

Brett Lane

Assistant Professor, Synthetic Microbial Communities
Department of Agronomy, Kansas State University
1712 Claflin Road, 2004 Throckmorton PSC, Manhattan, KS 66506

EDUCATION

- PhD Plant Pathology**, University of Florida, Gainesville, FL December 2021
Major Advisor: Erica Goss, PhD
Dissertation: Impact of an emerging *Bipolaris* pathogen on the microbial community of invasive *Microstegium vimineum*
- MS Plant Pathology**, Purdue University, West Lafayette, IN August 2017
Major Advisor: Charlie Woloshuk, PhD
Thesis: Environmental effects on the efficacy and microflora of hermetically stored maize
- BA Biochemistry**, Hanover College, Hanover, IN May 2014

PROFESSIONAL EXPERIENCE

- Assistant Professor** March 2026 – Present
Department of Agronomy Kansas State University, Manhattan, KS
- NSF Postdoctoral Research Fellow** June 2023 – March 2026
Department of Plant Pathology University of Minnesota, St. Paul, MN
- Postdoctoral Research Associate** January 2022 – May 2023
Department of Plant Pathology University of Minnesota, St. Paul, MN
- Graduate Research Fellow** August 2017 – December 2021
Department of Plant Pathology University of Florida, Gainesville, FL
- Lab Manager** May 2018 – December 2021
Goss Lab – BSL2 certified lab University of Florida, Gainesville, FL
- Graduate Research Assistant** January 2015 – July 2017
Department of Botany and Plant Pathology Purdue University, West Lafayette, IN
- Seasonal Crop Scout** May – August, 2010 & 2011

SELECTED PUBLICATIONS

- Lane, B.R., Wojan, C.M., Meehan, C., Kendig, A., Kortessis, N., Holt, R.D., Harmon, P.F., Clay, K., Flory, S.L., Goss, E.M. *In Press*. Foliar pathogen epidemic alters the decomposition of invasive plant litter. doi: 10.1002/ecy.70374
- Lane, B.R., Tran, A.K., Gieske, M.F., Kinkel, L.L. *In Review*. Lignin utilization drives antagonism in soilborne *Streptomyces*. Preprint at:10.1101/2025.07.14.664736
- Dundore-Arias, J.P., Michalska-Smith, M.J., Hansen, Z.A., Klasek, S.A., Lane, B.R., Kinkel, L.L. 2026. Stimulating New Ways of Thinking in Agricultural Microbiome Research: A Community-Based Interactive Thinkathon Workshop. Phytobiomes. doi: 10.1094/PBIOMES-12-25-0097-MR
- Adhikari, A., Lane, B., Harmon, P.F., Goss, E.M. 2025. *Bipolaris* species associated with foliar diseases on invasive and weedy grasses in Florida. *Mycologia* 117(6):1067-1076. doi: 10.1080/00275514.2025.2500340

