Interdisciplinary Graduate Education in the Environment

The University of Oklahoma has diverse disciplinary strengths in environmental scholarship. Opportunities exist to leverage these strengths to transform our research and graduate education programs by building interdisciplinary research and education programs focused around grand challenges in the environment. I will discuss one example of this type of interdisciplinary program - an existing NSF Research Training program in aeroecology. Aeroecology focuses on understanding the interactions of animals in the aerosphere (lower atmosphere). Aeroecology is emerging from the interface of biology, meteorology, geography, and computer science and has strong connections to social sciences both through environmental science and concerns about human health and safety. Engineering advances are transforming the aerosphere from a vast open space into a resource that we use for communication (cell phone towers), energy production (wind turbines), and transportation (aircraft and unmanned aerial systems). These mounting incursions into the aerosphere drive a need to understand and manage a new suite of human-biodiversity interactions and conflicts. I will describe the growth of the applied aeroecology program into an interdisciplinary University Strategic Organization and the opportunities and challenges we face as we seek to further our interest in interdisciplinary environment training and research.