



Curriculum Vitae

Education

Doctorate of Philosophy: 2011 – 2015

Affiliation: University of Florida, Gainesville, Florida

Major: Soil and Water Science

Advisor: Dr. James Graham

Graduate Research Assistant

Master of Science: 2008 – 2011

Affiliation: Beijing Forestry University, Beijing, China

Major: Turfgrass Science

Bachelor of Science: 2004 – 2008

Affiliation: Northeast Forestry University, Harbin, China

Major: Forestry

Employment History

- Post-doctoral Research Associate, Plant Pathology Department, UF (2016-2018)
(PI: Dr. Evan Johnson)
- Assistant Professor, Potato Research & Technology Center, IMU (2019-2023)
- Associate Professor, Potato Research & Technology Center, IMU (2024-Current)

Research Interests

Integrated Crop Disease Management, Biocontrol of Crop Disease, Microbial Mechanisms of Crop Rotation for Controlling Soilborne Diseases, Artificial Intelligence Identification of Potato Diseases, Mechanisms of Bacterial Pathogenicity, Population Structure and Biodiversity of Bacterial Pathogens of Potato, Mechanisms of Crop Rhizosphere Microbial Community Assembly

Grants

- PI of Project NSFA32201914 (2023-2025, 300,000 RMB)
Title: Microbial Mechanisms of Corn Rotation for Controlling Potato Common Scab
Founder: National Nature Science Foundation of China
- PI of Project NSFA 42567018 (2026-2029, 310,000 RMB)
Title: Genetic and Microbiome Mechanisms of Biocontrol *Lysobacter gummosus* Colonization in the Potato Rhizosphere
Founder: National Nature Science Foundation of China
- PI of Project 2022MS03045 (2023-2025, 100,000 RMB)
Title: Identification and Functional Analysis of Pathogenic Factors of *Pectobacterium parmentireri*, a Causing Agent of Potato Blackleg
Founder: Nature Science Foundation of Inner Mongolia
- PI of Project NJZY21289 (2021-2023, 20,000 RMB)
Title: Development of qPCR Detection System for *Pectobacterium* spp., Causative Pathogens of Potato Soft Rot

Founder: Inner Mongolia Department of Education

- PI of Inner Mongolia University Start Funding (2020-2023, 300,000 RMB)

Title: Population Structure of Potato Bacterial Pathogens in China

Founder: Inner Mongolia University

- Co-PI of Potato Initiative of China Agriculture Research System (CARS-19, 2021-2025, 2,750,000 RMB)

Title: Sustainable Management of Potato Bacterial Diseases

Founder: Ministry of Agriculture and Rural Affairs of the People's Republic of China

- Co-PI of Project NJZY22351 (2020-2022, 20,000 RMB)

Title: Image Detection for Potato Tuber Diseases Based on Convolutional Neural Networks

Founder: Inner Mongolia Department of Education

- Co-PI of Project 2024QN03044 (2024-2027, 100,000 RMB)

Title: Identification and Functional Analysis of Quantitative Pathogenic Factors of *Pectobacterium* spp., Causing Agent of Potato Blackleg

Founder: Nature Science Foundation of Inner Mongolia

- Co-PI of Project NSFA 32560508 (2026-2029, 320,000 RMB)

Title: Study on the Root Exudates and Microbiome Mechanisms Enriching Antagonistic Bacteria *Bacillus atrophaeus* for Potato Scab Control in Corn Rotation Systems

Founder: National Nature Science Foundation of China

Book Chapters

- **Wu J.**, Zhang R., Feng Z. & Zhang Z. 2023. Bacterial Diseases of Potato. In: Identification and Management of Major Diseases and Pests on Potato (pp.2-12). China Agriculture Press. ISBN: 978-7-109-19986-6
- **Wu J.**, Zhu J., Shan W. & Quan L. 2023. Fungal Diseases of Potato. In: Identification and Management of Major Diseases and Pests on Potato(pp.13-39). China Agriculture Press. ISBN: 978-7-109-19986-6
- Zhang R., Dong S., Tian Y. & **Wu J. (Associated Editor)** 2024. Green Pest Control Technologies for Crop Protection Series-Potato. China Science and Technology Press. In Press.

National Standards

- **Wu J.**, et al. 2024. Quantitative Detection Methods for Potato Stem Rot Causing Agent *Pectobacterium* spp. (Under Review)
- **Wu J.**, et al. 2024. Molecular identification methods for the potato stem rot pathogen *Pectobacterium* spp. (Under Review)
- **Wu J.**, et al. 2024. Techniques for Determining the Pathogenicity Levels of Potato Pathogen *Pectobacterium* spp. (Under Review)
- Sun Q., **Wu J.**, et al. 2024. Code of practice for evaluating potato resistance to stem rot disease. (Under Review)
- Feng Z, **Wu J.**, Sun Q, et al. 2025. Code of practice for virus free seed potatoes production. GB/T 29376-2012.
- Feng Z, Sun Q, **Wu J.**, et al. 2025. Code of practice for virus free seed potatoes grading and inspection. GB/T 29377-2012.

