

## YANG LIN

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### EDUCATION

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2010-2015 Ph.D. Geography, University of California, Santa Barbara  
2007-2010 M.Sc. Soil Science, University of Alberta, Canada  
2003-2007 B.Sc. Biological Sciences, Zhejiang University, China

### RESEARCH INTERESTS

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environmental science | soil health | biogeochemistry | ecosystem ecology | organic matter decomposition | redox biogeochemistry

### ACADEMIC POSITIONS

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2020-present Assistant Professor, University of Florida  
2016-2019 Postdoctoral Scholar, University of California, Berkeley  
2010-2015 Graduate Student Researcher, University of California, Santa Barbara  
2010-2014 Graduate Teaching Assistant, University of California, Santa Barbara  
2008-2010 Graduate Teaching Assistant, University of Alberta  
2007-2010 Graduate Student Researcher, University of Alberta

### REFERRED PUBLICATIONS

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(<sup>α</sup>Undergraduate students, <sup>β</sup>Graduate students)

#### Journal Articles

23. **Lin Y\***, Gross A\*, and Silver WS. Low redox decreases potential phosphorus limitation on soil biogeochemical cycling along a tropical rainfall gradient. *Ecosystems*. In press. \*, equal contribution.
22. **Lin Y**, Campbell AN, Bhattacharyya A, Didonato N, Thompson AM, Tfaily MM, Nico PS, Silver WS, and Pett-Ridge J. Differential effects of redox conditions on the decomposition of litter and soil organic matter. *Biogeochemistry Letters* 154, 1-15.
21. Chari NR<sup>α</sup>, **Lin Y**, Lin YS, Silver WS. Interactive effects of temperature and redox on soil carbon and iron cycling. *Soil Biology and Biochemistry* 157, 108235.
20. Slessarev EW, **Lin Y**, Jimenez BY<sup>α</sup>, Homyak PM, Chadwick OA, D'Antonio CM, and Schimel JP. (2020) Cellular and extracellular C contributions to soil respiration after wetting dry soil. *Biogeochemistry* 147, 307–324.
19. **Lin Y**, Gross A, O'Connell CS, and Silver WS. (2020) Anoxic conditions maintained high phosphorus sorption in humid tropical forest soils. *Biogeosciences* 17, 89-101.
18. Gross A\*, **Lin Y\***, Weber PK, Pett-Ridge J, and Silver WS. (2020) The role of soil redox conditions in microbial phosphorus cycling in humid tropical forests. *Ecology* 101, e02928. \*, equal contribution.
17. **Lin Y**, Slessarev EW, Yehl S<sup>α</sup>, D'Antonio CM, and King JY. (2019) Long-term nutrient fertilization increased soil carbon storage in California grasslands. *Ecosystems* 22, 754-766.

