

The Ecology and Evolution of Avian Color

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Birds are the most colorful terrestrial vertebrates, equipped with tetrachromatic vision. They provide an especially vibrant system in which to investigate animal communication and signaling. How does a bird's visual experience affect its behavior and evolution? My lab uses an integrative approach, using tools from computer vision, optics and psychophysics, to investigate avian coloration from mechanistic and functional perspectives. We combine studies of museum specimens with experiments in the lab and field. Using diverse examples from the avian world – including plumage evolution, egg mimicry and coevolution between cuckoos and hosts, shorebird egg camouflage and hummingbird iridescence – I will show how investigating color can uncover surprising insights into avian ecology, evolution and sensory biology.