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13th Annual Symposium Held in Manhattan

by Jennifer Rhodes

EGI hosted its 13th annual symposium November 6-8, in Manhattan, Kansas. Organized by a committee and led by co-directors Loretta Johnson and Michael Herman, the symposium highlighted six invited speakers and 12 poster invited abstract speakers. Attendees represented 38 institutions, 21 states and four countries. Provost and Senior Vice President April Mason kicked off the symposium Friday evening by welcoming the 122 attendees to Manhattan.

Speakers at the symposium were:

- Scott V. Edwards, Harvard
- Michael Lynch, Indiana University
- Melissa Pespeni, University of Vermont
- Stacey D. Smith, University of Colorado Boulder

- Joan Strassmann, Washington University, St. Louis
- Michi Tobler, Kansas State University

Fifty-seven posters were on display throughout the symposium, as well as, highlighted during two poster sessions.

Numerous positive comments were received. Adam Schieferecke, sophomore in microbiology at K-State, commented, "Networking with other scientists in the field gave me helpful insight to challenges I face in my research project. Listening to the talks of leading scientists in the field expanded my knowledge and interests by exposing me to a diverse sampling of cutting-edge research currently happening in ecological genomics."

This year's symposium was funded by Kansas State University and Arthropod Genomics.



2016 Symposium Returning to KC

News regarding dates, location and funding for 2016 symposium.

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14th Annual Symposium Will Yield Special Issue of *Genome*

The Ecological Genomics Institute would like to announce a newly established partnership with the journal *Genome* for a special issue comprised of papers based on the invited speaker presentations at the upcoming 2016 symposium. This symposium planning committee is excitedly busy selecting speakers and contributors for year's symposium. More details to come!



14th Annual Symposium Scheduled

The 14th Annual Ecological Genomics Institute symposium is scheduled for October 28-30, 2016, in Kansas City, Missouri, at the Marriott Country Club Plaza. More details available soon!!

Former EGI student selected to serve on the GSA Membership Committee

Alison Gerken, a K-State biology graduate and former EGI student, is one of nine new Trainee Representatives who will serve on the Genetics Society of America's membership committee.

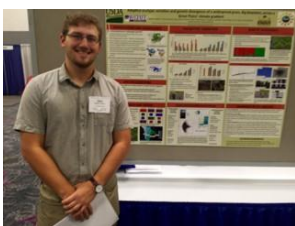
The GSA Trainee Representative program began in 2013 as a way to engage students and postdocs in the Society and offer an opportunity for the voices and perspective of early-career scientists to be heard at the board level. Trainees were selected through a competitive application process based on demonstrated leadership roles, volunteer service, and letters of recommendation. These new representatives will hold two-year terms beginning January 1, 2016.



Alison is currently a postdoc at the University of Florida in Dr. Lauren McIntyre's lab. While at KSU, she worked in the lab of Dr. Ted Morgan, associate professor of Biology.

Galliard to represent KSU at Capitol Graduate Research Summit

Taken from K-State Today



Matthew Galliard, master's student in Biology, was one of ten K-State graduate students chosen to represent the university at the 13th Capitol Graduate Research Summit, February 2, 2016, at the State Capitol in Topeka. Students were selected based on their research presentations at Research and the State, an annual on-campus event that occurred October 27. Research and the State involved 50 participants from four colleges and 20 departments. The event was sponsored by the Graduate Student Council, the Graduate School, the Office of the President and the Office of the Provost and Senior Vice President. Each winner received a

\$250 scholarship.

At the Capitol Graduate Research Summit, Matt will have the opportunity to present and showcase his research in front of the Kansas Board of Regents and Kansas legislators. Matt will present "Adaptive ecotypic variation and genetic divergence of a widespread grass *Andropogon gerardii* across a great plains' climate gradient." His advisor is Loretta Johnson.



Featured People



Andrew Hope
Research Assistant Professor

Andrew Hope joined the Division of Biology and EGI in 2014 as a research assistant professor, moving from the U.S. Geological Survey in Anchorage, AK. His research lies at the intersection of molecular ecology and evolution with a strong focus on applied management and conservation of biodiversity as it responds to environmental change through time. In particular he uses small mammal species and their associated parasites (communities within communities) to understand the dynamics surrounding contact zones where wildlife associated with distinct biomes interacts. Using a combination of genomic sequencing methods and comprehensive specimen archives, he investigates the interplay between processes of adaptation, hybridization, speciation, and emerging disease. To access his publications, visit <https://scholar.google.com/citations?user=UicqcSQAAAAJ&hl=en>.



