Integrating Experimental Research Technology into Mammalian Field Biology: From Woodrats to Wolves to Whales

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Modern methods for addressing important, broad impact research questions often involve collaborative approaches that are more integrative, comparative and multidisciplinary than ever before in history.  The peer-reviewed literature is now replete with examples of collaborations between disparate groups of researchers including chemists and statisticians, geologists and mathematicians, botanists and fluid dynamicists, and many others.  With a dual background in applied engineering and biology, Dr. Kot will discuss his integration of customized experimental research technology into various multidisciplinary projects over the past 15 years.  His wildlife research experience is taxonomically diverse yet his talk will focus on applications of custom research equipment to his investigations of different mammals in desert, montane, northern forest and marine ecosystems.  Some of the data collection technology to be featured includes an infrared video system for measuring locomotion performance of nocturnal woodrats and fishers, a crossbow system for attaching dataloggers to whales, and an underwater sensing system for use in behavioral experiments with seals and whales inhabiting nearshore environments.