16. Bhattacharyya A, Campbell AN, Tfaily MM, **Lin Y**, Silver WS, Nico PS, and Pett-Ridge J. (2018) Redox fluctuations control the coupled cycling of iron and carbon in tropical forest soils. *Environmental Science and Technology* 52, 14129–14139.
15. **Lin Y**, Bhattacharyya A, Campbell AN, Nico PS, Pett-Ridge J, and Silver WS. (2018) Phosphorus fractionation responds to dynamic redox conditions in a humid tropical forest soil. *Journal of Geophysical Research: Biogeosciences* 123, 3016-3027.
14. Shi Z, **Lin Y**, Wilcox KR, Jiang L, Jung CG, Xu X, Yuan M, Guo X, Zhou J, and Luo Y. (2018) Successional change in species composition alters climate sensitivity of grassland productivity. *Global Change Biology* 24: 4993-5003.
13. Miller DL, Roberts DA, Clarke KC, **Lin Y**, Menzer O, Peters EB, McFadden JP. (2018) Gross primary productivity of a large metropolitan region using high spatial resolution satellite imagery. *Urban Ecosystems* 21, 831–850.
12. **Lin Y**, King JY, Karlen SD, and Ralph J. (2018) Short-term facilitation of microbial litter decomposition by ultraviolet radiation. *Science of the Total Environment* 615, 838–848.
11. Adair CE, Parton WJ, King JY, Brandt LA, and **Lin Y**. (2017) Accounting for photodegradation dramatically improves prediction of carbon losses in dryland systems. *Ecosphere* 8, e01892.
10. **Lin Y**, Prentice SE, Tran T<sup>α</sup>, Bingham NL, King JY, and Chadwick OA. (2016) Modeling deep soil properties on California grassland hillslopes using LiDAR digital elevation models. *Geoderma Regional* 7, 67–75.
9. Slessarev EW, **Lin Y**, Bingham NL, Johnson JE, Dai Y, Schimel JP, Chadwick OA. (2016) Water balance defines a threshold in soil pH at the global scale. *Nature* 540, 567-569.
8. Xu X, Shi Z, Chen XC, **Lin Y**, Niu SL, Jiang LF, Luo RS, and Luo YQ. (2016) Unchanged carbon balance driven by equivalent responses of production and respiration to climate change in a mixed grass prairie. *Global Change Biology* 22, 1857-1866.
7. **Lin Y**, King JY, Karlen SD, and Ralph J. (2015) Using 2D NMR spectroscopy to assess effects of UV radiation on cell wall chemistry during litter decomposition. *Biogeochemistry* 125: 427-436.
6. **Lin Y**, Scarlett RD<sup>α</sup>, and King JY. (2015) Effects of UV photodegradation on subsequent microbial decomposition of *Bromus diandrus* litter. *Plant and Soil* 395: 263-271.
5. **Lin Y** and King JY. (2014) Effects of UV exposure and position on litter decomposition in a California grassland. *Ecosystems* 17: 158-168.
4. **Lin Y**, Han G, Zhao M, and Chang SX. (2010) Spatial vegetation patterns as early signs of desertification: a case study of a desert steppe in Inner Mongolia, China. *Landscape Ecology* 25, 1519-1527.
3. **Lin Y**, Hong M, Han G, Zhao M, Bai Y, and Chang SX. (2010) Grazing intensity affected spatial patterns of vegetation and soil fertility in a desert steppe. *Agriculture, Ecosystems and Environment* 138, 282-292.
2. Wu J, Jiang P, Chang SX, Xu Q, and **Lin Y**. (2010) Dissolved soil organic carbon and nitrogen were affected by conversion of native forests to plantations in subtropical China. *Canadian Journal of Soil Science* 90, 27-36.
1. Yang X, Pattison S, **Lin Y**, Ikehata K, Lau BLT, Chang SX, and Liu Y. (2009) Agricultural wastes. *Water Environment Research* 81, 1490-1544.

*In review or in preparation* (only manuscripts with complete drafts are listed; available upon request)

- Muthukrishnan R, Hayes K, Bartowitz K, Cattau ME, Harvey BJ, **Lin Y**, and Lunch C. Harnessing NEON to evaluate ecological tipping points: opportunities, challenges, and approaches. In review.
- Nagy RC, Balch JK, others, and NEON Science Summit Participants including **Lin Y**. Harnessing the NEON data revolution to advance open environmental science with a diverse and data-capable community. In review.
- Qin C, Bartelme R, Chung YA, Fairbanks D, **Lin Y**, Liptzin D, Muscarella C, Naithani K, Peay K, St Rose A, Stanish L, Pellitier P, Werbin Z, and Zhu K. From DNA sequences to microbial ecology: Wrangling NEON soil microbe data with the *neonMicrobe* R package. In review.
- Almaraz M, Groffman PM, Silver WL, Hall SJ, **Lin Y**, O’Connell CS, and Porder S. Dinitrogen emissions dominate nitrogen gas emissions from soils with low oxygen availability in a moist tropical forest. In review.
- Xu M<sup>β</sup>, **Lin Y**, da Silva EB, Gao P, Cui Q<sup>β</sup>, Wu J, and Ma LQ. Elements impact on arsenic uptake and translocation in arsenic-hyperaccumulator *Pteris vittata*. In preparation.
- Xu M<sup>β</sup>, **Lin Y**, da Silva EB, Cui Q<sup>β</sup>, Gao P, Wu J, and Ma LQ. Effects of copper and arsenic stress on their kinetic uptake and distribution in the hyperaccumulator *Pteris vittata* L. In preparation.

