RYLEIGH J. KIRBY

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EDUCATION

Ph.D. University of Nebraska-Lincoln *December 2030*
Ph.D. Student, Complex Biosystems
Integrated Plant Biology Specialization
Co-advised by Dr. Brandi Sigmon & Dr. James Schnable

BS University of Nebraska-Lincoln *December 2025*
Bachelor of Science in Plant Biology

RESEARCH & TEACHING EXPERIENCE

University of Nebraska-Lincoln, Lincoln NE *January 2026 to current*
Graduate Research Assistant, Dr. James Schnable

- Lead a project centered on AI-driven image analysis and trait extraction from an existing leaf dataset, while supporting lab operations through the care and phenotyping of gene-edited maize and sorghum lines

University of Nebraska-Lincoln, Lincoln NE *January 2026 to current*
Graduate Research Assistant, Dr. Brandi Sigmon

- Design and implement a novel PLAS 215 Genetics lab module that adapts Schnable Lab phenomics/genomics research

University of Nebraska-Lincoln, Lincoln NE *January 2026 to current*
Graduate Teaching Assistant, Dr. Brandi Sigmon

- Ongoing instruction of at least one lab section each fall and spring to build teaching experience and DBER-focused portfolio

University of Nebraska-Lincoln, Lincoln NE *May 2022 to December 2025*
Undergraduate Research Assistant, Dr. James Schnable

- Gain expertise in plant genetics, comparative genomics, quantitative genetics, and high throughput phenotyping; assist in existing research projects

University of Nebraska-Lincoln, Lincoln NE *January 2024 to December 2025*
Undergraduate Teaching Assistant, Dr. Christian Elowsky

- Run a three-hour botany (PLAS 278) lab as well as curated all material for PLAS 131 recitations

University of Nebraska-Lincoln, Lincoln NE *June 2024 to May 2025*
UCARE Researcher, Research Advisor: Dr. James Schnable

- Received funding to investigate the gene families' evolutionary pattern within the PACMAD grass clade

Syngenta Agrichemical Company, Slater IA *May 31 to Aug 2023*
NA Discovery Breeder Intern, Dr. Scott Stelpflug

- Summer project that runs in conjunction with senior leaders in Syngenta

SKILLS

PROGRAMMING	R | Linux command-line | Python | Tensorflow | Scikit-learn
DOMAIN EXPERIENCE	Quantitative genetics | statistics | genomics | data wrangling
SOFT SKILLS	Project management | science communication | STEM teaching | collaboration

SERVICE

Plant Biology Club, Lincoln NE — *Aug 2022 to current*
Member, Club Advisor: Dr. Christian Elowsky
President, Club Advisor: Dr. Christian Elowsky (*current role*)

UNL CASNR Student Advisory Board, Lincoln NE — *Aug 2023 to December 2025*

Herpetology Club, Lincoln NE — *Aug 2022 to May 2025*
Member, Club Advisor: Mr. Dennis Ferraro
Treasurer, Club Advisor: Mr. Dennis Ferraro
Vice President, Club Advisor: Mr. Dennis Ferraro

PRESENTATIONS & TALKS

ASPB Midwest Annual Meeting, Lincoln, NE — *March 21-22 2025*

Maize Genetics Meeting, St. Louis, MO — *March 6-9 2025*

Kansas Herpetological Society Annual Meeting, Hays, KS — *November 1-3 2024*

Nebraska Plant Science Symposium, Lincoln, NE — *April 29th 2024*

UNL Student Research SLAM, Lincoln, NE — *March 28th 2024*

UNL Plant Science Symposium, Lincoln, NE — *Nov 2nd 2023*

National Corn Congress, Washington, D.C. — *July 17-21 2023*

UNL Student Research SLAM, Lincoln, NE — *March 31st 2023*

MLCAS Workshop/Conference, Ames, IA — *Oct 10-11th 2022*

NJAS State Conference, Lincoln, NE — *March 28th 2022*

UNL Research Symposium, Lincoln, NE — *Aug 2021, 2022, 2023, 2024, 2025*

ACADEMIC PUBLICATION(S)

Davis, J., Galliard, M., Tross, M., Shrestha, N., Ostermann, I., **Grove, R.**, Li, B., Benes, B., Schnable, J. (2025). 3D Reconstruction Enables High-Throughput Phenotyping and Quantitative Genetic Analysis of Phyllotaxy. University of Nebraska, Lincoln. The Plant Phenome Journal. DOI: 10.03.616344

Tross, M., Grzybowski, M., Jubery, T., **Grove, R.**, Nishimwe, A., Torres-Rodriguez, J.V., Sun, G., Ganapathysubramanian, B., Schnable, J. (2024). Data driven discovery and quantification of hyperspectral leaf reflectance phenotypes across a maize diversity panel. University of Nebraska, Lincoln. The Plant Phenome Journal. DOI: 10.1002/ppj2.20106

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Ostermann, I., Benes, D., Gaillard, M., Li, B., Davis, J., **Grove, R.**, Shrestha, N., Tross, M., Schnable, J. (2024). Sorghum Segmentation and Leaf Counting Using in Silico Trained Deep Neural Model. Purdue University, West Lafayette, Indiana. The Plant Phenome Journal. DOI: 10.1002/ppj2.70002

Tross, M. C., Gaillard, M., Zweiner, M., Miao, C., **Grove, R. J.**, Li, B., Benes, B., Schnable J. C. (2021). 3D reconstruction identifies loci linked to variation in the angle of individual sorghum leaves. University of Nebraska, Lincoln. PeerJ. DOI: 10.1101/2021.06.15.448566.

REFERENCES

Dr. James Schnable (402) 472-4540
Nebraska Corn Checkoff Presidential Chair schnable@unl.edu
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Dr. Scott Stelpflug (515) 685-5000
Head of NA Corn Germplasm Development at Syngenta scott.stelpflug@syngenta.com
2369 330th St, Slater, IA 50156

Dr. Christian Elowsky (402) 472-2848
Assistant Professor of Practice; Plant Biology Academic Advisor celowsky@unl.edu
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