emergency Grasshopper Control Program 187 pp.
- DeLuca**, T.H. and J.S. Jaconsen. 1988. Glossary of soil fertility terms. Extension MT-Guide 88-7.
- DeLuca**, T.H. 1987. Band applications of elemental sulfur inoculated with *Thiobacillus thioparus* to enhance nutrient phytoavailability. M.S. Thesis, Montana State University, Bozeman, MT.

NEWS ARTICLES, FEATURES

- Earth Magazine. 2014. Cyanobacteria supply nitrogen to high-latitude floodplains. April.
- Anonymous. 2013. Floods didn't provide nitrogen 'fix' for earliest crops in frigid northMossy management. *Science Daily* Published online November 6, 2013.
- Anonymous. 2008. Research Highlights. Plant science: Mossy management. *Nature* 453, 700 (5 June 2008) | doi:10.1038/453700c; Published online 4 June 2008

RESEARCH GRANTS AND PROPOSALS

- DeLuca, T.H. 2018. A Mass Timber Innovation Kiosk and Workshop at the University of Montana. USFS Wood Innovation Financial Assistance Award. \$10,000.
- DeLuca, T.H. 2018. Assessing the effect of wood biochar application on soil nitrogen dynamics using microdialysis. University of Montana Grants Program \$5,000.
- Snover, A. S. Hampton, J. Rybzyck, A. Flores, & T.H. DeLuca. 2017. Northwest Climate Science Center. USGS. \$285,000
- DeLuca, T.H. 2016. Bryophyte community assemblages and ecosystem function along a primary succession gradient in southwestern China. President's International Fellowship Initiative, Chinese Academy of Sciences. \$6,300.
- DeLuca, T.H., S. Gao, and K. Hoffman-Krull. 2016. Charcoal: The Intersection of Sustainable Farming and Forestry. Amazon Catalyst. \$60,000.
- DeLuca, T.H. and S. Asah. 2015. The New Northwest Environmental Forum. Bullitt Foundation. \$100,000.
- DeLuca, T.H. and P. Tobin. 2015. Metal deposition along an urban-to-wildland gradient in the Puget Sound Region. USDA McIntire-Stennis. \$88,891.
- Wade, A. et al (DeLuca co-I). 2012. The multi-scale response of water quality, biodiversity and carbon sequestration to coupled macronutrient cycling from source to sea. NERC £3,100,000.
- DeLuca, T.H. and D. L. Jones. 2011. Biochar: A novel means of offsetting greenhouse gas emissions and influencing economic and environmental sustainability in the Welsh farming. KESS £87,000
- DeLuca, T.H. and D. Tomos. 2011. Unravelling the mystery of Morfa soils and suppression of late blight of potatoes. KESS £38,000.
- DeLuca, T.H., D.L. Jones, N. Ostle, and D.L. Godbold. 2011. The Boreal Nitrogen Gap: Size, fate and impacts of nitrogen fixation in Fennoscandia forest ecosystems. NERC £336,102 (+ ~£85,000 to Lancaster collaborator).
- DeLuca, T.H., D.L. Jones, D.L. Godbold. 2011. Wolfson below ground carbon laboratory. The Royal Society £150,000.
- Jones, D.L., G.E. Jones, T.H. DeLuca, P. Williams, P. Cross, J.R. Healey, D.L. Godbold, B. Emmett. 2011. Carbon Soil Sequestration: Long term impacts. SEREN £200,000.
- Jones, D.L., R. Bardgett, T.H. DeLuca, P.W. Hill, and P. Roberts. 2011. Short circuits in the nitrogen cycle regulate ecosystem development in the terrestrial Antarctic. £475,000
- DeLuca, T.H. D.L. Jones, B.A. Emmett. 2010. Evaluation of phosphorus limitation in an increasingly nitrogen rich world. KESS. £38,000.
- DeLuca, T.H. and N. Brown. 2010. Forging sustainable communities in a changing world Beacon for Wales. £12,000.
- Bergman, I. G. Hornberg, T. DeLuca, O. Zackrisson, L. Liedgren. 2009. Proposal for the institute for subarctic landscape research. EU Structure Fund. 5,000,000 SEK
- DeLuca, T.H. and D.L. Jones. 2009. Biochar: A novel means of offsetting greenhouse gas emissions. KESS. £86,838.
- DeLuca, T.H. and D.L. Jones. 2009. Biochar: Greenhouse gas sink or health risk? £38,000.
- Ekey, R. and T.H. DeLuca. 2008. Climate change and ecosystem resilience in the Northern Rockies. Aspenwood Foundation. \$200,000.

- Ekey, R. G.H. Aplet, T.H. DeLuca, J. Kerkvliet, S. Brennan. 2008. Forest restoration and landscape preservation in the Crown of the Continent. Aspenwood Foundation. \$1,000,000.
- Ekey, R. G.H. Aplet, T.H. DeLuca, J. Kerkvliet. 2007. Forest restoration and landscape preservation in the Crown of the Continent. Aspenwood Foundation. \$800,000.
- DeLuca, T.H. and C. Zabinski. 2006. Effects of slash pile burning on soil properties and exotic invasions USDA-RJVA -- \$65,000.
- DeLuca, T.H. and M.J. Gundale. 2006. Use of byproduct gypsum as an agricultural soil amendment. USDA-NRCS \$40,000.
- DeLuca, T.H. and M.J. Gundale. 2005. Does N and P availability explain cheatgrass (*Bromus tectorum*) invasion under ponderosa pine (*Pinus ponderosa*) crowns following fire? USDA-FS RJVA -- \$20,000.
- DeLuca, T.H. and M.D. MacKenzie. 2004. Nitrogen fixation in ponderosa pine ecosystems of western Montana. USDA-McIntire Stennis. \$47,500.
- DeLuca, T.H. and O. Zackrisson. 2003. Plant succession and nitrogen fixation in boreal forests of Sweden. Formas (Sweden). \$185,000.
- DeLuca, T.H. and W.E. Holben. 2003. Soil Charcoal and Nitrogen Cycling in *Pinus ponderosa* Ecosystems of Western Montana. NSF-Ecosystems. \$450,000.
- DeLuca, T.H. 2002. A portable gas chromatograph for analysis of N fixation and soil respiration in ecosystem studies in the Inland Northwest. USDA-NRI. \$18,600.
- DeLuca, T.H. 2002. The Role of Charcoal in Litter Decomposition and Nutrient Dynamics in *Pinus ponderosa* Ecosystems of Western Montana. USDA-McIntire-Stennis. \$33,698.
- Woods S. and T.H. DeLuca. 2002. Acquisition of a rainfall simulator for runoff and erosion studies in the Northern Rocky Mountain region. USDA-NRI. \$17,670.
- Sala, A. and T.H. DeLuca. 2002. Fire suppression in ponderosa pine ecosystems causes shifts in soil resource partitioning. USDA-NRI \$260,989
- DeLuca, D.K. and T.H. DeLuca. 2002. Feasibility for treating Missoula wastewater with hybrid poplars. City of Missoula, \$9,750.
- Meikle, T., T.H. DeLuca, R.K. Dumrose, and O. Seastone-Moynahan. 2002-2003. Alternative growth medium product to promote VAM colonization. USDA-SBIR. \$80,000.
- Woods, S. and T.H. DeLuca. 2001. The effectiveness of burn area emergency rehabilitation (baer) techniques in reducing post-fire soil erosion in the Sula state forest, Montana. USGS-Water Center \$19,204.
- DeLuca, T.H. 2001. Assessment of soil salinization in historic salt lick sites in the Teton Wilderness Area. USFS-Challenge Cost Share Agreement \$22,000.
- Fiedler, C, T.H. DeLuca, L.S. Mills, and D. Six. 1999 - 2003. Fire/Fire surrogates study: Lubrecht Experimental Forest, Montana. Joint Fire Sciences Program. \$435,000.
- DeLuca, T.H. and A. Sala. 1999. Replacement of fire maintained ponderosa pine by Douglas-fir: the consequences for water and nitrogen resources and forest productivity. USDA-McIntire-Stennis: \$65,000.
- Zabinski, C.A. and T.H. DeLuca. 1998. Assessment of microbial recovery in an alpine campground restoration study site. USFS Cooperative Joint Venture Agreement. \$4,500
- DeLuca, T.H. and J. Newland. 1998. Comparison for nitrogen fixing vegetation in fire exposed and fire excluded ponderosa pine/Douglas-fir forests. Cooperative Research Joint Venture Agreement, U.S. Forest Service, Fire Sciences Laboratory \$2,386.

