

Tali D. Lee, PhD

08/2024

Professor

Department of Biology

University of Wisconsin – Eau Claire

Eau Claire, WI 54701

abbreviated CURRICULUM VITAE

(715) 836-5087

leetd@uwec.edu

EDUCATION

Ph.D., Plant Biological Sciences	University of Minnesota Twin Cities	2001
Post-Baccalaureate - Secondary Ed.	Arizona State University	1992
B.S., Biology & Mathematics	Grand Canyon University	1988

ACADEMIC APPOINTMENTS

Professor, Department of Biology	University of Wisconsin – Eau Claire	2014-present
Associate Professor, Department of Biology	University of Wisconsin – Eau Claire	2009-2014
Assistant Professor, Department of Biology	University of Wisconsin – Eau Claire	2002-06, 2008-09
	University of Minnesota Duluth	2006-2008
Post-doctoral Research Associate, Forestry	University of Minnesota Twin Cities	2000-2002

SCHOLARLY/PROFESSIONAL ACTIVITIES

Publications (student authors underlined):

Reich PB, Hobbie SE, Lee TD, Rich R, Pastore MA, Worm K. 2020. Synergistic effects of four climate change drivers on terrestrial carbon cycling. *Nature Geoscience* 13: 787–793.

Pastore MA, Lee TD, Hobbie SE, Reich PB. 2020. Interactive effects of elevated CO₂, warming, reduced rainfall, and nitrogen on leaf gas exchange in five perennial grassland species. *Plant, Cell & Environment*, 43(8):1862-1878 (DOI: 10.1111/pce.13783).

Kattge J, Bönnisch G, Díaz S, et al. 2020. TRY plant trait database – enhanced coverage and open access. *Global Change Biology* 26: 119– 188.

Pastore MA, Lee TD, Hobbie SE, Reich PB. 2019. Strong photosynthetic acclimation and enhanced water-use efficiency in grassland functional groups persist over 21 years of CO₂ enrichment, independent of nitrogen supply, *Global Change Biology*, 25:3031-3044 (DOI: 10.1111/gcb.14714).

Reich PB, Hobbie SE, Lee TD, Pastore MA. 2018. Unexpected reversal of C3 versus C4 grass response to elevated CO₂ during a 20-year field experiment, *Science*, 360:317-320.

Science published two technical comments that address the above Reich et al. 2018 article. Each appears with a published response from Reich PB, Hobbie SE, Lee TD, Pastore MA. 2018. *Science* 361: 10.1126/science.eaau1300 and 10.1126/science.eaau8982.

Henning JA, Weiher E, Lee TD, Freund D, Stefanski A, Bentivenga S. 2018. Mycorrhizal fungal spore community structure in a manipulated prairie, *Restoration Ecology*, 26(1): 124-133.

Reich PB, Hobbie S, Lee T. 2014. Water and nitrogen limitation jointly eliminate plant growth enhancement by elevated CO₂, *Nature Geoscience*, 7:920-924.