- Sun Q., Du M., **Wu J.**, et al. 2025. Code of practice for grading and inspecting of commercial potatoes. GB/T 31784-2015.
- Sun Q., Feng Z., Han W., ...**Wu J.** (17th place), et al. 2025. Code of practice for in-vitro virus free seed potatoes plantlets breeding. GB/T 29375-2012.

Extension Activities

- **Wu J.** 2023. Training for Extension Specialists: Potato Bacterial Diseases Detection and Management. Zhaosu, Xinjiang Autonomous Region, China
- Provide Potato (Bacterial, Viruse and Fungal) disease diagnosis and pathogen identification service for growers and industry representatives, 50 samples/year
- **Wu J.** 2025. Training for Extension Specialists: Major Potato Diseases Integrated Pest Management Program. Lan County, Shanxi Province, China.
- **Wu J.** 2025. Training for Potato Growers: Potato Bacterial Diseases Integrated Pest Management Program. Wulanchabu County, Inner Mongolia, China.
- Potato Disease Forecasting and Integrated Management Information Platform Website (<http://potatoipm.com>)

Potato Breeding

- Register Potato cultivar: IMU#2 (Registration No. GPD (2023)150056). Zhang R., Sun Q. & **Wu J.** 2023. <https://www.imu.edu.cn/info/1031/10496.htm>

Patents

- Innovative Biochar-Based Carrier System for *Bacillus Strains*. **Wu J.** and Handique U. 2025. ZL 202411723371.2
- Microbial Formulation and Its Preparation and Use in the Management of Potato Common Scab. **Wu J.**, Handique U, and Zhang R.2025. ZL202510868676.0
- Multi-strain Microbial Composition for Controlling Potato Common Scab, and Method of Preparation and Use. **Wu J.** and Handique U. 2025. ZL202510868671.8
- One Bacteriophages of *Entobactor morri*, the Aausing Agent of Tamato Bacterial Wilt. Zhang R., **Wu J.**, and Handique U. 2025. ZL202510429712.3
- Bacteriophage ZB-1 of *Streptomyces* spp. Zhang R., **Wu J.** Handique U., Sun Q. 2025. ZL202510699792.4

Teaching

- Undergraduate Course: Molecular Biology of the Genes/Biochemistry/Plant Pathology
- Graduate Courses: Plant Pathology/Plant Protection/Soil Microbiology

Manuscripts (*corresponding author)

Published

1. Lv J., Liu Teng., **Wu J.** *, Zhu W., Zhang R., Yu J. *, Handique U. *, 2025. Rapid Detection of Potato Common Scab, Powder Scab and Enlarged Lenticel Based on Deep Learning Methods. **Pest Management Science**. doi: 10.1002/ps.70424.
2. Liu C, Zhang J, Ge Y, Lv W, Ding X, Zhu J, Deng Y, Song M, **Wu J**, Handique U, Duan S, Shen Y, Luo F, Xiao S, and Zhou X. 2025. Propionate serves as a degradable control agent of citrus canker by acidifying cytoplasm and depleting intracellular ATP in *Xanthomonas citri*. mBio. e00642-25.
3. Sun Y., Handique U., Sun Q., Feng Z., Zhang R*, Zhou X*, **Wu J***. 2024. Comparative genomic and transcriptome analyses of two *Pectobacterium*