## GRANTS AND AWARDS

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| 2021-2026 | PI, USDA-NIFA Food and Agricultural Sciences National Needs Graduate and Postgraduate Fellowship, “Data science training for future leaders in soil health research and extension”, <b>\$243,500</b> .                              |
| 2021-2025 | Co-PI, Florida Department of Agriculture and Consumer Services, Advances in FDACS Agricultural BMPs, “Integrated crop-livestock systems: validating plot-scale benefits through multi-farm demonstrations”. \$509,628.              |
| 2021-2024 | Co-PI. St. Johns River Water Management District, “Transformation and transport of biosolids-derived phosphorus from fields to receiving waterbodies”. \$605,000 ( <b>\$84,000</b> managed by me).                                  |
| 2020-2021 | PI, ICR User Facility, National High Magnetic Field Laboratory, “Chemical characterization of dissolved deep podzolized carbon”.  |
| 2015      | Co-PI, Faculty Research Grant, University of California, Santa Barbara. “Soil carbon storage and stability under long-term nutrient fertilization” (\$6,800)  |
| 2014      | NSF Doctoral Dissertation Improvement Grant in the Directorate for Biological Sciences. “Quantifying changes in lignin chemistry during photodegradation versus biotic decomposition using 2D NMR spectroscopy” ( <b>\$19,505</b> ) |
| 2014      | Graduate Division Dissertation Fellowship, University of California, Santa Barbara ( <b>\$12,647</b> )  |
| 2014      | Doctoral Student Travel Grant, Academic Senate, University of California, Santa Barbara (\$350)   |
| 2013-2014 | Earth Research Institute Travel Grants, University of California, Santa Barbara (\$775)   |
| 2009      | 1st place student presentation, Alberta Soil Science Workshop (\$300)   |
| 2009      | Mary Louise Imrie Graduate Student Award, University of Alberta (\$700)   |
| 2008      | China Institute Travel Grant, University of Alberta (\$1000)  |

### **Pending or unsuccessful**

- 2021 PI, Florida Department of Agriculture and Consumer Services, Advances in FDACS Agricultural BMPs, “Combining cold- and warm-season cover crops to improve nitrogen use efficiency in peanut-corn rotations”. \$461,237.
- 2020 PI, USDA-NIFA Food and Agricultural Sciences National Needs Graduate and Postgraduate Fellowship, “Data science training for future leaders in soil health research and extension”, \$243,500. Proposal rated as *Highly Competitive*.
- 2020 Co-PI, DOE Environmental System Science, “What Remains? Quantifying the Impacts of Plant Carbon and Nutrient Allocation on the First Steps of Soil Organic Matter Formation”, \$999,042. Not funded.
- 2019 Co-PI, Exploratory Research Proposal, Environmental Molecular Sciences Laboratory, Pacific Northwest National Laboratory, “What remains? Quantifying the First Steps of Soil Organic Carbon Formation”. Not funded.

### **TEACHING**

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#### **University of Florida**

- 2021 SWS4720C, GIS in Soil and Water Science
- 2021 SWS4932, Soil Health and Data.
- 2021 IDS2935, Unintended Consequences in The Environment (UF Quest 2 course).
- 2020-2021 SWS4932/6932, Forest and Soil Ecosystem Services.

#### **Graduate Students**

- 2021-present Franky Celestin, Ph.D.
- 2021-present Noel Manirakiza, Ph.D. (co-advise with Dr. Jehangir Bhadha)
- 2021-present Ryan Champiny, M.S. Thesis.
- 2020-present Precious Nyabami, M.S. Thesis.
- 2020 Qinghong Cui, M.S. Non-thesis.

#### **Graduate Committee Member**

- 2020-present Daniel Colopietro, Ph.D. committee.

#### **Visiting Scholars**

- 2020 Min Xu, Ph.D. candidate, Sichuan Agricultural University.

#### **Undergraduate Student Advisees**

- 2021-present Merina Ingram, University of Florida
- 2021 Victoria Tesch, University of Florida
- 2020-present Xinlin Wang, University of Florida, participant of the University Scholars Program.
- 2019-2020 Nikhil Chari, University of California, Berkeley, recipient of the Summer Undergraduate Research Fellowship.

#### **In-Service training**

- 2021 Guest lecture on soil health management for Florida Certified Crop Adviser Educational Program
- 2021 Co-organize a Soil Health extension IST (#316171) for county extension specialists and give lectures on the definitions and assessment of soil health.

## INVITED SEMINARS

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- 2021 American Chemical Society Fall Meeting, Invited Oral Presentation, Geochemical section, Atlanta, GA.  
2019 Soil and Water Sciences Department, University of Florida, Gainesville, FL.  
2019 Program of Environmental Science, Whittier College, Whittier, CA.  
2019 Dept. of Environmental, Geographical, and Geological Sciences, Bloomsburg. University of Pennsylvania, Bloomsburg, PA.  
2017 Biogeosciences Seminar, University of California, Santa Barbara, Santa Barbara, CA.  
2016 Soil and Water Sciences Department, University of Florida, Gainesville, FL.  
2016 Tropical Research & Education Center, University of Florida, Homestead, FL.

