AGRONOMY SEMINAR SERIES

FALL 2025

MONDAY, SEPTEMBER 15, 2025

2:30 P.M. LILY 2-425

Attend virtually via Zoom

Seminar links will be posted at: purdue.ag/agryseminars

Alexander E. Lipka is an Assistant Professor of Biometry in the Department of Crop Sciences at the University of Illinois at Urbana-Champaign. His research interests include the development of optimal statistical approaches for genome-wide association studies and genomic selection. He participates in multidisciplinary collaborations that focus on various genomic-related issues including the contributions of nonadditive effects to phenotypic variation and the identification of genomic variants associated with agronomic and health-related traits.

DR. ALEXANDER E. LIPKA

ASSOCIATE PROFESSOR, DEPARTMENT OF CROP SCIENCES
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Leveraging recent biological findings and resources into crop statistical genetics

The Lipka Lab the University of Illinois seeks to explore how statistical genetics can be optimized to gain a better understanding on the genetic architecture of agronomically important traits. This could lead to even more efficient applications of genomic prediction to crop breeding programs. Three projects highlighting this overall objective are presented. The first involves using a mixed random forest approach to identify rare variants in a statistically rigorous manner. The second is a forward-in-time simulation study that empirically assesses how often the quantitative genetics parameters evolve across subpopulations; this research will pave the way for future studies to quantify evidence for emerging theories on genetic architecture such as the omnigenic model. The third is a completed project in which genomic prediction was used to identify a subset of highly connected maize transcription factors that putatively also contribute to phenotypic variance of leaf angle in sorghum.

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