- brasiliense* strains revealed distinct virulence determinants and phenotypic features. **Frontiers in Microbiology**. doi: 10.3389/fmicb.2024.1362283.
4. Zhang S., Zhang C., **Wu J.**, Liu S., Zhang R., Handique U. *2024. Isolation, characterization and application of noble bacteriophages targeting potato common scab pathogen *Streptomyces stelliscabiei*. **Microbiological Research**. 283, 127699. doi.org/10.1016/j.micres.2024.127699
 5. **Wu J.**, Liu J., Liu S., Sun Q., Handique U., and Zhang R*. 2024. Isolation and characterization of lytic bacteriophages infecting *Pectobacterium atrosepticum*. **European Journal of Plant Pathology**. 169, 121 - 130. <https://doi.org/10.1007/s10658-024-02814-3>
 6. Wu J., Duan J., Zhang C., Zhang R., Handique U. *2024. First Report of *Streptomyces brasiliiscabiei* Causing Common Scab on Potato in China. **Plant Disease**. doi.org/10.1094/PDIS-03-24-0607-PDN
 7. **Wu J.**, Zhang R. *, Sun Q., Feng Z, Handique U*. 2024. Species diversity of *Pectobacterium* spp. causing potato aerial stem rot in China. **Plant Disease**. doi.org/10.1094/PDIS-01-24-0168-SC
 8. **Wu J.**, Duan J., Li J., Liu S., Sun Q., Zhang R., and Handique U.* 2023. First Report of *Streptomyces niveiscabiei* Causing Potato Common Scab in Shanxi and Gansu, China. **Plant Disease**. doi: 10.1094/PDIS-06-23-1039-PDN
 9. **Wu J.**, Lv J., Zeng M., Zhang S., Feng Z., Zhang R., and Handique U.*2023. First Report of *Pectobacterium parvum* Causing Diseases on Potato in Inner Mongolia, China. **Plant Disease**. doi: 10.1094/PDIS-06-23-1116-PDN.
 10. Handique U., Wu Y.J. , Liu Y., Duan J. , Lv J. , Zhang R.F.* and **Wu J.***2023. First Report of *Pectobacterium versatile* Causing Blackleg on Potato in Xinjiang and Heilongjiang Province, China. **Plant Disease**. doi: org/10.1094/PDIS-11-22-2595-PDN
 11. Handique U., Cao, Y.N., Wang D., Li W., Sun Q., Feng Z., Zhang R. and **Wu J.*** 2022. First Report of *Pectobacterium punjabense* Causing Blackleg and Soft Rot on Potato in Hebei and Fujian Province, China. **Plant Disease**.doi: org/10.1094/PDIS-12-21-2731-PDN
 12. Handique U., Zhang R.F., Zhang Z.X., Feng Z.W., Sun Q.H. and **Wu J.*** 2021. First Report of *Streptomyces stelliscabiei* Causing Potato Scab in Guizhou Province, China. **Plant Disease**. doi: 10.1094/PDIS-06-21-1242-PDN
 13. Handique, U., Cao, Y. N., Feng Z.W., Sun Q.H., Zhang R.F., and **Wu J.*** 2021. First Report of *Pectobacterium polaris* Causing Blackleg on Potato in Inner Mongolia and Sichuan Province, China. **Plant Disease**. doi: org/10.1094/PDIS-08-21-1788-PDN
 14. Cao Y.N., Sun Q.H., Feng Z.W., Handique U., **Wu J.**, Li W.S. and Zhang R.F.* 2021. First Report of *Pectobacterium parmentieri* Causing Blackleg on Potato in Inner Mongolia, China. **Plant Disease**. doi: 10.1094/PDIS-11-20-2502-PDN

15. **Wu J.** and Johnson E.G.* 2020. *Phytophthora nicotianae* infection of citrus leaves and host defense activation compared to root infection. **Phytopathology**. 110 (8): 1437-1448
16. Alferez F., **Wu J.** and Graham J.H.* 2020. Phospholipase D response to water stress in citrus roots and leaves. **Agronomy**. 2020, 10(1), 45
doi:10.3390/agronomy10010045
17. Feng Z., Cao Y., Sun Q., Li W, **Wu J.**, and Zhang R.F.* 2020. Toxicity measurement of ten bactericides on *Pectobacterium* spp. in Potato. **Chinese Potato Journal**. 34(05): 281-289
18. **Wu J.**, Johnson E.G., Bright D.B., Graham J.H.* 2018. Up regulation of PR1 and less disruption of hormone and sucrose metabolism in roots is associated with lower susceptibility to ‘*Candidatus Liberibacter asiaticus*’. **Plant Pathology**. 67(6), 1426-1435. DOI: 10.1111/ppa.12838.
19. **Wu J.**, Johnson E.G., Bright D.B., Graham J.H.* 2018. Contrasting canopy and fibrous root damage on Swingle citrumelo caused by *Candidatus Liberibacter asiaticus* and *Phytophthora nicotianae*. **Plant Pathology**. 67, 202-209.
20. **Wu J.**, Johnson E.G., Bright D.B., Graham J.H.* 2017. Interaction between *Phytophthora nicotianae* and *Candidatus Liberibacter asiaticus* damage to citrus fibrous roots. *Journal of Citrus pathology* 4(1). eScholarship (University of California)
21. Johnson E.G., **Wu J.**, Bright D.B., Graham J.H.*2014. Association of “*Candidatus Liberibacter asiaticus*” root infection, but not phloem plugging with root loss on huanglongbing-affected trees prior to appearance of foliar symptoms. **Plant Pathology**. 63, 290–298

Professional Services

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