## WORKSHOPS

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- 2021 NSF NEON Workshop. Complex landscapes at Scale: Integrating our Understanding of Managed and Unmanaged Lands at Regional to Continental Scales. Virtual events due to COVID-19.  
2020 New Advances in Land Carbon Cycle Modeling. Northern Arizona University. Virtual events due to COVID-19.  
2019 Microbial Determinants of Phosphorus Transport Workshop, The Pennsylvania State University, University Park, PA.  
2019 NEON Science Summit, University of Colorado-Boulder, Boulder, CO.  
2016 Phosphorus Cycling in Terrestrial Ecosystems: Taking a new approach to advancing our fundamental understanding through a model-data connection, Oak Ridge National Lab, Townsend, TN.

## PROFESSIONAL SERVICE

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### University and Departmental

- 2021 Faculty search committee member, nutrient cycling agroecologist  
2021 Preview advisor for incoming first year students  
2020-present Faculty advisor for the Agronomy-Soils Club

### Manuscript review (the number of reviews is listed in parentheses)

Biogeochemistry, Biogeosciences Discussion, Biology and Fertility of Soils, Canadian Journal of Soil Science, CATENA, Chemosphere, Ecology, Ecology and Evolution, Ecosystems, Functional Ecology, Global Biogeochemical Cycles, Global Change Biology, Journal of Arid Environments, Journal of Ecology, Journal of Geophysical Research: Biogeosciences, Journal of Plant Ecology, Journal of Soils and Sediments, Landscape Ecology, Nature Communications, PeerJ, Plant and Soil, Proceedings of the National Academy of Sciences, Remote Sensing, Science of the Total Environment, Scientific Reports, and Soil Biology & Biochemistry.

- 2021 Biogeochemistry (1)  
2020 Biology and Fertility of Soils (1), Current Biology (1), Ecology and Evolution (1), Ecosystems (1), Global Biogeochemical Cycles (1), Global Change Biology (1),

Journal of Geophysical Research: Biogeosciences (1), Nature Communications (1), Plant and Soil (2), PLoS One (1), Science of The Total Environment (1).

### **Proposal review**

2021 Ad-hoc review for NSF-DEB core program.  
2020 Ad-hoc reviews for NSF-DEB core program and OPUS.  
2020 Ad-hoc review for National Science Center, Poland.  
2019 Ad-hoc review for Agriculture and Food Research Initiative, USDA-NIFA.

### **PROFESSIONAL SOCIETIES**

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Since 2012 American Geophysical Union  
Since 2014 Soil Science Society of America

### **RECENT CONFERENCE PROCEEDINGS**

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**Lin Y**, Gross A, and Silver WS. Redox regulated potential phosphorus limitation on soil biogeochemical cycling along a tropical rainfall gradient. Poster presentation, 2020 American Geophysical Union Annual Fall Meeting.

**Lin Y**, Gross A, O'Connell CS, and Silver WS. Humid tropical forest soils retained high phosphorus sorption under anoxic conditions. Oral presentation, 2019 American Geophysical Union Annual Fall Meeting.

**Lin Y**, Slessarev EW, Yehl S, D'Antonio CM, and King JY. Long-term nutrient fertilization increased soil carbon storage in California grasslands. Oral presentation, 2019 International Soils Meeting.

**Lin Y**, Gross A, and Silver WS. Coupling of soil carbon, organic phosphorus, and amorphous minerals along wet tropical forest rainfall gradient. Oral presentation, 2018 American Geophysical Union Annual Fall Meeting.

**Lin Y**, Gross A, and Silver WS. Redox regulates soil phosphorus status across a rainfall gradient in wet tropical forests. Oral presentation, 2018 Ecological Society of America Annual Meeting.

**Lin Y**, Gross A, and Silver WS. Microbial C:P stoichiometry is shaped by redox conditions along an elevation gradient in humid tropical rainforests. Poster presentation, 2017 American Geophysical Union Annual Fall Meeting.

King JY, **Lin Y**, Karlen SD, and Ralph J. Short-term dynamics of photoprimering increase litter carbon loss during decomposition. Poster presentation, 2017 American Geophysical Union Annual Fall Meeting.

**Lin Y**, Bhattacharyya A, Campbell AN, Nico PS, Pett-Ridge J, and Silver WS. Soil phosphorus redistribution among iron-bearing minerals under redox fluctuation. Oral presentation, 2016 American Geophysical Union Annual Fall Meeting.

**Lin Y**, Campbell AN, Bhattacharyya A, Nico PS, Silver WS, and Pett-Ridge J. Redox fluctuation differentially affected decomposition of litter and soil organic matter. Poster presentation, 2016 Luquillo CZO meeting, Rio Mar, PR.

**Lin Y**, Campbell AN, Bhattacharyya A, Nico PS, Silver WS, and Pett-Ridge J. Redox-induced variations in phosphorus fractions in a humid tropical forest soil. Poster presentation, 2016 INTERFACE phosphorus workshop, Townsend, TN.