- DeLuca, T.H. and D.J. Bedunah. 1998. Influence of mine reclamation amendments on metal mobility and water pollution potential. USGS-Water Center. \$35,590.
- DeLuca, T.H. and P. F. Kolb. 1998. Decomposition of logging residues under alternative management systems. USDA-McIntire-Stennis \$65,590
- DeLuca, T.H. and I.V. Yevdokimov. 1998. Diffusion of plant rhizosphere carbon and sorption to non-ionic carbonaceous resins: Kinetics and fate. National Research Council COBASE Program: \$14,000.
- DeLuca, T.H. 1997. Occurrence and significance of native nitrogen fixing species on fire exposed sites in Western Montana. University of Montana Grants Program. \$2,200.
- DeLuca, T.H. and D. E. Kiely. 1997. Analysis of rhizosphere carbon of native and invasive plant species. USDA-NRI, Equipment Grants, \$15,000.
- Ohara, K.L., T.H. DeLuca, K.S. Milner, and P.B. Alaback. 1996. Comparative function and productivity of even and uneven-aged ponderosa pine structures. USDA-NRI. \$97,278.
- DeLuca, T.H. and U. Choromanska. 1996. Influence of Fire Exclusion and Carbon Removal on Soil Nutrient Cycling in Second Growth Ponderosa Pine/Douglas Fir Forests. Cooperative Research Joint Venture Agreement, U.S. Forest Service, Forest Sciences Laboratory. \$25,000.
- DeLuca, T.H. 1995. In-situ extraction of rhizosphere sugars using carbonaceous resins. MONTS-EPSCORE. \$32,000.
- DeLuca, T.H. and U. Choromanska. 1995. Influence of fire suppression on nutrient cycling in second growth ponderosa pine-Douglas fir forests of Montana. NSF/EPSCOR. \$18,000.
- Gannon, J.E., J. Moore, T. DeLuca, G. Smith, V. Watson, B. Woessner, C. Zabinski, and D. DeBoerde. 1994. Central biogeochemical analytic lab. Murdock Foundation. \$437,500.
- DeLuca, T.H., W.A. Freimund, and B. Patterson. 1994. Erosional impact of llamas, horses, and foot traffic on hiking trails of Western Montana. USFS Cooperative Agreement. \$25,000.
- DeLuca, T.H., C. Fiedler, and E.O. Skogley. 1994. Influence of selection cutting and underburning on soil organic matter quality and nitrogen availability in uneven age ponderosa pine stands. McIntyre-Stennis Program. \$41,902.
- DeLuca, T.H. and V. Watson. 1994. Use of compost in the reclamation of an abandoned mine site in the Upper Blackfoot River Basin. Mont. Trout Found. \$3,000.
- DeLuca, T.H. 1994. Relationship of soluble sugars to microbial activity in forest and range soils. University Grants Program. \$2,058.
- DeLuca, T.H. 1994. Slippery Rock compost facility. Pennsylvania DER Act 198 Program. \$152,000.
- DeLuca, T.H. and L.E. Drinkwater 1993. Occurrence and productivity of free-living and associative nitrogen fixing bacteria in cropping systems of Pennsylvania. SSHE Professional Development Council. \$4,240.

HONORS AND SOCIETIES

- 1993 Iowa State University Research Excellence Award
- 1996 Professor of the Year, The University of Montana School of Forestry Graduate Students.
- 1998 Nominee for USDA Teacher of the Year

2002 S-7 Oral Presentation Award, Soil Science Society of America, Indianapolis
2004 Student Affairs Honoree for Outstanding Advising. The University of Montana
2005 Student Affairs Honoree for Outstanding Advising. The University of Montana
2005 S- 7 Oral Presentation Award, Soil Science Society of America, Salt Lake City
Sigma Xi, 1992 - present.
Gamma Sigma Delta, 1992 – present.
Soil Science Society of America, 1985 - present.
American Society of Agronomy, 1985 - present.
Soil and Water Conservation Society, 1993 - 2002.
Society of American Foresters, 1996 – present
American Water Resources Association, 1996.
American Association for the Advancement of Science, 1993 - present
American Association for the Advancement of Science Electorate Committee 2003 - 2007
University Council on Water Resources, Montana Delegate, 1996 - 2009.
Ecological Society of America, 2001 – Present.
Union of Concerned Scientists 2006 – 2010.
British Ecological Society 2010 – present.
Who's Who in America
Who's Who in Science and Engineering
Who's Who in the Midwest
Who's Who in the West
Who's Who in the World
Who's Who Among America's Teachers
International Biography
Wenk Lecture 2015 – University of Washington, Civil Engineering
PIFI Fellow Chinese Academy of Sciences, Chengdu, China
Wilde Lecture 2020 – Soil Science Society of America
Chemists Without Borders 2018 - Present

STUDENT MS THESES AND PhD DISSERTATIONS CHAIRED

Patterson, W.A. IV. 1996. Influence of llamas, horses and foot traffic on soil erosion from established recreation trails in western Montana. MS Thesis Resources Conservation.
Zlatnick, W. J. 1997. Site productivity and soil conditions on terraced ponderosa pine stands on the Bitterroot National Forest. MS Thesis Resources Conservation.
Hodge, R. J. 1997. Where have all the suckers gone: A comparative study of aspen treatments on the Deerlodge National Forest. MS Thesis Forestry.
Bradley, K.R. 1997. An evaluation of two techniques for the utilization of logging residues: Organic mulch in abandoned road re-vegetation and accelerated decomposition in small chipped piles. MS Thesis Resources Conservation.
Zouhar, K.L. 1997. Effects of Selection Harvest and Prescribed Burning on Nitrogen Availability in the Mineral Soil Under Ponderosa Pine. MS Thesis Resources Conservation.

