Jennifer Bell

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EDUCATION:

University of Saskatchewan 2017- 2021
Doctorate of Soil Science
Microbial community assembly on leaves, roots, and soil in agricultural and a grassland ecosystem
Advisor – Steven Siciliano

University of Mississippi 2015
Master of Biology – Microbial Ecology
Soil bacterial structure and function associated with the invasive grass *Microstegium vimineum* and two native grasses
Advisor – Colin Jackson

University of Wyoming 2011
B.S. - Molecular Biology
B.A. – Spanish

WORK EXPERIENCE:

University of Wyoming Laramie, WY
August 2024- present
Assistant Professor of Soil Science
Soil microbial communities and biogeochemistry in reclaimed land.

Morton Arboretum and Northern Illinois University Lisle and DeKalb, IL
October 2021 – August 2024
Postdoctoral Researcher
Supervisors Drs. Meghan Midgley (Morton) and Wes Swingley (NIU, October 2021- April 2023)
Soil microbial communities and biogeochemistry in tallgrass prairie restoration. Assisted Dr. Swingley in the mentoring and thesis writing supervision of Desiree Klimek and Ali Oku. Co-mentored postbaccalaureate fellow Jorge Jaime-Rivera with Dr. Midgley. Independently mentored one REU student (Aislinn Geedey) and two high school interns (Christian Cline and Sofia Zasiebida).

University of Saskatchewan Saskatoon, Saskatchewan, Canada
January 2017 – September 2021
Graduate Research Assistant
Supervised undergraduate and graduate students in field collections, DNA sequencing, supervised and mentored undergraduate students, taught graduate students molecular methods, assisted in Arctic restoration project set up.
Graduate Teaching Assistant 2018 – May 2021
Taught laboratory or discussion sections for Discovery in Plant and Soil Science (AGRC 111), Agricultural Soil Science (SLSC 240), Renewable Resources and the Environment (EVSC 111) and Field Studies in the Environment (ASKI 101, First Nations course)

University of New Mexico Biology Department Albuquerque, NM

June 2015 – December 2016
Lab manager
Rudgers – Whitney Laboratory
Supervised undergraduate workers and graduate students, maintain laboratory inventory, extensive fieldwork in dry land and grass land ecosystems, maintain on going greenhouse experiments, preform DNA/RNA extraction and amplification, soil nutrient analysis, experimental design, fungal culturing and quantification

University of Mississippi Biology Department Oxford, MS
August 2013 – May 2015
Graduate Teaching Assistant
Taught laboratories for general microbiology, microbial physiology and biology for nonmajors
Research Assistant
Worked on an NIH funded project examining bacterial communities associated with *Echinacea purpurea;* primary duties include performing DNA extractions, qPCR, bacterial culturing and Illumnia sequencing.

University of Wyoming Botany Department – Terrestrial Ecosystem Ecology Laboratory, Laramie, WY
Laboratory Manager 2012-2013
Laboratory and field assistance August 2009 – 2012
Advisor – Elise Pendall
Assisted in collecting and processing samples, data entry, and fieldwork at the Prairie Heating and CO_2 Enrichment site (PHACE). Worked on biogeochemistry, nutrient cycling and GHG fluxes.

PUBLICATIONS:

- **Bell, J. K.,** Swingley, W. D., & Midgley, M. G. (2025). Bison and burn timing shape arbuscular mycorrhizal diversity and community composition in tallgrass prairie restorations. *Applied Soil Ecology*, *206*.
- **Bell, J. K.,** Siciliano, S. D., & Lamb, E. G. (2023). Seasonality and bacterial community assembly processes dominate prairie ecosystem service disruption during invasion. *Soil Biology and Biochemistry*, *184*.
- Barber, N. A., Klimek, D. M., **Bell, J. K**., & Swingley, W. D. (2023). Restoration age and reintroduced bison may shape soil bacterial communities in restored tallgrass prairies. *FEMS Microbiology Ecology*, *99*(3)
- Aguiar, M., Conway, A. J., **Bell, J. K**., & Stewart, K. J. (2023). Agroecosystem edge effects on vegetation, soil properties, and the soil microbial community in the Canadian prairie. *PloS One*, *18*(4), e0283832.
- **Bell, J.K.,** Siciliano, SD., Lamb, EG., Smooth brome invasion alters microbial community assembly processes and ecosystem services *Accepted* Soil Biology and Biogeochemistry.
- **Bell, J. K.,** Mamet, S. D., Helgason, B., & Siciliano, S. D. (2022). Brassica napus Bacterial Assembly Processes Vary with Plant Compartment and Growth Stage but Not between Lines. *Applied and Environmental Microbiology*, *88*(10).
- **Bell, J. K.,** Helgason, B., & Siciliano, S. D. (2021). Brassica napus phyllosphere bacterial composition changes with growth stage. *Plant and Soil*, *464*(1–2), 501–516.

