



All presentations in Room 1210 Chemistry Building



Coffee breaks, lunch and poster session
in Chemistry atrium, 1st floor

6 - 8 p.m., evening reception at
The Original Cottage Inn
512 E William St, Ann Arbor

FRONTIERS IN COMMUNITY ASSEMBLY

Early Career Scientists Symposium 2016 Committee

Lydia Beaudrot, Michigan Fellow, assistant professor, U-M EEB
James Pease, postdoctoral fellow, U-M EEB
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Carol Solomon, senior secretary
Ben Winger, Michigan Fellow, assistant professor, U-M EEB
Senay Yitbarek, Ph.D. student

Saturday, March 12, 2016

Room 1210 Chemistry Building
Ann Arbor, Mich.

Sponsored by the Department of Ecology and Evolutionary Biology and the David Bay Photography Fund. The first 11 symposia were funded by the late alumna Dr. Nancy Williams Walls.

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Frog: D. Luke Mahler
Inside background: Robin Hopkins

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Morning session

7:45 a.m. Check-in and continental breakfast, Chemistry Building atrium, 1st floor

8:30 a.m. Opening remarks, Ben Winger
Michigan Fellow and assistant professor, U-M EEB

8:45 a.m. Keynote presentation by Rosemary Gillespie



Island time and the interplay between ecology and evolution in species diversification

Rosemary Gillespie is a professor and Schlinger Chair at the University of California, Berkeley. She is past president of the International Biogeography Society and trustee and fellow of the California Academy of Sciences, and serves as associate editor for *Molecular Ecology*. Born and educated in Scotland, Dr. Gillespie received her B.Sc. from Edinburgh University and came to the U.S. for a Ph.D. on the behavioral ecology of spiders at the University of Tennessee. Upon starting postdoctoral work at the University of Hawaii in 1987, she discovered an adaptive radiation of *Tetragnatha* spiders. After eight years on the faculty, in 1999 she left Hawaii for the UC Berkeley, where she continues her research focus on the islands of the Pacific, using islands of known age and isolation to assess the combined temporal and spatial dimension of biogeography and determine patterns of diversification, adaptive radiation, and associated community assembly.

9:45 a.m. Andy Rominger



The statistical mechanics of biodiversity in evolving island communities

Andy Rominger's research centers around discovering the ways that evolutionary history shapes contemporary biodiversity dynamics. He approaches this challenge using methods from statistical physics and data science in combination with extensive field data collected across the dynamic landscape of Hawaii and gleaned from large biodiversity repositories. His research has led to collaborations with scientists ranging from paleontologists to physicists to statisticians. Rominger's training is in biology with a heavy secondary emphasis on mathematics, first at Stanford University and currently at the University of California, Berkeley where he will finish his Ph.D. in May 2016, moving on to a postdoc in the fall.

10:20 a.m. Coffee break and refreshments, Chemistry Building atrium, 1st floor

10:35 a.m. D. Luke Mahler



The assembly of island lizard faunas through diversification on macroevolutionary adaptive landscapes

D. Luke Mahler is an assistant professor in the Department of Ecology and Evolutionary Biology at the University of Toronto. His lab aims to understand how ecological and evolutionary factors combine to generate biodiversity over large spatial and temporal scales. They conduct research on a natural macroevolutionary experiment: repeated adaptive radiations of neotropical anole lizards. Dr. Mahler's research integrates field studies of organisms in nature, museum-based specimen work, and the application of phylogenetic comparative methods. Before taking his current position, Mahler earned his Ph.D. at Harvard University in organismic and evolutionary biology and carried out postdoctoral studies at the University of California, Davis and the University of Kansas. He is also involved in anole conservation, and is currently co-chair of the Anoline Lizard Specialist Group, an advisory group of the International Union for Conservation of Nature.

11:10 a.m. Melissa Kemp



Community assembly (and disassembly) dynamics as revealed by the fossil record

Melissa Kemp is an evolutionary biologist who uses the fossil record to investigate species responses to global change phenomena. Dr. Kemp earned her Ph.D. in biology from Stanford University in 2015. At Stanford, she examined extinction and colonization trends in Quaternary Caribbean lizards, with the goal of determining extinction biases and the repercussions of extinctions on the surviving community. She is currently a postdoctoral fellow at Harvard University with Dr. Jonathan Losos, sponsored by the National Science Foundation and the Harvard Center for the Environment. While at Harvard, she will augment the Caribbean fossil record with new paleontological excavations. She hopes that by synthesizing data from ancient and present-day ecosystems, she can make inferences about future ecosystems that will enhance conservation efforts.