- Morse, C.C. 1998. In-situ extraction of rhizosphere carbon from native and invasive plant species. MS Thesis, Forestry.
- Knudsen, J.A. 1998. Use of Basin wild rye as a phytoremediation tool for arsenic contaminated soils. MS Thesis Resources Conservation.
- Newland, J. 1998. Occurrence and abundance of native nitrogen fixing plants in fire exposed ponderosa pine Douglas-fir forests in Western Montana. MS Thesis, Forestry
- Chormanska, U. 2000. The effects of wildfire and prescribed fire on soil C and N dynamics in ponderosa pine forests. Ph.D. Forestry.**
- Hickenbottom, J.A.S. 2000. Comparative analysis of surface erosion and water runoff from existing and reconouted Forest Service Roads: O'Brien Creek Watershed Lolo National Forest, Montana, USA. MS Forestry.
- Archer, V. 2002. Does knapweed access greater phosphorus than lupine in a phosphorus deficient soil? M.S. Forestry
- Walters, D. 2002. Influence of historic salt lick use on soil and vegetation in the Teton Wilderness Area. M.S. Resources Conservation.
- Snyder, C. 2003. Effects of vegetation cover, mowing, and soil temperature on development and survival of two root-feeding biological control insects of spotted knapweed. M.S. Forestry.
- MacKenzie, M.D. 2004. Fire exclusion, forest dynamics, and nitrogen cycling in low elevation forests of western Montana. Ph.D. Forestry.**
- Berglund, L. 2004. Disturbance, nutrient availability, and plant growth in phenol rich plant communities. Ph.D. Ecology, SLU.**
- Kurth, V.J. 2004. Charcoal in ponderosa pine ecosystems of western Montana: decomposition, mineralization, and quantification. MS Forestry.
- Gundale, M.J. 2005. Nitrogen cycling and spatial heterogeneity following fire and restoration treatments in the ponderosa pine/douglas-fir ecosystem. Ph.D. Forestry.**
- Brimmer, R.J. 2006. Charcoal quantity and adsorptive activity in ponderosa pine ecosystems of western Montana. MS Forestry. The University of Montana.
- Burgoyne, T. 2007. Nitrogen fixation in ponderosa pine forests of western Montana. MS Forestry. The University of Montana, Missoula
- Bisbing, S.M. 2008. Carbon dynamics of old-growth and managed fire-dependent forests in the Northern Rockies. MS Forestry. The University of Montana.
- Natalie Meyer. 2009. Characterization and restoration of slash pile burn scars in western Montana. MS Land Restoration. Montana State University. (co-advise with Cathy Zabinski)
- Jason Leppi. 2010. Regional implications of climate change: Summer stream discharge trends in the Northern Rockies. MS Forestry. The University of Montana.
- Sally Rangelcroft. 2010. Biochar: Greenhouse gas sink or environmental toxin? MRes, Bangor University
- Sanatan Das Gupta. 2010. Carbon storage and loss in recently-harvested coniferous plantations in North Wales, MSc, Bangor University
- Sisay Zewdie. 2010. Soil organic carbon content under bracken, grass or *Calluna* heath cover in uplands of North Wales. MSc, Bangor University

- Andrea Goepfrich. 2010 Analysing fire damage in the coarse roots of *Pinus sylvestris* in northern Sweden. MSc, Bangor University
- Muzaffar Hussain. 2011. Use of Yasso 07 to estimate soil carbon storage in Danish soils. MSc, Bangor University.
- Chukwudi Amadi. 2011. Influence of bracken fern on phosphorus availability in heathland soils. MSc, Bangor University.
- Abdou Jobe. 2011. MSc. Free living nitrogen fixation on successional dunes of Newborough Warren. Bangor University.
- Matthew Harris. MRes. 2012. Evaluation of phosphorus limitation in an increasingly nitrogen rich world. Bangor University.
- Kathrin Ackermann Rousk. PhD. 2013. Nitrogen cycling in boreal forest ecosystems. Bangor University.**
- Lorena Larrion. MRes. 2013. Unravelling the mystery of Morfa soils and suppression of late blight of potatoes. Bangor University.
- Rachel Roberts. MS. 2016. Establishing and understanding psychographic characteristics related to global sustainability. (Co-advise with Denise Wilson, EE). University of Washington.
- Si Gao. MS. 2016. Locally produced wood biochar increases nutrient retention in agricultural soils of the San Juan Islands, WA, USA (University of Washington).
- Melissa Pingree. 2017. PhD. Charcoal accumulation and function in fire maintained forests of the Olympic National Park (University of Washington).**
- Amanda Bidwell, MS. 2017. Influence of transportation pollutants on epiphytic mosses of the Pacific Northwest. (University of Washington).
- Dan Pendergraph, MS. 2019. An Assessment of Fecal Water Contamination in the Absaroka Beartooth Wilderness. University of Montana. (co-advise with Alex Metcalf)
- Si Gao, PhD 2020. Influence of locally produced wood biochar on soil nitrogen and phosphorus dynamics in the northwestern US. (University of Montana).**

COMMITTEES AND BOARDS

- Associate Editor, Alternator, Slippery Rock University, 1993 - 1994.
- Committee of the Whole. Slippery Rock University, 1993 - 1994.
- College of Health and Human Services Tech Committee, Slippery Rock University 1993 - 1994.
- School of Forestry Graduate Committee, University of Montana, 1995-1998 (Chair 97/98)
- University Court, University of Montana, 1995-97 (Chair in 1997)
- Faculty Advisor, University of Montana Competitive Cycling Team, 1995-1999.
- Faculty Advisor, ASUM Student Garden Club, University of Montana, 1995-2000.
- Bolle Center Director Search Committee, School of Forestry, 1995/96.
- Forest Economics Search Committee, School of Forestry, 1996
- Integrated Forest Planning Search Committee, School of Forestry, 1996.
- Mount Sentinel IPM Committee 1998 – 2000.
- Faculty Advisor, 1997 and 1998 Forester's Ball.
- Integrated Forest Entomology/Pathology Search Committee (1996/97).
- National Undergraduate Research Conference Steering Committee. 1997 - 2000
- Board of Directors, Program in Ecological Agriculture and Sustainability, 1996-2000.