- Schneider, A, Lee TD, Kreiser MA, Nelson GT. 2014. Comparative and interactive effects of reduced precipitation volume and frequency on growth and function of two grassland perennials. *International Journal of Plant Science*, 175(6):702–712.
- Sims L, Pastor J, Lee T, Dewey B. 2012. Nitrogen, Phosphorus and Light Effects on Reproduction and Fitness of Wild Rice. *Botany*, 90: 876-883.
- Sims L, Pastor J, Lee T, Dewey B. 2012. Nitrogen, Phosphorus and Light Effects on Growth and Allocation of Biomass and Nutrients in Wild Rice. *Oecologia*, 170:65-76.
- Falster DS, Reich PB, Ellsworth DS, Wright IJ, Westoby MW, Oleksyn J, Lee TD. 2012. Lifetime return on investment increases with leaf lifespan among 10 Australian woodland species. *New Phytologist*, 193: 409–419.
- Lee TD, Barrott SH, Reich PB. 2011. Photosynthetic responses of 13 grassland species across 11 years of free-air CO₂ enrichment is modest, consistent and independent of N supply. *Global Change Biology*, 17:2893-2904.
- Weihner E, Freund D, Bunton T, Stefanski A, Lee T, Bentivenga S. 2011. Advances, challenges and a developing synthesis of ecological community assembly theory. *Philosophical Transactions of the Royal Society B*, 366:2403-2413.
- Kattge J, et al. (134 coauthors). 2011. TRY – a global database of plant traits. *Global Change Biology*, 17:2905-2935.
- Reich PB, Falster DS, Ellsworth DS, Wright IJ, Westoby M, Oleksyn J, Lee TD. 2009. Controls on declining carbon balance with leaf age among 10 woody species in Australian woodland: do leaves have zero daily net carbon balances when they die? *New Phytologist* 183:153-166.
- Reich PB, Hobbie S, Lee TD, Ellsworth D, West JB, Tilman D, Knops J, Naeem S, Trost J. 2006. Nitrogen limitation constrains sustainability of ecosystem response to CO₂. *Nature* 440:922-925.
- Lee TD, Reich PB, Bolstad PV. 2005. Acclimation of leaf respiration to temperature is rapid and related to specific leaf area, soluble sugars and leaf nitrogen across three temperate deciduous tree species. *Functional Ecology*, 19: 640-647.
- West JB, HilleRisLambers J, Lee TD, Hobbie SE, Reich PB. 2005. Legume species identity and soil N supply determine symbiotic nitrogen-fixation responses to elevated atmospheric [CO₂]. *New Phytologist*, 167:523-530.
- Wright IJ, Reich PB, Westoby M, Ackerly DD, Baruch Z, Bongers F, Cavender-Bares J, Chapin T, Cornelissen JHC, Deimer M, Fexas J, Garnier E, Groom PK, Gulias J, Hikosaka K, Lamont BB, Lee T, Lee W, Lusk C, Midgley JJ, Navas ML, Niinemets Ü, Oleksyn J, Osada N, Poorter H, Poot P, Prior L, Pyankov VI, Roumet C, Thomas SC, Tjoelker MG, Veneklaas E, Villar R. 2004. The worldwide leaf economics spectrum. *Nature* 428:821-827.
- Lee TD, Reich PB, Tjoelker MG. 2003. Legume presence increases photosynthesis and N concentrations of co-occurring non-fixers but does not modulate their responsiveness to carbon dioxide enrichment. *Oecologia* 137:22-31.
- Lee TD, Tjoelker MG, Reich PB, Russelle MP. 2003. Contrasting response of an N-fixing and non N-fixing forb to elevated CO₂: dependence on soil N supply. *Plant and Soil* 255:475-486.
- Bolstad PV, Reich PB, Lee TD. 2003. Rapid acclimation to temperature of leaf respiration in *Quercus alba* and *Q. rubra*. *Tree Physiology* 23(14): 969-976
- Lee TD, Tjoelker MG, Ellsworth DS, Reich PB. 2001. Leaf gas exchange responses of 13 prairie grassland species to elevated carbon dioxide and increased nitrogen supply. *New Phytologist* 150: 405-418.

- Reich PB, Tilman D, Craine J, Ellsworth D, Tjoelker M, Knops J, Wedin D, Naeem S, Bahauddin D, Goth J, Bengston W, Lee T. 2001. Do functional groups differ in acquisition and use of C, N and water under varying atmospheric CO₂ and N availability regimes? A field test using 16 grassland species. *New Phytologist* 150: 435-448.
- Reich PB, Knops J, Tilman D, Craine J, Ellsworth D, Tjoelker M, Lee T, Wedin D, Naeem S, Bahauddin D, Hendrey G, Jose S, Wrage K, Goth J, Bengston W. 2001. Plant diversity enhances ecosystem responses to elevated CO₂ and nitrogen deposition. *Nature* 410: 809-812.
- Tjoelker MG, Oleksyn J, Lee TD, Reich PB. 2001. Direct inhibition of leaf dark respiration by elevated carbon dioxide is minor in 12 grassland species. *New Phytologist* 150: 419-424.

Selected Recent Scholarly Presentations: (of ~50 total) Note: student authors underlined, presenter *italicized*

