

# Yuguo Yang

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## Education background

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**University of Nebraska-Lincoln (UNL)** Aug.2018-Present

PhD Candidate, Ecology, Evolution and Behavior Specialization (Advisor: Sabrina E. Russo)

Dissertation: Interactions between plants and belowground microbiota and the implications on plant diversity and productivity

**Beijing Forestry University** Jul.2018

M.S., Soil Science (Advisor: Yuqing Geng)

Thesis: Influence of understory ground cover types on soil microbial communities and enzyme activities

**Michigan State University** May.2015

B.S., Crop and Soil Sciences

Turfgrass management—joint program with Beijing Forestry University

**Beijing Forestry University** Jul.2015

B.S., Turfgrass Management

Turfgrass Management—joint program with Michigan State University

## Professional experience

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**Graduate Research Assistant, University of Nebraska-Lincoln** 2018-2019, 2020-2021

1) Differentiated effects of local-adapted root-associating microbiota on the drought performance of C3 and C4 grass species native to mixed grass prairie. (Sep. 2020-Dec.2021)

2) Diversity-productivity relations of plants with belowground microbiota in a North American grassland. (Jun.2020-Dec.2021)

3) Investigating soil and rhizosphere microbiome enriched in different maize cultivars using stable isotope probing. (Sep.2018-Aug.2019)

4) Effects of Nebraska native grass species on rhizosphere microbial communities. (Aug.2018)

**Graduate Teaching Assistant, University of Nebraska-Lincoln** 2019, 2021-Present

Life121 lab, Fundamentals of Biology II.

**Graduate Research Fellow, Beijing Forestry University** 2015-2018

1) Study on the influence of understory ground cover types on soil microbial communities and enzyme activities in Beishan Forest Park, Qinghai Province

2) Forest thinning studies in Badaling Forest Park, Beijing. Study on the effect of gap formation on soil microbes and enzymes.

3) Conduct field plant investigation and soil property analysis across Qinghai province for water conservation purpose. Acquired Patent: A new measuring device of soil saturated water content. Patent #: ZL 201620274906.7. Publication #: 105699120A.

**Undergraduate Research Intern, Texas A&M University** (Dr. Young-Ki Jo) 2014

Conduct soil nematode isolation & counting. Extract soil microbial DNA.

**Undergraduate Research Assistant, Beijing Forestry University** (Dr. Yuqing Geng) 2013-2014

Study soil enzyme activities using colorimetric assay.

## Peer-reviewed Publications

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1. **Yuguo Yang**, Glenn Ledder, Sabrina E. Russo. (In review) Costs and benefits of mycorrhizal symbiosis in a plant resource allocation framework. *New Phytologist*.
  2. Lin Yu, Guobing Lan, **Yuguo Yang**, Yafei Tang, Zhenggang Li, Xiaoman She, Zifu He. (2021) First report of anthracnose caused by *Colletotrichum fructicola* on *Brassica parachinensis* in China. *Crop Protection*

154:105842 doi.org/10.1016/j.cropro.2021.105842.

3. **Yuguo Yang<sup>1</sup>**, Ying Yang<sup>1</sup>, Yuqing Geng, Guilin Huang, Xueqing Cui, Meng Hou. (2018) Effects of different land types on soil enzyme activity in the Qinghai Lake region. *Wetlands* doi:10.1007/s13157-018-1014-9.
4. **Yuguo Yang**, Yuqing Geng, Hongjuan Zhou, Guangliang Zhao, Ling Wang. (2017) Effects of gaps in the forest canopy on soil microbial communities and enzyme activity in a Chinese pine forest. *Pedobiologia* 61:51–60