School of Forestry Silviculture Search Committee 1998-1999 (Chair)
School of Forestry Student Evaluation Committee Advisor, 1999.
University of Montana, Rhodes Scholarship Committee, 1999.
School of Forestry Research Committee, 1999 - 2000.
Board of Directors, Wild Rockies Field Institute, 2001 - 2006.
College of Forestry Graduate Committee, University of Montana, 2004 -2006(Chair 05/06)
Council of Soil Science Examiners, SSSA, 2002 – 2005.
University of Montana Faculty Senate, 2003 – 2005
University of Montana Campus Sustainability Council, 2003 – 2006.
American Association for the Advancement of Science, Electorate Committee 2003 – 2008
The Wilderness Society, Climate Planning Team 2008 - 2009
The Wilderness Society, Fire Team 2006 – 2009
Research Committee, SENRGy Bangor University 2009 - 2012
Theme Leader for Pontio Innovation, Bangor University 2010 – 2012 (paid position)
Program Development Group: Centre for Ecology and Hydrology. 2010 – 2012
Research Evaluation Framework Coordinator. SENRGy, Bangor University. 2011 - 2012
Chair of Forestry Group, SENRGy, Bangor University. 2011 – 2012
Executive Committee, SENRGy, Bangor University. 2011- 2012
Doris Duke Scholars Steering Committee 2013 – 2015
SEFS Planning Committee, 2012 – 2017
Washington State Board of Natural Resources, Deputy Chair, 2012 – 2017
University of Washington Farm Steering Committee, 2013 - 2017
Urban@UW committee member 2015 - 2017
Academic Prioritization Administrative Services Prioritization Task Force University of Montana
2017 – 2018 (criteria subcommittee chair)
iLEAD Advisory Council, University of Montana. 2017 – 2020.
Membership Growth & Retention Task Force Soil Science Society of America 2017 – 2019
University Planning Committee, University of Montana. 2018 – 2020
Sustainable Campus Committee, University of Montana. 2018 – 2020
Ecosystem Management Research Institute Advisory Board. 2018 – 2020.
University of Montana Budget Committee, 2018 – 2020.
Chair, Davidson Honors College Dean Search Committee. 2019.
Chair, Montana State Arboretum Committee 2019 – 2020
Governor Appointed Montana Forest Action Council and Advisory Board, 2019 – 2020
Chair, Search Committee for the Executive Director of the Maureen and Mike Mansfield Center
2019
Co-facilitator UM Environment and Sustainability Community of Excellence 2018 - 2020
Director Cooperative Ecosystem Studies Unit – Rocky Mountain Region 2017 - 2020
UM Academic Officers Council 2017 – 2020
Oregon State University Council of Deans 2020 – present
World Forestry Center Board of Directors 2020 – present
Oregon Forest Resources Institute Advisory Board, ex officio member, 2020 – present

COURSES TAUGHT

- FORS 595 Graduate Seminar 2017 – present. University of Montana
- SEFS 529/550, SEFS Graduate Seminar (all quarters) 2013 – 2016. University of Washington.
- ESRM 409, Soil Ecology. 2014. Advanced undergraduate course addressing the complexity and function of soil organisms and their relationships. University of Washington.
- DXX 3212, Forest Ecosystems. 2010 - 2012. Bangor University. Advanced class in forest ecosystem ecology, impacts of disturbance and climate change and the role of diversity and forest structure and function in dictating resilience (20 credits).
- DXX 2002, Water, Air, and Soil Pollution. 2011. Bangor University. Overview of the long and short term impacts of anthropogenic pollutants on the air, water, soil continuum (20 credits).
- DXX 3305, Tenerife Field Course 2009-2011. One week field course on landscape ecology, soil morphology and genesis, land degradation, and forest ecology (10 credits).
- **Forestry 210, Introductory Soils** (Taught Fall Semesters 1994 – 2006, and Spring semesters 1998 - current, about 200 student each year). An assessment of the chemical, physical, biological, and morphological properties of soils as they relate to environmental sustainability. Three credits 2 hrs lecture and 3 hrs of lab per week (5 – 6 laboratory sections in fall and 2 laboratory sections in the spring).
- **Forestry 232, Forest Insects and Disease**, Identification, significance, of and remedies for insect infestations and infections and non-infectious diseases of forests and forest products (Team taught, Spring 1996). Two credits.
- **Forestry 310, Soil Physics** (Team Taught Spring 1996). The physical and mechanical properties of soils with special emphasis on the role of water in influencing those properties. 2 hr lecture and 3 hrs lab per week. Three credits.
- **Forestry 410, Soil Morphology, Genesis and Classification**. The morphological characteristics of soils, how horizons formed and an introduction to the Soil Taxonomy classification system used in this country. (Taught Alternate Spring Semesters 1995 – 2005). Three credits
- **Forestry 415, Environmental Soil Science**. Soil disturbance, contamination, and restoration and their role in ecosystem sustainability (Taught 2003 - 2006). Three credits.
- **Forestry 501, Research Methods** The nature of biophysical and social science research, planning research projects, experimental design, and grant writing (Team taught, Fall 1997, Fall 2001 and Fall 2004). Three credits.
- **Forestry 511, Soil Biochemistry** A critical assessment of soil chemical and biological processes as related to ecosystem and global biogeochemistry. Focus provided on soil organic matter dynamics, nutrient turnover, and environmental quality (Taught alternate spring semesters 1995 – 2006). Three credits.
- **Forestry 594, Special Topics in Biogeochemistry**. Critical assessment of current issues in soil biology and biochemistry (taught fall semester 1998 - 2006). One credit.
- **PREE 595, Soils as a Resource** (3 Cr., Fall 1993). An analysis of soils as a natural resource and pivotal component of living ecosystems.
- **PREE 601b, Analysis of Professional Literature** for MS3 (3 Cr., Fall 1993). Critical assessment of current literature in sustainability.

- **PREE 601a, Analysis of Professional Literature for Recreation Students** (3 Cr., Fall 1993)
- **PREE 601c, Analysis of Professional Literature for Correspondence** (3 Cr., Fall, 1993)
- **PREE 642, Agroecology** An analysis of organic and alternative agricultural systems as related to large and small scale agriculture (3 Cr., Spring 1994)
- **PREE 799, Research Methods for MS³** (3 Cr., Spring 1994) An analysis of scientific approach to research and evaluation of statistical tools used in the analysis of data.