- Lane, B.R.**, Kuhs, M.A., Zaret, M.M., Song, Z., Borer, E.T., Seabloom, E.W., Schlatter, D., Kinkel, L.L. 2025. Foliar fungi-imposed fitness costs moderate shifts in rhizosphere composition. *Frontiers in Plant Science* 16:1558191.
- Adhikari, A., Fulton, J.C., **Lane, B.R.**, Brawner, J.T., Rollins, J., Harmon, P.F., Goss, E.M. 2025. Genome resource announcement for emerging pathogen *Bipolaris gigantea*, isolated from *Microstegium vimineum*. *PhytoFrontiers* 5:100-104.
- Lane, B.R.**, Anderson, H.M., Dicko, A.H., Fulcher, M.R., Kinkel, L.L. 2023. Temporal dynamics of *Streptomyces* resource utilization influences competitive interactions. *Environmental Microbiology*. doi: 10.1111/1462-2920.16498.
- Lane, B.**, Kendig, A.E., Wojan, C.M., Adhikari, A., Jusino, M.A., Kortessis, N., Simon, M.W., Holt, R.D., Clay, K., Flory, S.L., Harmon, P.F., Goss, E.M. 2022. Fungicide mediated shifts in the foliar fungal community of an invasive grass. *Phytobiomes*. doi:10.1094/PBIOMES-03-22-0018-R
- Kendig, A.E., Adhikari, A., **Lane, B.R.**, Wojan, C.M., Kortessis, N., Simon, M.W., Barfield, M., Harmon, P.F., Holt, R.D., Clay, K., Goss, E.M., Flory, S.L. 2022. Effects of disease emergence on invasive grass impacts. *bioRxiv*. doi:10.1101/2022.03.09.483680
- Lane, B.**, Stricker, K.B., Adhikari, A., Ascunce, M.S., Clay, K., Flory, S.L., Smith, M.E., Goss, E.M., Harmon, P.F. 2020. Large-spored *Drechslera gigantea* is a *Bipolaris* species causing disease on the invasive grass *Microstegium vimineum*. *Mycologia* 112.5:921-931.
- Goss, E.M., Kendig, A.E., Adhikari, A., **Lane, B.**, Kortessis, N., Holt, R.D., Clay, K., Harmon, P.F., Flory, S.L. 2020. Disease in invasive plant populations. *Annual Review of Phytopathology*. 58:97-117.
- Kendig, A.E., Flory, S.L., Goss, E.M., Holt, R.D., Clay, K., Harmon, P.F., **Lane, B.R.**, Adhikari, A., Wojan, C.M. 2020. The role of pathogens in plant invasions. In *Plant invasions: the role of biotic interactions*. CABI. pp. 208-225.
- Adhikari, A., Wang, X., **Lane, B.**, Harmon, P.F., Goss, E. 2020. First report of *Bipolaris yamadae* leaf spot disease on Guinea grass (*Panicum maximum*) in Florida. *Plant Disease* 105:1208
- Lane, B.**, Sharma, S., Niu, C., Maina, A.W., Wagacha, J.M., Bluhm, B.H., Woloshuk, C.P. 2018. Changes in the fungal microbiome of maize during hermetic storage in the United States and Kenya. *Frontiers in Microbiology* 9:2336.
- Lane, B.** and Woloshuk, C.P. 2017. Impact of storage environment on the efficacy of hermetic storage bags. *Journal of Stored Products Research* 72:83-89.

CONTRIBUTED TALKS

- Lane, B.** 2025 From Partitioning to Profiling: Adventures in the Rhizosphere. University of Minnesota, Plant Pathology Seminar. September 2025.
- Lane, B.** 2023. Beyond the grave: The impacts of emerging pathogens may outlast senescence. University of Minnesota, Plant Pathology Seminar. April 2023.
- Lane, B.**, Kendig, A.E., Wojan, C.M., Adhikari, A., Jusino, M.A., Kortessis, N., Simon, M.W., Holt, R.D., Clay, K., Flory, S.L., Harmon, P.F., Goss, E.M. 2021. Changes in the fungal microbial community on an invasive grass after foliar fungicide application. *Plant Health* 2021. August 2021.

- Lane, B.R.**, Wojan, C.M., Kendig, A., Heiss, N.J., Holt, R.D., Harmon, P.F., Clay, K., Flory, S.L., Goss, E.M. 2021. Emerging pathogens inhibit early season invasive grass litter decomposition. Ecological Society of America 2021. August 2021.
- Lane, B.**, Kendig, A.E., Wojan, C.M., Adhikari, A., Jusino, M.A., Kortessis, N., Simon, M.W., Holt, R.D., Clay, K., Flory, S.L., Harmon, P.F., Goss, E.M. 2021. Foliar fungicide application is associated with changes in the mycobiome on invasive grass. Florida Phytopathological Society Biennial Meeting. May 2021.
- Lane, B.R.**, Hernandez, K., Adhikari, A., Goss, E.M., Harmon, P.F. 2019. Emergence of a novel *Pyricularia* on invasive grass in Southern Indiana. Florida Phytopathological Society Biennial Meeting. April 2019. Lake Alfred, FL.