11:45 a.m. Morning speaker panel discussion

12:15 p.m. Lunch and poster session, Chemistry Building atrium, 1st floor

Afternoon session

1:45 p.m.



Megan Rúa

Variation in plant and fungal traits indicate mycorrhizal mediated selection in Pinus radiata

Megan Rúa is a postdoctoral fellow at the National Institute for Mathematical and Biological Synthesis in Knoxville, Tenn. Her research draws from evolutionary biology, community ecology, and statistical modeling to develop inferences about the role abiotic and biotic forces play in shaping plant-microbe interactions. In particular, she aims to understand how biotic and abiotic selection pressures have shaped the co-evolutionary interaction between plants and their microbes, and how local adaptation influences the ecological outcome of these interactions. Dr. Rúa earned her Ph.D. in ecology at the University of North Carolina at Chapel Hill in 2012. She subsequently spent three years as an NSF Postdoctoral Research Fellow at the University of Mississippi. In August 2016, she will begin as an assistant professor in the Department of Biological Sciences at the Wright State University.

2:20 p.m.



Rachel Germain

Species coexistence: macroevolutionary relationships and the contingency of historical interactions

Rachel Germain is a Ph.D. candidate in Dr. Ben Gilbert's lab in the Department of Ecology and Evolutionary Biology at the University of Toronto. Her research seeks to incorporate contemporary ecological theory into areas where it could provide the most insight, such as maternal effects and evolutionary divergence. Germain's most recent work contrasts the evolutionary trajectories of competitive differences among species that have historically occurred in sympatry and allopatry, and offers evidence to inform the fields of phylogenetic community assembly and invasion biology. Germain also tests metacommunity theory in California serpentine grasslands, using a seed vacuum to manipulate entire species pools of annual plants, as part of a collaborative project with Dr. Sharon Strauss at the University of California, Davis. She is currently seeking postdoctoral positions to solve contemporary issues at the intersection of ecology, evolution and biodiversity sciences.

2:55 p.m.



Robin Hopkins

The causes and consequences of natural selection for speciation

Robin Hopkins received bachelor's degrees in biology and gender studies from Brown University. There, she became interested in plant adaptation while working under the mentorship of Dr. Johanna Schmitt. She went on to receive her Ph.D. with Dr. Mark Rausher at Duke University and studied flower color and its role in speciation. Dr. Hopkins received an NSF Postdoctoral Research Fellowship in Biology to work with Dr. Mark Kirkpatrick at the University of Texas at Austin. In 2014, Hopkins started her lab at Harvard University as an assistant professor in the Department of Organismic and Evolutionary Biology. Hopkins has received a number of awards, including the American Society of Naturalist Jasper Loftus-Hills Young Investigator Prize, and the New Phytologist Tansley Medal. Her research has expanded beyond floral traits to explore a multitude of reproductive isolating mechanisms and adaptations in *Phlox*.

3:30 p.m.

Coffee break and refreshments, Chemistry Building atrium, 1st floor

3:45 p.m.



JP Lessard

Improving phylogenetic and trait-based inference of biotic interactions with process-based species pool definitions

JP Lessard obtained his B.Sc. from McGill University in 2004 and his Ph.D. in ecology and evolutionary biology from the University of Tennessee in 2010. He then was a postdoctoral fellow at the Center for Macroecology, Evolution and Climate, based at the University of Copenhagen from 2010-2012 and at the Quebec Center for Biodiversity Science, based at McGill University from 2012-2014. Dr. Lessard is now an assistant professor at Concordia University in Montreal, where his lab integrates tools and concepts from community ecology, macroecology and macroevolution to disentangle the multiple processes underpinning community assembly.

4:20 p.m.



Keynote presentation by Tadashi Fukami

Embracing historical contingency in community assembly

Tadashi Fukami studies how species assemble into ecological communities with a focus on understanding historical contingency, or when and why the structure and function of communities are contingent on the past history of species immigration. He uses experimental, theoretical and comparative methods, involving bacteria, protists, fungi, plants and animals. Dr. Fukami received a bachelor's degree from Waseda University, Japan, in 1996, a master's degree from the University of Tokyo in 1998, and a Ph.D. in ecology and evolutionary biology from the University of Tennessee, Knoxville, in 2003. He was a postdoctoral fellow at Landcare Research, New Zealand, from 2003-2005 and an assistant professor at the University of Hawaii at Manoa from 2006-2008 before joining the Stanford faculty in 2008.

5:20 p.m.

Afternoon speaker panel discussion

6 – 8 p.m.

Evening reception, The Original Cottage Inn, 512 E William St, Ann Arbor