MANUSCRIPT REVIEWS

Editorial Duties

Associate Editor, *Pedobiologia*, 2010 – present

Submission Editor, *Journal of Soils and Sediments* 2010 – 2014

Associate Editor- *Frontiers in Quaternary Sciences* 2014 – present

Associate Editor – *Nitrogen*. 2018 - present

One or More Reviews for the Following Journals

Journal of Environmental Quality

Journal of the American Water Resources Association

Advances in Environmental Research

Soil Science Society America Journal

Introductory Soil Science Text, Saunders University Press

Journal of the American Water Resources Association

European Journal of Soil Biology

Soil Biology and Biochemistry

Forest Ecology and Management

Canadian Journal of Forest Research

Journal of Range Ecology and Management

International Journal of Wildland Fire

Australian Journal of Soil Research

Annals of Forest Science

Ecology

Ecological Applications

Environmental Management

Agronomy Journal

Geoderma

Restoration Ecology

Western Journal of Applied Forestry

Pedobiologia

Ecosystems

Journal of Ecology

Science of the Total Environment

Global Change Biology

Oecologia

Oikos

Journal of Soils and Sediments
Ecosystems
Chemosphere
Nature
Environmental Science and Technology
New Zealand Journal of Ecology
Ecosphere (*ad hoc* subject-matter editor)
Science
Science Reports (NPG)
Science of the Total Environment
Ecology Letters
Frontiers in Earth Sciences
Nature Geosciences

ABSTRACTS, PROCEEDINGS AND PRESENTATIONS

- DeLuca, T.H. and E.O. Skogley. 1986. Banding of inoculated elemental sulfur to increase the phytoavailability of phosphorus. 78th Ann. Meet. ASA, New Orleans. Agron. Abst. p. 197.
- DeLuca, T.H. and H.D. Shew. 1988. Inhibition of growth and reproduction of *Phytophthora parasitica* var. *nicotianae* by aluminum. Annual Meetings of the American Phytopathological Society. San Diego, CA. Phytopath. 78:1576.
- Swan, J.B. and T.H. DeLuca. 1991. Using N-LEAP for crop production in Iowa. Annual Conference of the Leopold Center for Sustainable Agriculture. L.C. Conf. Proc. p. 96.
- DeLuca, T.H., D.R. Keeney, and G.W. McCarty. 1991. Effect of freeze-thaw events on mineralization of soil N and release of soluble carbon. 83rd Annual Meeting of the ASA. Agron. Absts. p. 262.
- DeLuca, T.H. and D.R. Keeney. 1992. Soluble organics and available nitrogen in paired prairie and cultivated soils in central Iowa. Annual Conference of the Leopold Center for Sustainable Agriculture. L.C. Conf. Proc. p. 80.
- DeLuca, T.H. and D.R. Keeney. 1992. Soluble C and N in prairie and cultivated soils. 1992 Annual Meetings of the Iowa Academy of Sciences.
- DeLuca, T.H. and D.R. Keeney. 1992. Soluble organics and extractable N in prairie and cultivated soils. 13th North American Prairie Conference. Windsor Ontario.
- DeLuca, T.H. and D.R. Keeney. 1992. Seasonal changes in soluble organics and microbial biomass in paired prairie and cultivated soils. 84th Annual Meeting of the ASA. Agron. Absts. p. 253.
- DeLuca, T.H. and D.R. Keeney. 1992. Soluble antrone reactive carbon (ARC) as affected by plant residue additions to soil. 84th Annual Meeting of the ASA. Agron. Absts. p. 261.
- Keeney, D.R. and T.H. DeLuca. 1992. Agricultural contribution of nitrate to the Des Moines River: 1945 vs 1980s. Proc. Crop Prod. Prot. Conf. Iowa State Univ. Ames, IA. pp. 109-120.
- Keeney, D.R. and T.H. DeLuca. 1993. Agricultural contribution of nitrate to the Des Moines River: 1945 vs 1980s. Proc. Agricultural Research to Protect Water Quality Mnpls., MN pp 328-332.

- DeLuca, T.H., R.S. Pirog, and D.R. Keeney. 1993. Leopold Center for Sustainable Agriculture: A systems approach to agricultural conservation. The Next Generation of Agricultural Conservation Policy. Kansas City, MO.
- DeLuca, T.H. 1993. Integrated nitrogen management for crop production in the Midwest. Illinois Sustainable Agriculture Association Conference, Bloomington, IL. (Invited Presentation).
- DeLuca, T.H. 1993. The Leopold Center and Practical Farmers of Iowa: A unique complement for sustainable agriculture (Invited Presentation). North Central Sustainable Agriculture Workshop. Ohio State University, Columbus, OH.
- DeLuca, T.H. 1993. Paired prairie and cultivated soils: Soluble organics and nitrogen dynamics (Invited Lecture). Rodale Research Institute, Kutztown, PA.
- DeLuca, T.H. and D.R. Keeney. 1993. Nitrate assimilation in prairie and cultivated soils. 85th Annual meeting of the ASA, Cincinnati, OH. Agron. Absts. p 245.
- DeLuca, T.H. 1994. Paired prairie and cultivated soils: Soluble organics and nitrogen dynamics (Invited Lecture). Institute for Soil Science and Photosynthesis, Pushchino, Russia.
- DeLuca, T.H., L.R. Drinkwater, and B.A. Wiefeling. 1994. Occurrence and activity of free-living N fixing bacteria in cropping systems of Pennsylvania. 86th Annual meeting of the ASA, Seattle, WA. Agron Absts. p.285.
- DeLuca, D.K. and T.H. DeLuca. 1996. Composting beef feedlot manure: A sustainable element in an industrialized agriculture. CPR Symp. Montana Acad. Sci. Missoula, MT.
- Zouhar, K.L. and T.H. DeLuca. 1996. Effects of selection cutting and prescribed burning on soil nitrogen in ponderosa pine forests. CPR Symp. Montana Acad. Sci. Missoula, MT.
- DeLuca, T.H. and E.L. Lynch. 1996. Treatment of mine tailings to reduce metal mobility and encourage restoration of a mountain stream. CPR Symp. Montana Acad. Sci. Missoula, MT.
- DeLuca, T.H. and E.L. Lynch. 1996. Treatment of mine tailings to reduce metal mobility and encourage restoration of a mountain stream in Montana. pp 499-508 In: Watershed restoration management: physical, chemical, and biological considerations. J.J. McDonnell, J.B. Stribling, L.R. Neville, and D.J. Leopold (eds). Am Water Res. Assn. Herndon, VA.
- DeLuca, T.H. 1996. Soluble sugars as an index of bioavailable carbon in forest soils. 88th Annual meeting of the ASA, Indianapolis, IN. Agron Absts. p.236.
- Patterson, W.A., T.H. DeLuca, W.A. Friemund, and D.N. Cole. 1996. Influence of llama, horse, and hiker traffic on soil erosion from established recreation trails in western Montana. 88th Annual meeting of the ASA, Indianapolis, IN. Agron Absts. p.292.
- Zouhar, K.L. and T.H. DeLuca, 1996. Effects of single tree section cutting and underburning on mineral soil nitrogen in ponderosa pine/Douglas fir stands. 88th Annual meeting of the ASA, Indianapolis, IN. Agron Absts. p.308.
- Choromanska, U. and T.H. DeLuca. 1996. Influence of fire exclusion, and carbon removal on soil nutrient cycling in second growth ponderosa pine forests. 88th Annual meeting of the ASA, Indianapolis, IN. Agron Absts. p.304.
- Morse, C.C. and T.H. DeLuca. 1997. In-situ extraction of rhizosphere carbon from native and invasive plant communities. Annual meetings of the Ecological Society of America, Albuquerque, NM