CONTRIBUTED ABSTRACTS

- Lane, B.R., Tran, A., Kinkel, L.L. 2025 Linking lignin degradation and antimicrobial activity in *Streptomyces*. Plant Health 2025. August 2-5, 2025.
- Tran, A., **Lane, B.R.**, Kinkel, L.L. 2025 Lignin degrading *Streptomyces* enhance soil antagonism. University of Minnesota Spring Undergraduate Research Symposium
- Lane, B.R.**, Kuhs, M.A., Zaret, M.M., Song, Z., Borer, E.T., Seabloom, E.W., Schlatter, D., Kinkel, L.L. 2023 Foliar fungi-mediated impacts on aboveground productivity moderate shifts in rhizosphere composition. Plant Health 2023. August 12-16, 2023.
- Lane, B.R.**, Gieske, M.F., Anderson, H.M., Fulcher, M.R., Kinkel, L.L. 2022. Impacts of crop management on nutrient use among soil *Streptomyces*. Plant Health 2022. August 6-10, 2022.
- Adhikari, A., **Lane, B.**, Harmon, P.F., Goss, E.M. 2022. Identification and management of *Bipolaris* species associated with foliar diseases on invasive and weedy grasses in Florida. Plant Health 2022. August 6-10, 2022.
- Lane, B.R.**, Kendig, A., Wojan, C., Stricker, K.B., Adhikari, A., Ascunce, M., Smith, M.E., Clay, K., Flory, S.L., Harmon, P.F., Goss, E.M. 2020. Ecological implications of an emerging pathogen on the invasive grass *Microstegium vimineum*. Plant Health 2020 Online. August 10-14, 2020.
- Kendig, A., Adhikari, A., Barfield, M., Clay, K., Goss, E.M., Harmon, P.F., Holt, R.D., Kortessis, N., **Lane, B.R.**, Wojan, C.M., Flory, S.L. 2020. Generalist fungal pathogens can reduce the impacts of an invasive understory grass on native grasses. 2020 ESA Annual Meeting. August 3-6, 2020.
- Kendig, A., Wojan, C.M., Benitez, L., Adhikari, A., **Lane, B.R.**, Barfield, M., Holt, R.D., Harmon, P.F., Clay, K., Goss, E.M., Flory, S.L. 2019. Effects of pathogen accumulation on native-invasive plant interactions. 2019 Ecological Society of America. August 11-16, 2019.
- Lane, B.R.**, Hernandez, K., Adhikari, A., Goss, E.M., Harmon, P.F. 2019. A novel *Pyricularia*-like species on *Microstegium vimineum* in Indiana. 2019 American Phytopathological Society. August 3-7, 2019.
- Lane, B.**, Adhikari, A., Harmon, P.F., Goss, E.M. 2018. Brn1 as a novel barcode for culture-independent identification of *Bipolaris* species. 2018 International Congress of Plant Pathology. July 29- August 3, 2018.
- Adhikari, A., **Lane, B.**, Harmon, P.F., Goss, E.M. 2018. Suppression of *Bipolaris* spp. by the saprophytic fungi *Cladosporium pseudocladosporioides*. 2018 International Congress of Plant Pathology (ICPP). July 29- August 3, 2018.

- Lane, B.** and Woloshuk, C.P. 2016. Efficacy of Hermetic Storage Bags to Reduce Maize Spoilage Under Different Environmental Conditions. 2016 International Congress of Entomology. September 25-30, 2016.
- Lane, B.** and Woloshuk, C.P. 2016. Assessment of Hermetic Storage of Maize Under Different Environmental Conditions. 2016 American Phytopathological Society Annual Meeting (APS). July 30 - August 3, 2016.