- **Bell, J. K.,** Siciliano, S. D., & Lamb, E. G. (2020). A survey of invasive plants on grassland soil microbial communities and ecosystem services. *Scientific Data*, *7*(1), 1–8.
- Bazghaleh, N., **Bell, J. K***., Mamet, S. D., Moreira, Z. M., Taye, Z. M., Williams, S., Norris, C., Dowhy, T., Arcand, M., Lamb, E. G., Links, M., Shirtliffe, S., Vail, S., Siciliano, S. D., & Helgason, B. (2020). An intensive multilocation temporal dataset of fungal and bacterial communities in the root and rhizosphere of Brassica napus. *Data in Brief*, *31*
- Taye, Z. M., Helgason, B. L., **Bell, J. K.**, Norris, C. E., Vail, S., Robinson, S. J., Parkin, I. A. P., Arcand, M., Mamet, S., Links, M. G., Dowhy, T., Siciliano, S., & Lamb, E. G. (2020). Core and Differentially Abundant Bacterial Taxa in the Rhizosphere of Field Grown Brassica napus Genotypes: Implications for Canola Breeding. *Frontiers in Microbiology*, *10*(January), 1–16
- Whitney, K. D., Mudge, J., Natvig, D. O., Sundararajan, A., Pockman, W. T., **Bell, J.,** Collins, S. L., & Rudgers, J. A. (2019). Experimental drought reduces genetic diversity in the grassland foundation species *Bouteloua eriopoda*. *Oecologia*, *189*(4), 1107–1120.
- Tucker, C. L., **Bell, J**., Pendall, E., & Ogle, K. (2013). Does declining carbon-use efficiency explain thermal acclimation of soil respiration with warming? *Global Change Biology*, *19*(1), 252–263.
- Nie, M., Meng, L., **Bell, J.**, Raut, S., Pendall, E., (2013). Altered root traits due to elevated CO2: a meta-analysis. *Global Ecology and Biogeography.* 10: 1095-1105.

*co-first authors

TEACHING EXPERIENCE:

- REWM 4200/5200: Reclamation of Drastically Disturbed Lands. University of Wyoming, Fall 2024- going
- SOIL 4140/5140: Soil Microbiology. University of Wyoming, Spring 2025

GRANTS:

Friends of Nachusa Science Grant 2022 - $4,750
NSF REU Supplement - $7,600

PRESENTATIONS:

2024:

Soil Ecological Society – Grand Rapids, MI
Arbuscular mycorrhizal communities in tallgrass prairie restorations vary with restoration age and bison grazing
Bell, J.K., Swingley, W., Midgley, M.
Roads to Removal – Laramie, WY – *invited talk*
Was a panelist for the panel discussion on Soil and Rangeland Management

2023:

Nachusa Science Symposium – Lee County, IL – *invited talk*
Arbuscular mycorrhizal communities in tallgrass prairie restorations vary with restoration age and bison grazing
Bell, J.K., Swingley, W., Midgley, M.

Global Soil Biodiversity – Dublin Ireland
Soil microbial communities and biogeochemistry in tallgrass prairie restoration
Bell, J.K., Swingley, W., Midgley, M.

Ecological Society of America - Portland Oregon
Bison and burning shape arbuscular mycorrhizal communities in tallgrass prairie restorations
Bell, J.K., Swingley, W., Midgley, M.

2022:
Wild Ones, Lake to Prairie Chapter – Grayslake, Illinois – *invited talk*
Prairie Plants and Restoration
Bell, J.K., Leavens, E.

2019*:*
P²IRC Symposium - Saskatoon, Saskatchewan
Canola leaf microbiome
Bell, J.K., Siciliano, S.D.

Rhizosphere 5- Saskatoon, Saskatchewan
Smooth brome invasion effects on soil structure and ecosystem services
Bell, J.K., Lamb, E.G., Siciliano, S.D.

Canadian Soil Science Society Annual Meeting -Saskatoon, Saskatchewan
Smooth brome invasion effects on soil structure and ecosystem services
Bell, J.K., Lamb, E.G., Siciliano, S.D.

2018*:*
P²IRC Symposium – Saskatoon, Saskatchewan
Improving Amplification of Bacterial 16S rRNA from Plant Tissues
Bell, J.K., Morales, Z., Helgason, B., Siciliano, S.D.

Ecology of Microorganisms – Helsinki, Finland
Soil microbial communities and ecosystem services in a grassland undergoing invasion
Bell, J.K., Lamb, E.G., Siciliano, S.D.

ISME 17 – Leipzig, Germany
Soil microbial communities and ecosystem services in a grassland undergoing invasion
Bell, J.K., Lamb, E.G., Siciliano, S.D.

2017*:*
P²IRC Symposium – Saskatoon, Saskatchewan
Bell, JK., Taye, ZM., Morales, Z., Williams, S., Arcand, M., Lamb, E. G., Helgason, B. L., Siciliano, S.D.,
Linking the plant microbiome to crop productivity

2015*:*
South Eastern Ecology and Evolution Conference - *Athens, Georgia*
Soil extracellular enzyme activity of the invasive grass *Microstegium vimineum* and two native grasses
Bell, J.K., Jackson, C.

COMMITTEES AND VOLUNTEER:

- Rhizosphere 5 Local Organizing Committee: graduate student volunteer coordinator and graduate student representative on the organizing committee, social media manager

- Canadian Soil Science Society annual meeting – helped referee sessions and helped with set up and logistics
- College of Agriculture and Bioresources Dean Search Committee: graduate student representative for the college
- Western Grains Research Foundation Search Committee: Soil Science graduate student representative
- Soil Science Graduate Student Association: external graduate student representative and communications officer

REVIEWER:

Soil and Tillage Research
Microbial Ecology
Scientific Data
Environmental Science and Pollution Research
MSphere
BMC Microbiology
Environmental Microbiome
Phytobiomes
Biological Invasions
Restoration Ecology
Ecological Indicators
Molecular Ecology

HONORS:

- Soil Science Devolved Scholarship - $16,000
- Saskcanola Dr. Roger Rimmer Graduate Student Scholarship - $36,000
- Saskatchewan Innovation and Opportunity Scholarship - $20,000
- Hansen Award in Soil Science
- Purdy Postgraduate Scholarship
- John Baerg Research Fund

OTHER SKILLS:

Extensive R and statistical experience in both linear and multivariate methods
QIIME2 and Mothur
Social media for departments, conferences and student organizations
Fluent in Spanish