- DeLuca, T.H. 1997. Influence of selection cutting and underburning on nitrogen availability in ponderosa pine stands. Seminar Series Presentation, Division of Biological Sciences, University of Montana
- Choromanska, U., and T. H. DeLuca. **1997 (Nov)**. Immediate effects of soil heating under different moisture regimes on carbon and nitrogen dynamics in forest soils. Annual meetings of the ASA. Anaheim, CA. Agron. Absts. p. 287.
- Morse, C.C. and T.H. DeLuca. **1997 (Nov)**. In-situ extraction of rhizosphere carbon from native and invasive plant communities. Annual meetings of the ASA. Anaheim, CA. Agron. Absts. p. 209.
- DeLuca, T.H. and K.L. Zouhar. **1998**. Effect of selection cutting and prescribed fire on N dynamics in ponderosa pine forests. Ninth North American Forest Soils Conference, Lake Tahoe, CA
- Choromanska, U. and T.H. DeLuca. **1998**. Effects of wildfire with and without previous prescribed burning on N availability in ponderosa pine forests. Ninth North American Forest Soils Conference, Lake Tahoe, CA
- DeLuca, T.H. and K.L. Zouhar. 1998. Effect of selection cutting and prescribed fire on N dynamics in ponderosa pine forests. Bitterroot Ecosystem Management Conference, Missoula, MT.
- DeLuca, T.H. 1999. Soil science at the University of Montana. Reunion of Soil Scientists, Montana State University, Bozeman, MT.
- Newland, J. and T.H. DeLuca. 1999. Occurrence and abundance of native nitrogen fixing plants in fire exposed ponderosa pine Douglas-fir forests in Western Montana. Bitterroot Ecosystem Management Conference, Missoula, MT.
- Choromanska, U. and T.H. DeLuca. 1999. Effects of wildfire with and without previous prescribed burning on N availability in ponderosa pine forests. Bitterroot Ecosystem Management Conference, Missoula, MT.
- DeLuca, T.H., C.A. Zabinski, and D.C. Cole. 1999. Impact and restoration of subalpine campsites in the Eagle Cap Wilderness. Ecological Society of America, Spokane, WA.
- DeLuca, T.H. and U. Choromanska. 1999. Does fire suppression parallel nitrogen saturation? Annual meetings of the ASA. Salt Lake City, UT. Agron. Absts. p. 305.
- Choromanska, U. and T.H. DeLuca. 1999. The effects of harvest and prescribed fire on soil nitrogen dynamics in ponderosa pine forests. Annual meetings of the ASA. Salt Lake City, UT. Agron. Absts. p. 309.
- Newland, J. and T.H. DeLuca. 1999. Nitrogen fixing plants in fire exposed ponderosa pine forests of Western Montana. Annual meetings of the ASA. Salt Lake City, UT. Agron. Absts. p. 296.
- Vitateau, A. and T.H. DeLuca. 1999. Influence of mine reclamation amendments on metal mobility and water pollution potential. Annual meetings of the ASA. Salt Lake City, UT. Agron. Absts. p. 304.
- VanderMeer, M, and T.H. DeLuca. 1999. Ecological influences of logging residues under alternative management systems. Annual meetings of the ASA. Salt Lake City, UT. Agron. Absts. p. 304.

- DeLuca, T. H. 2000. Soil nitrogen in fire excluded and exposed ponderosa pine stands of western Montana. Invited presentation to the Jones Ecological Research Center. Ichuaway, GA.
- DeLuca, T. 2000. The biological basis for soil building. Organic Certification Association of Montana, Hot Springs, MT.
- DeLuca, T.H. 2000. Fire intervals and soil nitrogen dynamics. In ponderosa pine ecosystems. International Symposium on Managing forest soils for sustainable productivity. Vila Real, Portugal. Abst. P. 129.
- DeLuca, T.H., M-C. Nilsson, and O. Zackrisson. 2001. Nitrogen mineralization and phenol accumulation along a fire chronosequence in northern Sweden. Annual Meetings of the ESA, Madison, WI. ESA Abst P. 79-80.
- MacKenzie, D.M., T.H. DeLuca, and A. Sala. 2001. Influence of fire exclusion on stand structure and nitrogen cycling in ponderosa pine/Douglas-fir forests of Western Montana. Annual Meetings of the ESA, Madison, WI. ESA Abst P. 313.
- Vitateau, A. and T.H. DeLuca. 2001. Influence of organic mine reclamation amendments on metal mobility and water pollution potential. Annual Meeting of the Montana AWRA, Missoula, MT.
- DeLuca, T.H., M-C. Nilsson, and O. Zackrisson. 2002. Fire, N mineralization, and charcoal in boreal forests of Northern Sweden. Annual meetings of the ASA. Indianapolis, IN.
- MacKenzie, D.M., T.H. DeLuca, and A. Sala. 2002. Nitrogen dynamics along a fire chronosequence in ponderosa pine/Douglas-fir forests of Western Montana. Annual Meetings of the ASA, Indianapolis, IN.
- Gundale, M.J. and T.H. DeLuca. 2002. Fire surrogates in a western Montana ponderosa pine forest: Influence on spatial variability of nitrogen and vegetation diversity. Annual Meetings of the ASA, Indianapolis, IN.
- Zabowski, D., D.W. Johnson D. Neary, and T. DeLuca. 2002. The role of fire in western forests. Annual Meetings of the ASA, Indianapolis, IN. **(Invited)**
- DeLuca, T.H. 2003. Nitrogen cycling in boreal forests of Northern Sweden. Biogeochemistry-Biocomplexity Program, Cornell University **(Invited)**
- DeLuca, T.H. 2003. Fire, legumes and nitrogen cycling in ponderosa pine forests. Montana Native Plant Society, Spring Seminar, Missoula, MT.
- Hart, S.C. and T.H. DeLuca. 2003. Direct and indirect effects of fire on microbial community structure and function in forest soils. 14th North American Forest Soils Conference, Sault St. Marie.
- MacKenzie, D.M., T.H. DeLuca, and A. Sala. 2003. Nitrogen mineralization, diversity, and succession along a fire chronosequence in Western Montana. Annual meetings of the CSSS. Montreal.
- DeLuca, T.H. 2003. Nutrient cycling in ponderosa pine ecosystems. USDA-Fire Laboratory Seminar Series: **(Invited)**
- DeLuca, T.H., O. Zackrisson, M-C. Nilsson, and A. Sellstedt. 2003. Nitrogen fixation in feather moss carpet of Northern Sweden. Annual meetings of the ASA. Denver, CO.
- MacKenzie, D.M., T.H. DeLuca, and A. Sala. 2003. Nitrogen mineralization, diversity, and succession along a fire chronosequence in Western Montana. Annual meetings of the ASA. Denver, CO.