#### **Research talk & Poster presentation**

<b>British Ecological Society (BES) Annual Conference</b> Oral talk	2022
Title: Diversity relations of plants with belowground microbiota in a North American grassland: mechanisms and consequences for plant productivity	
<b>UNL Plant Science Retreat</b> Poster presentation	2022
Title: Plant and belowground microbial relations along an edaphic gradient in Nebraska sandhills	
<b>The Ecological Society of America (ESA) and the Canadian Society of Ecology and Evolution (CSEE) joint Annual Conference</b> Poster presentation	2022
Title: Covariation of plant and belowground microbial communities along an edaphic gradient in Nebraska sandhills	
<b>American Society of Plant Sciences Annual Conference</b> Poster presentation	2021
Title: Trade-offs in rooting strategies along a grassland water availability gradient	
<b>UNL Plant Science Symposium</b> Poster presentation	2021
Title: Trade-offs in rooting strategies along a water availability gradient in Nebraska sandhills	
<b>UNL BioGSA Symposium</b> Poster presentation	2021
Title: Covariation of root traits and community structure in western Nebraska prairies along a water availability gradient	
<b>British Ecological Society (BES) Annual Conference</b> Poster presentation	2020
Title: Covariation of root functional traits and community structure in grasslands along a water availability gradient	
<b>UNL BioGSA Symposium</b> Poster presentation	2019
Title: Determinants of arbuscular mycorrhizal colonization among C3 and C4 grasses	
<b>NSF Site Visit, Center for Root and Rhizobiome Innovation</b> Poster presentation	2019
Title: Plant-soil feedback of maize affect Agronomic Land Use and Prairie Restoration	
<b>Nebraska Research &amp; Innovation Conference</b> Poster presentation	2018
Title: Influence of understory ground cover types on soil microbial communities and enzyme activities	

#### **Honors & Awards**

UNL: Graduate student travel award (\$500)	2022
UNL: Dr. John F. Davidson prize for work in Botany or Plant Systems (\$1500)	2022
UNL: Dr. John F. Davidson Memorial Fund (\$1000)	2022
UNL: Dr. John F. Davidson Memorial Fund (\$1998)	2021
UNL: Dr. John F. Davidson Memorial Fund (\$1995)	2020
UNL: Jessie A. Lee Fund (\$1850)	2019
China Graduate Student National Scholarship (\$3000)	2017
1 <sup>st</sup> tier Graduate Scholarship (\$1200/y)	2016 & 2017
2 <sup>nd</sup> tier Scholarship (\$200/y)	2013 & 2014

#### **Professional services & Outreach**

<b>UNL: First Year Research Experience (FYRE) Project</b>	2021 & 2022
Mentored first-year undergraduate students from underrepresented communities on research project	

- UNL: CASNR Undergraduate Scholarship Program (CUSP)** 2021  
Mentored undergraduate students from Rwanda on lab experiments and poster presentation
- UNL: EPSCoR Young Nebraska Scientist Project** at prairie in Nebraska sandhills 2020  
Mentored high school research project on plant identification, soil collection, and root scanning.
- UNL: Fascination of Plants Public Day** 2019  
Worked as a volunteer and used interactive demonstrations root/ninhydrin activity to illustrate how plant roots interact with soil microorganisms.
- Secretary of Undergraduate Thesis Defense** College of Forestry, Beijing Forestry University 2016 & 2017  
Coordinating the full process of undergraduate thesis defense and helping the documetation.
- Evaluation of Ecological Forest Management in Beijing Mountainous Area** (Dr. Yuqing Geng) 2017  
Investigating the current status of ecological forest management in mountainous area through interview and questionnaire survey.

### **Skills**

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**Software and programming languages:** R, Linux, Matlab, Qiime2, IQ-TREE, MrBayes, Adobe Photoshop, Adobe Illustrator, SPSS, GraphPad Prism, Canoco

**Equipment and methods:** LI600 and LI6400XT portable photosynthetic system, PCR, Spectrophotometer, Atomic Absorption Spectrophotometer, Atomic Fluorescence Photometer, Flame Photometer, Multi NC 3100 TOC Analyzer, Kjeldahl Nitrogen Analyzer, Continuous Flow Elemental Analysis Instrument, Microplate Reader