Yi Li
Postdoc

Yi received her doctorate from Purdue University in 2015. Her PhD work focused on how gene evolution contributes to metabolic diversity in plants using a range of genetic, molecular, phylogenetic and biochemical tools. She is continuing her training and research interest in evolution as a postdoctoral research associate of Dr. Bradley Olson at KSU, specifically understanding the evolutionary trajectory of multicellularity using algal species. Her current training is using genomics and transcriptomic approaches to answer these biological questions in addition to her biochemistry background.



Tom Platt
Assistant Professor

Tom Platt joined K-State and EGI this past fall when he became an assistant professor in the Division of Biology. Tom's research interests focus on the ecological and genetic factors influencing the evolution of bacterial pathogens as well as the epidemiological consequences of these dynamics. The evolution of cooperative pathogenesis, virulence evolution, and the forces driving plasmid dynamics are central themes of Tom's research. His lab website can be found at www.platt-lab.com.



Lydia Zeglin
Assistant Professor

Lydia Zeglin received her Ph.D. in Biology in 2008 from the University of New Mexico, and completed postdoctoral work in soil microbial ecology at Oregon State University and the U. S. Geological Survey, before moving to Kansas State University in 2014 as an Assistant Professor. Lydia is a molecular microbial ecologist, and work in her research program encompasses questions concerning the roles of microbiota (including bacteria, archaea, and fungi) in carbon and nitrogen cycling in aquatic and terrestrial environments, with an emphasis on understanding how environmental change (e.g. disturbance, drought) affects the microbial mechanisms of ecosystem biogeochemistry. To address these questions, we work along environmental gradients and under experimentally manipulated conditions, and use a range of biogeochemical, molecular, genetic and genomic approaches to learn about the composition and activity of diverse microbial consortia *in situ*. For more information, visit <http://www-personal.ksu.edu/~lzeglin/index.html> or https://scholar.google.com/citations?user=YT_lwdsAAAAJ&hl=en, or contact Dr. Zeglin.



Recent Publications

Chiara, M., Fanelli, F., Mulé, G., Logrieco, A., Pesole, G., Leslie, J., Horner, D., **Toomajian, C.** 2015. Genome Sequencing of Multiple Isolates Highlights Subtelomeric Genomic Diversity within *Fusarium fujikuroi*. *Genome Biology and Evolution* 7(11): 3062-3069.

Brown, S.P., **Olson, BJSC,** and **Jumpponen, A.** 2015. Fungi and Algae Co-Occur in Snow: An Issue of Shared Habitat and Algal Facilitation of Heterotrophs? *Artic, Antarctic and Alpine Research* 47: 729-749-60.

Mandyam, K.G. and **Jumpponen, A.** 2015. Mutualism-parasitism paradigm synthesized from results of root-endophyte models. *Frontiers in Microbiology* 5: e776. DOI: 10.3389/fmicb.2014.00776.

Sun, H., Santalahti, M., Pumpanen, J., Köster, K., Berninger, F., Raffaello, T., **Jumpponen, A.,** Asiegbu, F.O., and Heinonsalo, J. 2015. Fungal community shifts in structure and function across a boreal forest fire chronosequence. *Applied and Environmental Microbiology*. In press. DOI: 10.1128/AEM.02063-15.

Veach, A., Dodds, W. and **Jumpponen, A.** 2015. Woody plant encroachment, and its removal, impact bacterial and fungal communities across stream and terrestrial habitats in a tallgrass prairie ecosystem. *FEMS Microbiology Ecology* 2015 Oct;91(10). pii: fiv109. doi: 10.1093/femsec/fiv109.

Upadhyaya, H., Wang, Y.H., Sastry, D., Dwivedi, S., Prasad, P.V., Burrell, A.M., Klein, R.R., **Morris, G.P.,** and Klein, P.E. 2015. Association mapping of germinability and seedling vigor in sorghum under controlled low temperature conditions. *Genome*, Published on the web 24 November 2015, 10.1139/gen-2015-0122.