- Kurth, V.J. and T.H. DeLuca. 2003. The role of charcoal in litter decomposition in *Pinus ponderosa* ecosystems of western Montana. Annual meetings of the ASA. Denver, CO.
- Gundale, M.J. and T.H. DeLuca. 2003. Spatial variability of nitrogen and vegetation as influenced by prescribed fire. Annual meetings of the ASA. Denver, CO.
- Gundale, M.J. and T.H. DeLuca. 2004. Nutrient availability as influenced fire and fire surrogate treatments in western Montana. Annual meetings of the ESA. Portland, OR.
- MacKenzie, D.M., T.H. DeLuca, and Gundale, M.J.. 2004. Charcoal influences nitrogen turnover in forest soils. Annual meetings of the ESA. Portland, OR.
- Kurth, V.J. and T.H. DeLuca. 2004. A method for the determination of charcoal in soil. Annual meetings of the ESA. Portland, OR.
- Brimmer, R. and T.H. DeLuca. 2004. Charcoal content and phenol sorption as influenced by fire history. Annual meetings of the ESA. Portland, OR.
- Sala, A. T.H. DeLuca, and E. Keeling. 2004. Fire history and vegetation patterns in wilderness areas of the Inland Northwest. Annual meetings of the ESA. Portland, OR.
- DeLuca, T.H. 2005. Role of fire and fire exclusion in forest nitrogen cycling. Annual Meetings of the Ecological Society of America, Montreal. **(invited)**
- Sala, A. E.A. Keeling, and T. H. DeLuca. 2005. Natural fire intervals and forest physiological forest function in ponderosa pine forests. Annual Meetings of the Ecological Society of America. Montreal.
- DeLuca, T.H., A. Sala, M.D. MacKenzie, P. Ball, W.E. Holben. 2005. Fire intervals and nitrification in ponderosa pine forests. Annual Meetings of the Soil Science Society of America, Salt Lake City, Utah.
- Brimmer, R. and T.H. DeLuca. 2005. DOC to DON Ratios in Ponderosa Pine-Douglas-Fir Forest Soils of Fire-Excluded and Frequently Burned Sites. Annual Meetings of the Soil Science Society of America, Salt Lake City, Utah.
- Burgoyne, T. and T.H. DeLuca. 2005. Nitrogen Fixation in *Pinus Ponderosa* Forest Soils of Western Montana. Annual Meetings of the Soil Science Society of America, Salt Lake City, Utah.
- McKinnon, J. and T.H. DeLuca. 2005. Soil Nutrient Stoichiometry as Influenced by Fire Return Intervals in Ponderosa Pine Forests. Annual Meetings of the Soil Science Society of America, Salt Lake City, Utah.
- DeLuca, T.H. and G.H. Aplet. 2007. Forest restoration, charcoal and carbon storage. Annual Meetings of the Ecological Society of America. San Jose.
- Meyer, N.J., C. Zabinski, and T.H. DeLuca. 2007. Characterization and restoration of slash pile burn scars in western Montana. Annual Meetings of the Ecological Society of America. San Jose.
- DeLuca, T.H. 2007. Forest restoration: Soil function portends sustained ecosystem health. International Forest Soils Symposium, Noosa Australia. **(Invited Keynote)**
- DeLuca, T.H. 2007. Ecological concerns of forest biomass based cellulosic ethanol production. Biofuels, carbon, and policy, Minneapolis MN. October, 2007 **(Invited)**
- DeLuca, T.H. 2007. Fire, succession and nitrogen fixation in boreal forest ecosystems. Seminar Biological Sciences, McGill University, Montreal. **(Invited)**
- DeLuca, T.H. 2008. Adapting to Climate Change: The Importance of Wilderness in an Uncertain World. Wilderness Seminar Series, The University of Montana, Missoula. **(Invited)**

- DeLuca, T.H., O. Zackrisson, and M.J. Gundale. 2008. Highway emissions reduce nitrogen fixation in northern Sweden. Annual Meetings of the Ecological Society of America. Milwaukee, WI
- Bisbing, S.M., T.H.DeLuca, and P. Alaback. 2008. Carbon storage in oldgrowth western larch forests of western Montana. Annual Meetings of the Ecological Society of America. Milwaukee, WI
- DeLuca, T.H. 2008. Climate change, fire, and forest health. Public Land Law Conference, Missoula MT. September 23, 2008. **(Invited)**
- DeLuca, T.H. 2008. Charcoal and nitrogen cycling in forest ecosystems. Symposium --Black Carbon in Soils and Sediments. Joint Annual Meetings of the Soil Science Society of America and Geological Society of America. Houston, TX. **(Invited)**
- DeLuca, T.H. 2008. Adapting to Climate Change: The Importance of Wilderness in an Uncertain World. Invited Public Seminar: Sponsored by Friends of Scotch Peaks Wilderness, Sandpoint, ID. **(Invited)**
- DeLuca, T.H. and G.A. Aplet. 2008. Fire, charcoal, and carbon storage in forest ecosystems. Western Fire Ecology Conference, San Diego, CA **(Invited)**
- DeLuca, T.H. 2009. Charcoal as a legacy of fire in forest ecosystems. Graduate Research Conference Guest Speaker. University of Aberdeen. **(Invited)**
- DeLuca, T.H. 2010. Fire, succession, and nitrogen fixation in Swedish boreal forests. Lancaster University Invited Seminar Series. **(Invited)**
- DeLuca, T.H. 2010. Fire, succession, and nitrogen fixation in Swedish boreal forests. CEH Seminar Series. Edinburgh. **(Invited)**
- DeLuca, T.H. 2011. Fire, charcoal and N transformation in coniferous forest ecosystems. Swansea University Geography Seminar Series. **(Invited)**
- DeLuca, T.H., D.L. Jones, G.E. Jones, and D. Murphy. 2011. Biochar research at Bangor University. UK Biochar 2011. Edinburgh May 25 – 26. **(Invited)**
- DeLuca, T.H. 2011. Nitrogen fixation explain historic productivity in alluvial meadows of northern Sweden. Keynote, Plant-Soil Interaction Workshop. Lancaster University. **(Invited)**
- DeLuca, T.H. 2012. Nitrogen fixation in upland and alluvial boreal ecosystems. Climate Change Seminar Series, Geosciences, Edinburgh University 8 February, 2012. **(Invited)**
- DeLuca, T.H. 2012. Nitrogen fixation explain historic productivity in alluvial meadows of northern Sweden. Ecological Society of America. August 13, 2012.
- DeLuca, T.H. O. Zackrisson, I. Bergman, and G. Hörnberg. 2013. Historical land use and resource depletion in spruce-Cladina forests of Northern Sweden. 14th North American Forest Soils Conference. Whitefish Montana.
- DeLuca, T.H. 2013. Future of Forestry Education in the Pacific Northwest. Washington Forest Protection Association Annual Meeting **(Invited)**
- DeLuca, T.H. 2014. Fire, charcoal and nutrient cycling in forest soils. Oregon State University **(Invited seminar)**.
- DeLuca, T.H. O. Zackrisson, I. Bergman, B. Díez, and B. Bergman. 2014. Diazotrophy in alluvial meadows of Subarctic river systems. Joint Aquatic Sciences Meeting: Portland **(Invited talk and panel)**.