Selected Professional Meetings

- Pastore MA*, Lee TD, Hobbie SH, Worm K, Reich PB. Species richness impacts total soil carbon more than 19 years of CO₂ enrichment or soil nitrogen addition. *Ecological Society of America*, Virtual. August 2020. <https://eco.confex.com/eco/2020/meetingapp.cgi/Paper/87690>
- Pastore MA*, Lee TD, Hobbie SE, Reich PB. 2019. The influence of climate change and environmental factors on leaf gas exchange responses to elevated CO₂ in five perennial grassland species. *AGU Fall Meeting San Francisco, CA*. December 9-13, 2019. <https://ui.adsabs.harvard.edu/abs/2019AGUFM.B13H2606P/abstract>
- Pastore MA*, Lee TD, Hobbie SE, Reich PB. 2018. Photosynthetic responses of 14 grassland species to 20 years of free-air CO₂ enrichment and nitrogen addition. *The Ecological Society of America 103rd Annual Meeting*; Session: PS 37 Biogeochemistry, New Orleans, LA, 9 August 2018. <https://eco.confex.com/eco/2018/meetingapp.cgi/Paper/73595>
- Ogle K*, Classen A, Dyrnum K, Hobbie S, Lee T, Michelsen A, Newton P, Norby R, Osenberg C, Priemé A, Reich P, Terrer C, Jan van Groenigen K, and Hungate B. 2018. Elevated CO₂ indirectly stimulates N₂-fixation via its impact on legume biomass: a Bayesian meta-analysis, *European Geosciences Union General Assembly Abstracts*; Vienna, Austria; Session BG2.14-Terrestrial ecosystem responses to global change: integrating carbon, nutrient, and water cycles in experiments and models, April 2018.
- Radeke L*, Moran P, Anderson J, Lee TD. 2016. An approach to analyzing changes in gene expression of non-model plant species grown under elevated CO₂ and soil N levels. *Ecological Genomics Institute Symposium*; Kansas State University, Manhattan, KS, October 2016.
- Schneider A*, Kreiser M, Nelson G, Lee TD. 2013. With changing global precipitation patterns, will the growth of prairie plants be more constrained by reduced rainfall frequency or reduced rainfall volume? *Botany Annual Meeting*; July 2013, New Orleans, LA. The Botanical Society of America.
- Weiher E*, Bunton T, Stefanski A, Anderson J, Freund D, Bentivenga S, Lee T. 2008. Diversity, functional traits, and ecosystem processes: Cause or coincidence? *The Ecological Society of America 92nd Annual Meeting Abstracts*; August 2008, Milwaukee, WI. Washington D.C.: The Ecological Society of America.
- Lee T*, Bolstad P, Reich P. 2004. Acclimation of leaf respiration to temperature: Evidence across diverse sources of three deciduous tree species. *The Ecological Society of America 89th Annual Meeting Abstracts*; August 1-6, 2004, Portland, OR. Washington D.C.: The Ecological Society of America.
- Selected invited non-meeting presentations*
- Lee T. "Plant strategies and adaptations to the subarctic" & "Role of plants in climate change." Special Emphasis Series August 4-7, 2023. Camp Denali, Denali National Park, AK.
- Lee T. "Why Can't Plants Solve the Elevated Atmospheric CO₂ Problem? Ask a Scientist Talk, Acoustic Café, Jan 2018.

Selected Other activities and awards related to scholarly activity:

Awards/Recognition:

Highlighted author at *UWEC Author Celebration of Scholarship*, ORSP & Provost Kleine, October 2020.

Finalist, Excellence in Mentoring in Research, Scholarship and Creative Activity Award 2017, 2018.

Research featured in the press. For example: UWEC Leader-Telegram article “*Greenhouse Grasses*”, Sun,

May 30, 2018. Science Daily: <https://www.sciencedaily.com/releases/2018/04/180420131430.htm>; Science News: <https://www.sciencenews.org/article/rising-co2-levels-might-not-be-good-plants-we-thought>; BBC Science in Action interview of collaborator, Melissa Pastore aired on 4/26/17: <http://www.bbc.co.uk/programmes/p002vsnb>

Summary of press attention: <https://www.altmetric.com/details/38249320/news>.

Publication awarded one of the 25 most-cited placing it among top 3% of articles in 2012 & one of 2016’s 15 most-downloaded, according to Web of Science®): Kattge *et al.* 2011. TRY – a global database of plant traits. *Global Change Biology*, 17:2905-2935.

Research featured in National Science Foundation Update Weekly Digest Bulletin, 19 May 2011, “*Big Clue to Future Climate Change in Small Plants.*” Highlight of Lee *et al.* 2011 *Global Change Biology*.

Awarded the distinction of In-Cites: “The Top 3 Hot Papers Published in Last 2 Years for Environment and Ecology” (<http://www.in-cites.com/hotpapers/2006/july06-env.html>) for Wright *et al.* 2004. The worldwide leaf economics spectrum. *Nature* 428:821-827.

External Grant Funding:

As PI or Col:

NSF - LTREB *Long-term Interactions among Biodiversity, CO₂, and N in a Perennial Grassland Ecosystem*, 2012-18 (\$450,000) and 2007-12 (\$450,000), with P Reich (PI) and S Hobbie, UMN.

NSF - DEB, *Ecosystem Studies Collaborative Research: The Complexity of Global Change: Interactive effects of Warming, Water Availability, CO₂ and N on Grassland Ecosystem Function*, 2011-14 (\$85,576, total with UMN \$950,839), with P Reich (PI) and S Hobbie, R Montgomery, R Rich, UMN.