EXTERNAL FUNDING

- Does long-term selection for growth on recalcitrant vs labile carbon impact *Streptomyces* nutrient use or inhibitory phenotypes? NSF – Postdoctoral Research Fellowships in Biology. 2023. *PI*. Funded.
- Invasive species as conduits for pathogen spillover between natural and agricultural ecosystems. Joint NSF/NIH/USDA – Ecology and Evolution of Infectious Diseases 2021. *Significant contributor*. Funded 2023.
- Investigating the effects of pathogens on foliar endophyte communities. USDA-AFRI Predoctoral Education and Workforce Development. 2019 *PI*. Not funded.
- Effects of foliar plant pathogen accumulation of soil microbial community diversity and function. JGI – Community Science Program. 2019. *Primary Author*. Invited from preproposal. Not funded.

BROADER IMPACTS

Minnesota State Science & Engineering Fair, Judge	2023-2025
Roland Peterson Agricultural Education Science Fair, Judge	2023-2025
Agricultural Microbiomes Thinkathon: A Community-Based Interaction Workshop. <i>Moderator</i> . At: Plant Health Conference	2023
Seed School in a Day, Seedborne Diseases	2018-2019
CALS Tailgator, Plant Pathology Outreach	2017-2019
Plant Pathology Middle/High School Teacher Workshop	2018-2019

ACADEMIC SERVICE

Committees and Panels

Southern Sustainable Agriculture Research and Education Graduate Student Grant, <i>Technical reviewer</i>	2025
University of Minnesota, Department of Plant Pathology Graduate Admissions Committee	2024-2025
University of Minnesota, College of Food, Agriculture, and Natural Resource Sciences – Committee on Diversity and Inclusion	2023-2025
University of Minnesota, Department of Plant Pathology Social Committee <i>Postdoctoral member</i>	2024-Present
Graduate Women in Science (GWIS) National Fellowship Program, <i>Grant review panel</i>	2023

Peer review

Over 40 articles in over 20 journals including Environmental Microbiology, Microbial Ecology, Pedobiologia, Phytobiomes, and New Phytologist.

TEACHING

Plants Get Sick Too, PLPA 1005, <i>Guest Lecturer</i>	Fall 2024
Ecology, Epidemiology, and Evolutionary Biology of Plant Microbe Interactions, PLPA 5444, <i>Class Redesign</i>	Spring 2024
Microbes for Sustainable Agriculture, PLPA 5004, <i>Guest Lecturer</i>	Fall 2023
Ecology, Epidemiology, and Evolutionary Biology of Plant Microbe Interactions, PLPA 5444, <i>Guest Lecturer</i>	Spring 2022
Fundamentals of Plant Pathology, PLP 3002C, <i>Teaching Assistant</i>	Fall 2019
Field Plant Pathology, PLP 6905, <i>Teaching Assistant</i>	Spring 2019

AWARDS & HONORS

<i>Mentor of UMN</i> Departmental Outstanding Undergraduate Student Award	2025
National Science Foundation, Postdoctoral Research Fellowship in Biology	2023
Stella Melugin Coakley Travel Award, APS Foundation	2021
Departmental Travel Award, UF Department of Plant Pathology	2019
Harry E. Wheeler Student Travel Award, APS Foundation	2018
F.A. Wood Memorial Travel Award, UF Department of Plant Pathology	2018
University of Florida Graduate Research Fellowship	2017

CERTIFICATIONS & TRAININGS

Tribal Relations Training, University of Minnesota	2024
Equity and Diversity Certificate Program, University of Minnesota	2023
New Faculty Program, University of Minnesota	2023
Anti-Racist Mentoring Workshop	2022

PROFESSIONAL AFFILIATIONS

American Phytopathological Society	2015 – Present
<ul style="list-style-type: none">• Soil Microbiology and Root Diseases, Subject Matter Committee• Phyllosphere Microbiology, Subject Matter Committee• Evolutionary Genomics and Genetics, Subject Matter Committee	
University of Florida Plant Pathology Graduate Student Organization	2017 – 2021
<ul style="list-style-type: none">• Vice President, 2018-2019• Social Committee, Chair 2018-2019• Outreach Committee• Student Liaison – Departmental Curriculum Committee	