

Darwin Day EIU, 2024

Speakers

Sarah Diamond, Ph.D.

Associate Professor, Department of Biology,
Case Western Reserve University,
Cleveland, OH

Dr. Diamond is an evolutionary ecologist with specific interests in biological responses to climate and land-use change, especially urbanization. She uses macroecological approaches to identify biogeographic patterns of vulnerability to global change and dissects the mechanisms underlying these patterns using manipulative field and laboratory experiments.



“What Darwin Never Dreamed: The Rise of Rapid Evolution in Cities”

Time: Monday, Feb. 12nd at 7:00 pm, **Location:** Coleman Hall 1255#

Summary: There has been a recent revolution in how we think about the rate of evolutionary change. Darwin developed the important groundwork for understanding evolution by natural selection. To him, evolution is a slow process, with the gradual accumulation of small changes over long time periods. We now know evolution can happen rapidly, over the course of mere tens of generations rather than tens of millions of years. Early evidence of rapid evolution emerged as humans began to drastically change the environment during the industrial revolution, as exemplified by the rapid evolution of wing coloration in response to industrial pollution in the now-iconic peppered moth system. Later work in antibiotic and pesticide resistance bolstered the idea that rapid evolution might be the rule rather than the exception. Together, this body of work paved the way for thinking about how the many changes wrought by the construction of human settlements might likewise change the selective pressures that organisms are subject to and thus generate the potential for rapid evolutionary change. This talk will provide an overview and targeted case studies of rapid evolutionary changes within the footprints of cities. Major themes will include parallel and convergent evolution to shared selection pressures among different species and cities, and the ability of populations to ‘keep pace’ with changes in urban environments.

Elsa Anderson, Ph.D.

Assistant Professor of Instruction, Weinberg College of Arts & Sciences, Northwestern Univ, Chicago, IL

Dr. Anderson is an urban ecologist and currently an Assistant Professor of Instruction at Northwestern University. She specializes in urban biodiversity patterns with a particular focus on how human activities shape ecological communities and what that means for peoples' experiences of nature and ecosystem functions. She has previously worked for the Chicago Botanic Garden and the Cary Institute of Ecosystem Studies and completed a Fulbright Fellowship in Berlin, Germany.



“Darwin in the City: exploring the future of urban ecology and evolution”

Time: Thursday, Feb. 15th at 7:00 pm, **Location:** Coleman Hall 1255#

Summary: Urbanization is one of the most pressing forces reorganizing society, economies, and ecosystems worldwide. While humanity collectively deals with the consequences of climate change and biodiversity loss, we are becoming further isolated from the natural world on which we depend. In this talk, Dr. Elsa Anderson will explore how life survives and even thrives in the city and share how and why certain evolution patterns—both biological and social--can help make the cities of the future healthy places for people and wildlife to thrive.