It was in the Amazon rainforest, on a fieldwork trip with a university class in his native Colombia, that Alejandro Rico-Guevara first fell in love with hummingbirds. “The jungle is full of animals, but you rarely see any. They're fearful of humans and take cover,” he recalls. “So it surprised me, when we entered hummingbird territory, that the dominant male bird came up and hovered in front of each one of us, checking us out instead of fleeing.”

Rico-Guevara was surprised that one of the smallest animals in the forest would be so bold. And once he began studying the species, he found that their personalities differ from those of other animals. “Time is totally different for them,” he explains. “We think now that hummingbirds see humans as really big, slow, and clumsy, and they know they can outmaneuver us.” He started researching their behaviors and biomechanics, even training the hummingbirds with sound and light cues. With his wife, Kristiina Hurme, a behavioral ecologist, he refined his training techniques with a feeder system. “Every time she would put in new nectar, she would whistle, and we suddenly had hummingbirds performing on command. They're like tiny, really fast dogs.”

He was drawn to Berkeley, and specifically the lab of Robert Dudley, for its strengths in biomechanics and metabolism research. He loves having the freedom to explore questions that don't yet have an obvious immediate human application, he says, knowing that the payoff may come much later.

Rico-Guevara holds a fellowship from the Miller Institute, which provides not only funding but the chance to regularly interact with scientists from other disciplines. “I’m now collaborating with machine-learning people in the statistics department,” he says. “That never would have happened otherwise.”

He’s also very involved with citizen science, using the iNaturalist platform to share photos of hummingbirds and flowers to study the biology behind them. “We want people to help us plot on a large scale the interactions between hummingbird and plant species. They don’t have to be professional scientists to advance the science. Citizen involvement has grown exponentially in the last few years.”

Although he’s not officially teaching at Berkeley, Rico-Guevara is mentoring students and ultimately hopes to find a faculty position that will allow him both to teach and conduct research. “It’s fantastic to get questions from undergrads,” he says. “They’re already so smart, and they reignite your original love of science.”

Want to participate in citizen science hummingbird research? Go to: https://www.inaturalist.org/projects/hummingbirds-and-flowers

In his studies of nectarivores, Alejandro Rico-Guevara is capturing hummingbird behaviors never before identified.
Photo: Anand Varma