

What are you working on at the moment?

I recently got a position as a Community Support Specialist with Ocean Networks Canada, which is an NGO that does oceanography research around Canada. So doing citizen science projects with communities along the British Columbia coast.

What were you doing while on the Rhodes scholarship?

I was doing my PhD, studying penguin foraging behaviour. I spent two field seasons in Antarctica, one on the Antarctic Peninsula and one in South Georgia. In the first season, I studied Chinstrap penguins and attached GPS and depth sensors onto the penguins that were breeding chicks. After they came back from foraging, we retrieved the devices attached to them, which recorded the depth data and GPS data over the five-plus days. Combining the GPS and depth data, we could get a picture of where the penguins forage at sea. Using that, we could model the habitat quality based on the profile of the dive. For example, if the dive was shallow and short, it's likely a travelling dive, where the penguins surface and move quickly. The interesting dives for modelling their feeding habitat are the longest, where they spend the most time underwater and dive the deepest. Using machine learning clustering, I grouped and identified three types of dives: travelling dives, foraging dives, and prey-searching dives. Then we isolated the foraging dives and estimated the habitat quality in those areas based on the length and other dive information. So we were looking at their habitat quality based on the onboard data.

How do they know where to go foraging?

Prior to leaving their colonies, they probably already have some information about where the good krill patches are based on where the other penguins who have caught krill have come back from.

Is it easy to attach these devices to them?

We're specifically studying adults that are breeding chicks. So it's really important that the penguins that we can catch are actually an adult with a chick. Despite attaching a GPS to the penguin, the GPS doesn't help you find the penguin because they don't transmit data live. So then you have to manually find the penguin without the help of a GPS tracker, which can be kind of challenging because they live in colonies of varying size.

When you approach a penguin colony, you're observing the whole colony to try and find a penguin couple. These penguins have their little nest, which are made of rocks, and if you go there at the time when the chicks are young, there's one adult sitting on each chick on each nest, and there are a number of other adults just walking about. If both parents were there, you pick one parent to put a camera on it. Then the other parent can go and sit on the nest.

You're standing on the edge of the colony, looking at all the different nests and you're basically waiting for two penguins to do a partnership display, which is when they stick their necks up and make this gesture. When you do that, you know they're in a couple, so you know you can take one of them. Generally, you want to find a penguin that's on the edge of the colony because walking through the penguin colony does cause a disturbance. Once you've caught the penguin, you hold the penguin while someone else tapes the tracking devices onto the feathers on their backs. These devices are designed to fall off when the penguins moult if we fail to re-catch them, so they don't stay on forever.

We'd like to talk about imagining a textile that would represent you in this exhibition. Do you have any ideas you'd like to share with us?

When I think of Antarctica, the colours I think of are ocean blue and white for the icebergs and the snow. Maybe some grey, because there are the beaches or rocky beaches. So, I guess the main colours you see around you are blue from the ocean and then white from the snow, and grey rocks. There are different kinds of whites that are in the blue. There's the land that you see where there are glaciers, and that's a bit more of a smooth white. Then there are icebergs in the water, which are these small specks of white, but they're floating around, and they're very eye-catching. When you're close to them, you can see how beautiful they are.