



Understanding the Ecology of Environmental DNA (eDNA) from Diverse Disciplines

Powerful genetic & genomic tools enabled the realization that all organisms shed molecular traces of their presence into their environment. In ecology, use of *extraorganismal* “environmental DNA” (eDNA) gained prominence for detecting rare species. However, diverse disciplines also use and study extraorganismal DNA, including microbiology, fecal pollution tracking, forensics, hydrology, geology, and environmental biosafety. Despite methodological overlap between disciplines, interdisciplinary discourse has been limited. Thus, practitioners risk overlooking useful data and models, or worse, wasting resources on duplicative research.

The **ecology of eDNA** - its **origin**, **state**, **transport**, and **fate** - is where these otherwise disparate disciplines can profitably converge. To increase interaction and promote interdisciplinary synthesis, this workshop will gather experts from across disciplines to discuss state-of-the-art knowledge and application within their respective fields and develop a framework to promote continued information exchange and collaboration.

The workshop will begin with short presentations from practitioners using eDNA in diverse disciplines. Participants will then break into four discussion groups according to interest/expertise in one of the four domains of the ecology of eDNA. Groups will report back to the entire workshop on similarities and differences in methods and understanding. Key findings from breakout and large group discussion will form the basis of two products: (1) a funding proposal to support an interdisciplinary working group, and (2) a group-authored publication illustrating how interdisciplinary connections accelerate eDNA applications.

Organizers:

Dr. Matthew Barnes, Assistant Professor, Texas Tech University, matthew.a.barnes@ttu.edu, @drbarnes

Dr. Cameron Turner, Chief Scientist, ecoSysGen, crt343@ecosysgen.com, @enviroDNA

Don't miss the related Symposium “*Ecological Insights Derived from Environmental DNA Analyses*” (ID 11694) on Wednesday, August 10th at 8am.  #ecologyBYeDNA