Evolutionary mechanisms lead to changes in the phenotypic and genomic features of populations; population genetics and patterns of phenotype differentiation are often used to infer which of these mechanisms are at work. Here, I highlight the need to more directly study the underlying processes and mechanistic basis of population-level patterns. Barn swallows (*Hirundo rustica*) are widespread throughout their northern hemisphere-wide breeding distribution with fascinating levels of morphological and behavioral divergence among six closely related populations. My lab studies the role of evolutionary mechanisms in shaping phenotype and genomic variation among populations in this young species complex. Experiments and selection studies within populations predict population-level differences in signaling traits and migratory behavior. Analyses within hybrid zones also reveal that differences in both signal and migratory traits are predictive of gene flow and the evolution of reproductive isolation among sub-species in secondary contact.

If you would like to visit with Dr. Rebecca Safran, please contact Elsie Shogren at eshogren@ksu.edu.

Coffee & cookies served preceding the seminar in Ackert Hall, Room 225