- DeLuca, T.H. 2014. Forest and Environmental Sciences and Sustainability: A Quest for sustainability in the 21st Century. **Wenk Lecture**, Civil and Environmental Engineering, University of Washington **(Invited)**
- DeLuca, T.H. 2014. Forestry and Forest Sciences in the 21st Century. Society of American Foresters State Meeting. St Martin's University, Lacey, WA. **(Invited)**
- Pingree, M. and T.H. DeLuca. 2014. Dissolved organic carbon adsorption by charcoal in fire-impacted watersheds of the Olympic Peninsula, Washington. SSSA Annual Meetings, Long Beach, CA.
- DeLuca, T.H. 2015. Charcoal as a legacy of fire. UC Santa Barbara **(Invited)**
- DeLuca, T.H. 2015. Managing soil carbon in temperate and boreal ecosystems: First, do no harm. Alberta Workshop on Soil Science. Edmonton Alberta. **(Invited Keynote)**
- DeLuca, T.H. 2015. Nutrient cycling in the boreal forest: An overview and new insights. Boreal N Gap Workshop, Bangor University, UK. **(Invited Keynote)**
- DeLuca, T.H. 2015. Laying the Foundation for Forestry, University of Washington. Annual Meetings of the American Forest Resource Council, Skamania Lodge, Stevenson, WA. **(Invited)**
- DeLuca, T.H. 2015. Forestry and Forest Sciences at the University of Washington. Society of American Foresters State Meeting. Chehalis, WA. **(Invited)**
- DeLuca, T.H. 2015. Panel Member Forterra Building for a Sustainable Future: Rural communities: Production of CLT/Mass Timber in WA **(Invited)**
- DeLuca, T.H. 2015. Boreal Ecosystem Nitrogen Cycling: A perspective of scales. International Symposium on Forest Soils, Fuzhou China, **(Invited Keynote Speaker)**.
- DeLuca, T.H. 2015. Panel Member, Plenary Session 3– Recreating Forestry Through Education. November 3- 5 SAF Annual Meeting Discussion **(Invited)**
- Pingree, M.R. 2015. Charcoal adsorption of organic C along a fire chronosequence, Olympic Peninsula, WA. Soil Science Society of America, Annual Meetings, Minneapolis, MN
- DeLuca, T.H. 2015. A biologically based method for assessing phosphorus across complex landscapes. Soil Science Society of America, Annual Meetings, Minneapolis, MN
- DeLuca, T.H. 2016. Biochar and agricultural soils. San Juan Agricultural Summit. Friday Harbor, WA **(Invited)**
- DeLuca, T.H. Cross laminated timber and forest health. Port of Port Angeles CLT Workshop **(Invited)**
- DeLuca, T.H. 2016. Fire, succession and nitrogen cycling in boreal forest ecosystems. Chinese Academy of Sciences, Chengdu, China. **(Invited)**
- DeLuca, T.H. 2016. A walk in the woods. State Society of American Foresters Meeting. La Connor, WA. **(Invited Keynote)**.
- DeLuca, T.H. 2016. Fire, succession and nitrogen cycling in boreal forest ecosystems. University of Victoria, Forest Biology Seminar **(Invited)**
- DeLuca, T.H. 2017. Future of forestry and forest sciences at the University of Montana. SAF Missoula Chapter. **(Invited)**.
- DeLuca, T.H. 2017. A Building for the WA Franke College of Forestry and Conservation: Showcasing Sustainable Forestry and Green Building. Montana Wood Building Rising. Columbia Falls, MT **(Invited)**.

- DeLuca, T.H. 2017. Boreal Ecosystem Nitrogen Cycling: A perspective of scales. LRES Graduate Seminar. Montana State University, Bozeman. **(Invited)**
- DeLuca, T.H. 2018. Fire and nutrient cycling in fire maintained forest ecosystems. Northern Region Post-Fire Soil, Water Fish Meeting. Missoula. **(Invited)**
- DeLuca, T.H. 2018. Fire as a Dynamic Driver of Nitrogen Cycling in Forest Soils. North American Forest Soils Conference. Quebec City, Quebec **(invited Keynote)**.
- DeLuca, T.H. 2018. Panel member. Wood products and higher education. NW Wood Products Association Meeting. Portland Oregon
- DeLuca, T.H. 2018. Panel Member. Missoula Chamber of Commerce, Timber Tour. Missoula, MT.
- DeLuca, T.H. 2019. Fire, soils and forest management: Fact and Fiction. USFS Region 1 Soils and Silviculture Workshop. Missoula, MT (Invited)
- DeLuca, T.H. 2019. University of Montana Franke College of Forestry and Conservation Updates. Montana SAF Annual Meeting. Butte, MT (Invited)
- DeLuca, T.H. and S. Gao. 2019. Connections to natural soil carbon: Can prescribed fire help restore charcoal to forest soils? Forest Biomass and the Bioeconomy, Vancouver, WA **(Invited)**.
- DeLuca, T.H. 2019. Organized CLTree Mass Timber Workshop, Missoula, MT. Half day mass timber workshop (SAF approved CE credits) and ribbon cutting for CLTree. Missoula, MT
- DeLuca, T.H. 2019. Mass timber and UM. Montana Wood Products Association Annual Meeting, Missoula, MT (Invited)
- DeLuca, T.H. 2019. Welcome address. North American Forest Council (UN, USA, Mexico, Canada, and FAO Forestry Leadership Meeting), Missoula, MT. (Invited)
- DeLuca, T.H. 2019. Charcoal as a legacy of wildfire in the Rocky Mountain West. Department of Geography Colloquium (Invited).
- DeLuca, T.H. 2020. Fire, Soils and Forest Health. Oregon Forest Health Conference, Corvallis OR. (Invited Keynote).
- DeLuca, T.H. 2020. Future of forestry at colleges and universities. Intermountain Roundwood Association Meeting, Missoula, MT. (Invited Keynote).
- DeLuca, T.H. 2020. Bandy Ranch. Biennial Conference on Undergraduate Education in Natural Resources. Missoula, MT (Invited).
- DeLuca, T.H. 2020. Fire, forest soils, and resilience in a changing climate. Cascadia Corridor: Wildfire and Urban Smoke Seminar Series. Virtual Portland State University (Invited)
- DeLuca, T.H. 2020. Wilde-Fire: Fire, forest soils, and resilience in a changing climate. Soil Science Society America Annual Meetings Honorary Sergei A. Wilde Lecture (Invited)