LANDSCAPE GENETICS IN PRIMATES: NEW METHODS AND APPLICATIONS

M. Blair[1,2], K. Guschanski[3], D.J. Melnick[1,2]

[1]*Columbia University, New York, NY, United States,* [2]*New York Consortium in Evolutionary Primatology (NYCEP), New York, NY, United States,* [3]*Imperial College London, London, United Kingdom*

Organizer's Email: meb2127@columbia.edu, k.guschanski@imperial.ac.uk, djm7@columbia.edu

Landscape heterogeneity is hypothesized to play a central role in the evolution of all living organisms including primates. Different landscape features can promote or inhibit gene flow between populations, thus influencing their genetic structure and, over the long-term, contributing to speciation. Landscape genetics, an emerging analytical approach that combines population genetics and landscape ecology, measures the effects of landscape features on gene flow using spatially explicit models. The landscape genetics approach attempts to detect genetic discontinuities and correlate them with landscape features, identifying barriers to gene flow and areas of increased or diminished permeability. Understanding how landscape heterogeneity influences primate population structure is particularly important in today's rapidly changing environment and is not only crucial for primate conservation but also for informed studies of primate ecology and evolution. Speakers will present recent studies that use landscape genetics to address various questions within primate evolution, phylogeography, behavioral ecology, and conservation. We will conclude with a discussion of the various landscape genetics methods, applications and theoretical frameworks proposed outside of primatology and how they might enrich future studies of primate ecology and evolution.

Keywords: landscape heterogeneity, population structure, gene flow, dispersal