Yuguo Yang

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Education

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: Implications for plant diversity and productivity (degree expected December 2023)

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

Manuscript in preparation

Yuguo Yang, Sabrina E. Russo. (In prep) Trade-offs on three levels of rooting strategies along edaphic gradient in grassland ecosystem.

Yuguo Yang, Glenn Ledder, Sabrina E. Russo. (In prep) Costs and benefits of mycorrhizal symbiosis in a plant resource allocation framework.

Manuscript In Review

Peer-reviewed Publications

1. 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.
2. **Yuguo Yang[1],** Ying Yang[1], 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.
3. **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

Honors & Awards

Sigma XI Grants in Aid of Research ($1000)	2023
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, $1998, $1995)	2020, 2021, 2022
UNL: Jessie A. Lee Fund ($1850)	2019
China Graduate Student National Scholarship ($3000)	2017
1st tier Graduate Scholarship ($1200/y)	2016 & 2017
2nd tier Scholarship ($200/y)	2013 & 2014

Professional experience

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

Life121 lab, Fundamentals of Biology II.

Graduate Research Assistant, University of Nebraska-Lincoln 2018-2019, 2020-2021
Diversity-productivity relations of plants with belowground microbiota in grassland ecosystems.

Graduate Research Fellow, Beijing Forestry University 2015-2018
Soil microbial biomass and enzyme activities in arboreal forests and plateau wetlands.
Contributed to acquired patent on soil water content measurement (ZL201620274906.7).

Undergraduate Research Intern, Texas A&M University (Dr. Young-Ki Jo) 2014
Soil nematode isolation & counting. Soil microbial DNA extraction.

Undergraduate Research Assistant, Beijing Forestry University (Dr. Yuqing Geng) 2013-2014
Soil enzyme assay. Soil arthropods isolation.

Presentations and National and International Meetings

Yuguo Yang, Gregory J. Pec, Sabrina E. Russo. Diversity relations of plants with belowground microbiota in a North American grassland: mechanisms and consequences for plant productivity. *British Ecological Society Annual Meeting 2022.* Edinburgh, UK, December 18 – 21.

Yuguo Yang, Gregory J. Pec, Sabrina E. Russo. Plant and belowground microbial relations along an edaphic gradient in Nebraska sandhills. *UNL Plant Science Retreat 2022.* November 10 – 11.

Yuguo Yang, Gregory J. Pec, Sabrina E. Russo. Covariation of plant and belowground microbial communities along an edaphic gradient in Nebraska sandhills. *The Ecological Society of America and the Canadian Society of Ecology and Evolution joint Annual Conference 2022.* Montréal, Canada, August 14 – 19.

Yuguo Yang, Sabrina E. Russo. Trade-offs in rooting strategies along a grassland water availability gradient. *American Society of Plant Sciences Annual Conference 2021.* Virtual presentation.

Yuguo Yang, Sabrina E. Russo. Trade-offs in rooting strategies along a water availability gradient in Nebraska sandhills. *UNL Plant Science Symposium 2021.*

Yuguo Yang, Sabrina E. Russo. Covariation of root traits and community structure in western Nebraska prairies along a water availability gradient. *UNL BioGSA Symposium 2021.*

Yuguo Yang, Sabrina E. Russo. Covariation of root functional traits and community structure in grasslands along a water availability gradient. *British Ecological Society Annual Meeting 2021.* Virtual presentation.

Yuguo Yang, Sabrina E. Russo. Determinants of arbuscular mycorrhizal colonization among C3 and C4 grasses. *UNL BioGSA Symposium 2019.*

Amanda Quattrone, **Yuguo Yang**, Sabrina E. Russo. Plant-soil feedback of maize affect Agronomic Land Use and Prairie Restoration. *NSF Site Visit, Center for Root and Rhizobiome Innovation 2019.*

Yuguo Yang, Ying Yang, Yuqing Geng. Influence of understory ground cover types on soil microbial communities and enzyme activities. *Nebraska Research & Innovation Conference 2018.*

Professional Service & Outreach

UNL: First Year Research Experience Project (UBMS) 2021 & 2022
Mentored two first-year undergraduate students from groups underrepresented in STEM on research on mycorrhizal colonization of prairie plants, including oral presentations. Nebraska Today news article.

UNL: Guest Lecture on BIOS454/854 – Ecological Interactions 2021
"Effects of climate change on biodiversity."

UNL: CASNR Undergraduate Scholarship Program (CUSP) 2021
Mentored two undergraduate students from Rwanda on research on plant trait variation, including poster presentations.

UNL: EPSCoR Young Nebraska Scientist (YNS) at prairie in Nebraska sandhills 2020
Mentored a high school student in research on plant-soil microbe interactions in prairie, including an oral presentation in virtual YNS conference. Featured: 1011 News – Pure Nebraska, Aug/14/2020.

UNL: Fascination of Plants Day 2019

Worked as a volunteer and used interactive demonstrations of 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
Coordinated the full process of undergraduate thesis defense and helping with documentation.

Evaluation of Ecological Forest Management in Beijing Mountainous Area (Dr. Yuqing Geng) 2017
Investigated the current status of ecological forest management in mountainous areas through interviews and surveys.

Skills

Software and programming languages: R, Linux, Matlab, Qiime2, IQ-TREE, MrBayes, Mega-X, Mesquite, WinRhizo, Adobe Photoshop, Adobe Illustrator, SPSS, GraphPad Prism, Canoco.

Skills and equipment:

Soil properties: soil texture, gravimetric water content, pH, organic matter content, C, N, P, K, Na, soil enzyme colorimetric assay. Atomic absorption spectrophotometer, atomic fluorescence photometer, flame photometer, multi NC 3100 TOC analyzer, Kjeldahl nitrogen analyzer, continuous flow elemental analysis instrument, spectrophotometer, microplate reader.

Plant biology, physiology, and molecular biology: arbuscular mycorrhizal staining and microscopy, plant gas exchange, photosynthetic rate, photosystem efficiency, plant functional traits, plant species identification based on morphology, microbial DNA extraction, gel electrophoresis, microbial bioinformatics. LI600 porometer/fluorometer and LI6400XT portable photosynthetic system, PCR.