White, CV, Darby, BJ, Breeden, RJ, **Herman MA** 2016 A *Stenotrophomonas maltophilia* strain evades a major *Caenorhabditis elegans* defense pathway. *Infect. Immun.* Accepted manuscript posted online 7 December 2015, doi:10.1128/IAI.00711-15

Wilson, L.R., D.J. Gibson, S.G. Baer, & **L. Johnson.** Plant community response to regional sources of dominant grasses in grasslands restored across a longitudinal gradient. *Ecosphere*, in press.

Invited Presentations

Plant Animal Genome meeting, Conservation and population genomics Workshop, Loretta Johnson, Gray, Miranda; St Amand Paul; Galliard, Matt; Susan J Brown, Poland, Jesse, Garrett, Karen; Akhunov, Eduard; Bello, Nora; Morgan, Ted; Baer, Sara; Maricle, Brian Genetic differentiation, transcriptome variation, and local adaptation of dominant prairie grass *Andropogon gerardii* along the climate gradient of the US Midwest: Implications for climate change and restoration. **Jan, 2015. San Diego.**

Ecological Society of America. Organized Session in Adaptation to Climate Change. Loretta Johnson, Gray, Miranda; St Amand Paul; Gailliart, Matt; Susan J Brown, Poland, Jesse, Garrett, Karen; Akhunov, Eduard; Bello, Nora; Morgan, Ted; Baer, Sara; Maricle, Brian Genetic differentiation and local adaptation of dominant prairie grass *Andropogon gerardii* along the climate gradient of the US Midwest: Implications for climate change **Baltimore, Aug, 2015.**



Two biology students place highly at Sigma Xi research conference

Taken from K-State Today

K-State graduate students Matthew Galliard and Jacob Alsdurf were recognized Oct. 24 for their superior research presentations at the Sigma Xi student research conference in Kansas City. Sigma Xi is the international honor society for scientists and engineers.

Galliard, master's student in biology, made the highest ranked presentation in the Ecology and Evolutionary Biology category in the graduate student division. His presentation was "Adaptive Trait Variation and Genetic Divergence of a Widespread Grass *Andropogon gerardii* across a Great Plains' Climate Gradient." His co-authors are K-State faculty members Paul St. Amand, Jesse Poland, Nora Bello and Mary Knapp; K-State students Sofia Sabates, senior in biology, and Hannah Tetreault, doctoral student in biology; Sara Baer, David Gibson and Laurel Wilson, all from Southern Illinois University; and Brian Maricle, Fort Hays State University. Loretta Johnson, professor of biology at K-State, is a co-author, the project's advisor and president of K-State's Sigma Xi chapter.



Alsdurf, doctoral student in biology, ranked as the runner-up for his presentation in the Ecology and Evolutionary Biology category in the graduate student division. His presentation was "Phenotypic Distribution Models Incorporate Ecotypic Variation of the Dominant Prairie Grass *Andropogon gerardii* in Response to Climate Change in Midwest Grasslands." His co-authors are K-State's Johnson, Bello and Knapp, as well as Adam Smith, Missouri Botanical Garden. Johnson also is the project's advisor.

Alsdurf also placed into a five-way tie for runner-up for the Student Choice Award. The students participating in the conference select their peers for this award, sponsored by the District of Columbia Sigma Xi chapter. As a runner-up, he won \$50.

Because of their rankings, Galliard and Alsdurf were awarded medals from Sigma Xi President Mark Peebles. Galliard also received an invitation to become a member of Sigma Xi through nominations from the society's board of directors. The board will pay for the first year of membership dues and initiation fees for the students who accept this invitation. Alsdurf already joined Sigma Xi earlier this year. The board will pay for a year of his membership dues.

White's Recent Publication Featured on Cover

K-State graduate and former EGI student, Corin White's recent publication will featured on the cover of the February issue of *Infection and Immunity*. The article, entitled "A *Stenotrophomonas maltophilia* strain evades a major *Caenorhabditis elegans* defense pathway," was co-authored with Brian Darby, Robert Breeden and Michael Herman. An abstract may be read at <http://iai.asm.org/content/early/2015/12/03/IAI.00711-15.short#aff-1>.

Congratulations to Corin!!