NSF - DEB, *Ecosystem Studies Wild rice population oscillations, allocation patterns and nutrient cycles*, 2007-11 (\$547,000) with J Pastor (PI), UMD.

NSF - RUI, *Collaborative Research: Multivariate controls on community assembly and ecosystem function*, 2004-08 (\$316,830), with E Weiher (PI), UWEC, and S Bentivenga (UW-Oskosh).

AAAS - Women’s International Science Collaboration Program: *Adaptation and acclimation of leaf dark respiration to temperature among diverse populations of Quercus petraea*, 2003 (\$3,200) with the Polish Academy of Sciences, Institute of Dendrology in Kórnik, Poland.

As Collaborator (Senior Personnel):

NSF - LTREB *Testing Paradigms About Plant Functional Responses to Global Change* 2018-23, \$398,760 Collaborator with S Hobbie (PI), P Reich, F Isbell, UMN.

NICCR, U.S. DOE Office of Biological and Environmental Research: *Interactions among Water, CO₂, and N in a Perennial Grassland Ecosystem*, 2008-11 (\$250,000) Collaborator with P Reich (PI), S Hobbie UMN.

Internal Grant Funding:

UWEC Office of Research and Sponsored Programs, UW - Eau Claire (2003-2024)

- *Summer Research Experience for Undergraduates* (21 summer salary support for undergraduates)
- *Student/Faculty Collaboration Grants* (11 part time academic-year salary for undergraduates),
- *Diversity Mentoring Program Awards*
- *Master's Student Travel Award* (with Polish Academy of Sciences in Kórnik, Poland)

Invited Positions:

Associate Editor, *Journal of the Torrey Botanical Society*, 2008-2017

Torrey Botanical Society, Editor-in-Chief: Ryan W. McEwan
<http://www.torreybotanical.org>

Panel member, *Ecosystems*, 2009

NSF, Division of Environmental Biology

Research Students Mentored:

2024-current	H Renslow, R O'Malley
2023-2024	S Wheeler, P Buck, H Renslow
2020-2022	D White, S Bonlender
2019-2020	S Maksymkiw
2018-2019	A Coker
2015-2016	L Backhaus, V Gehn, M Waterhouse, K Feathers
2014-2015	L Radeke, P Moran, J Rook
2013-2014	B Kramer, G Nelson
2012-2013	Z Zehner, A Nguyen, G Nelson
2010-2012	A Schneider, M Krieser (Tillman)
2009-2010	J Shaw, O Renner
2008	B Wood
2006-2007	C Mickelson, N Mukherjic, L Gustafson
2005-2006	C Chalk, M Schicker, N Butler, S Kruger, M Renkas, J House
2004-2005	M Fell, K Worm, L Losek
2003-2004	K Worm, L Losek, E Hockman, K Miller, K Grzelak, A Hoffelder, J Anderson, B Ryan, S Chevalier, M Smith
2003	R Winter

Graduate Student Committees:

2017-2020	M, Pastor, University of Minnesota Twin Cities, Ecology, Evolution, and Behavior Ph.D. Program.
2010	L Sims, University of Minnesota Duluth Integrative Biology Graduate Program.
2005	D Freund, D Heuschele, UW-Eau Claire Biology Graduate Program

Graduate Students Supervised:

2009	A Stefanski, University of Minnesota Duluth Integrative Biology Graduate
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TEACHING-RELATED ACTIVITIES

Main Courses Taught:

Foundations of Biological Inquiry (BIOL223)
Plant Form & Function w/lab (BIOL318)
Foundations of Biology I (BIOL222)
Teaching Biology (ES367)
Organismal Form & Function w/lab (BIOL211)
Plants & Society Lab (BIOL195)
Plant Physiology w/lab (BIOL333)
Undergraduate Seminar Capstone (BIOL385)
Issues in Biology (BIOL485)
Plant Physiological Ecology (BIOL5990, UMD)

Selected Teaching Awards:

Career Excellence in Teaching Award, UWEC College of Arts and Sciences, 2024.
Regents' Teaching Excellence Award, University of Wisconsin System, UW-Eau Claire Nominee, 2015.
Vic and Eileen Cvancara Outstanding Teaching Award, Biology Department, 2011.

Teaching Related:

Presenter, CETL, **New Faculty Certificate Program** each spring 2019, 2021, 2023
Coordinator/Coauthor, *Research skill development through the curriculum mapping project*, Biology Department in collaboration with ORSP, spring 2016.
Participant, ***Virtual 2020 SABER National Meeting, Society for the Advancement of Biological Education Research***, July 2020