

Bethune College Presents: Science on the Cutting Edge

Leeches, dung beetles, rivers and sky: How environmental DNA is changing the way we study the planet



Thursday, March 10
3:00-4:00 pm
ZOOM

GUEST SPEAKER

Professor Elizabeth Clare

Environmental (e)DNA is genetic material we all leave behind all the time in the form of dead skin cells, hair fragments and even in from the air we breathe. Collecting this eDNA has revolutionized how scientist approach ecology and is particularly popular as a forensic method to study fish populations. It is non-invasive and allows us to study diversity remotely. We recently demonstrated that we can filter eDNA right out of the air. This has the potential to transform how we study terrestrial biodiversity.

In this lecture I will introduce you to the topic of DNA barcoding, metabardocing and the wonderful world of environmental DNA. I will show you how how we use these forensic methods to study diet, tropical ecosystems and how we might now be able to vacuum DNA right out of the sky to study the world around us.

Breath in, breath out ... what eDNA did you just sample?

Professor Clare has always been interested in the natural world. She's been wilderness camping and canoeing since she was a child and is an avid wildlife photographer. Prof. Clare did her undergraduate degree at The University of Western Ontario where she joined the Neff Lab and lived on the Queen's Biology Station every summer conducting fish research. She completed her PhD at the University of Guelph on the diversity of neotropical bats and then won an NSERC postdoctoral fellowship to develop dietary metabarcoding at Bristol University and Cardiff University in the UK. Following a faculty position at Queen Mary University of London studying environmental DNA methods and the impact of broad scale landscape changes on tropical ecosystems, she returned to Ontario with her husband and two young children. She is currently an Assistant Professor in the Biology Department at York.