



NASA’s indigenous voice

University of Waterloo academic Melanie Goodchild studies with an open mind and wears her philosophy on her sleeve

BY LAURA LAWSON
PHOTOGRAPHY BY ALISHA TOWNSEND

Melanie Goodchild is a visitor among us, a permanent tourist of sorts, brought down from the North to pursue her PhD in southern Ontario. Her path has been circuitous and included years in senior positions working for a tribal council and the Canadian Red Cross. The

journey ultimately led her to the University of Waterloo, where she is a senior indigenous research fellow and associate at the Waterloo Institute for Social Innovation and Resilience. Goodchild uses a systems approach to study a topic that speaks not only to her interests, but also to who she is at the core: How can the intrinsic knowledge, or world

University of Waterloo’s Melanie Goodchild, posing in the Crystal Ball Beach Café in Crystal Beach, the small Niagara Region community she currently calls home, proudly displays visual reminders on her arms of her orca spirit helpers and her ‘biker chick’ persona.



view, of indigenous people be leveraged to improve social and ecological sustainability?

“I’m Anishinaabe and, as far as I know, most indigenous cultures understand the web of life. So systems thinking is like understanding the web of life; it’s holistic thinking. It’s about not breaking things down into their parts. It’s actually about thinking of them all together.”

Goodchild’s traditional approach and openness to new experiences have even led to collaborations with NASA, helping the agency to better understand the role indigenous knowledge can play when training native communities on how to use its satellite image technology to manage natural resources, mitigate natural disasters or plan for climate change.

“Indigenous people around the world are experiencing climate change at a disproportionate level compared to (people in) more

urban settings,” Goodchild says. “We talk about glacial melt, (indigenous people) are seeing it. We talk about permafrost thaw, they’re experiencing it. They are seeing changes in migration patterns and food availability. How they’re experiencing their local ecosystems is changing.”

Goodchild, 47, grew up in northwestern Ontario on the shores of Lake Superior and divided her time between two First Nation communities, which her mother and father called home. Her grandparents were from four different First Nations.

“My home is basically from Thunder Bay to the Manitoba border,” she says with a laugh.

“My dad went to Spanish Indian Residential School, but he spoke our language fluently,” she recalls. “When I was a child, he took me out on the land and taught me words. I didn’t speak fluently, but I was

exposed to the language. His mom, my grandma, never spoke English.”

It was those early experiences on the land and Goodchild’s hunger to understand the ways of her people that led her on a journey of spiritual discovery from a young age.

“Like a lot of people, I went and I sought elders who were knowledge keepers and I could learn from them,” she says. “So I was about 12 or 13 when I went into my first sweat lodge and I’ve been doing ceremony ever since.”

From those knowledge keepers, she learned about the power of language to influence how we perceive and engage with the world.

“I always explain that in a lot of languages, including Anishinaabemowin, there is no word for nature or environment,” she says. “I haven’t really heard elders, even when they’re speaking English, talk about that,

instead they say ‘Gidakiiminaan’ and that means ‘everything in creation’ – the plants, the animals, the water, sun, moon, stars, all the beings, and us.

“We’re included in that. We’re not separate from that and it’s our sacred responsibility to be a part of that. So we’re always in relationship with the rest of creation. That’s in our language.”

On this day, Goodchild is far from the lecture halls and libraries at the University of Waterloo.

Instead, she is working from her “home office,” a faux concrete patio table on the front porch of the house she shares with her husband, Sly Archambault, her mother, Melinda Jones, and her senior rescue dog, Mia, in Crystal Beach, a small community in the Niagara Region that is part of Fort Erie.

Goodchild is dressed in black, wearing a sleeveless shirt that reveals two striking tattoos.

On her right forearm, two orcas nuzzle up among the stars, forming a heart with their tails. There’s a moon that looks like a chocolate chip cookie, and Saturn and the Earth, too.

“My spirit helpers are two orcas and this represents one of the teachings from the elders,” she explains.

The other tattoo of a skull with long flowing hair is drawn in her likeness. Inked into her skin are the words: Never say die.

Goodchild’s passion for ink makes sense when you take a closer look around her home. Tucked away amongst the clutter of her garage, a ruby red Harley-Davidson gleams.

“That’s the Red Rocket,” she says proudly of her 2010 Street Glide. “She was named

by an old biker, a guy named Old Dirt in Thunder Bay.”

The Red Rocket has taken her on long hauls to Calgary and an endurance ride of more than 1,600 kilometres in 24 hours – an honour that earned her a place in the Iron Butt Association. Although she doesn’t find much time to ride her motorcycle these days, she gets out when she can – wearing her leathers and proudly showing off her ink.

“I’m a sociologist. Being part of a sub-culture, I’ve learned a lot about group identity,” she says. “So being a biker chick with a big bike is a different experience in the world.”

Goodchild isn’t someone who shies from new experiences or from taking on multiple roles. Student. Teacher. Young knowledge keeper. She’s managed to bring them all together in her PhD.

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"Starting to study at Waterloo introduced me to the university, the people in the area and to some of the non-profits in the area, and that's been a positive experience for me," she says. "At Waterloo, I've had the opportunity to guest lecture in a number of different classes within the Faculty (of the Environment), so I've met some undergraduate students and I've found a real appetite there for the students to learn more about indigenous knowledge systems."

That appetite extends to the Waterloo Institute for Social Innovation and Resilience (WISIR), which has an international reputation for training the next generation of social innovators, as well as a history in working with indigenous communities to foster social innovation.

"When I talk about the land, I'm able to talk about it not just from an academic standpoint, but I talk about it from a spiritual standpoint. So I make sure spirituality is at the core of the work I do, in terms of my education and in terms of my career. So bringing that kind of perspective is valuable to what WISIR does," Goodchild says.

Dan McCarthy agrees. As the institute's director, he played a pivotal role in recruiting Goodchild in the fall of 2015.

"She wanted to have an impact on social innovation practice in Canada," says McCarthy, who is an associate professor in Waterloo's School of Environment, Resources and Sustainability. "She wanted to not just have an impact on the thinking, but the practice. And to do it in a good way based not only on the best science, but traditional Anishinaabe teachings."

The year 2015 turned out to be a game-changer for Goodchild.

First, she was accepted into Getting to Maybe, a month-long social innovation residency developed by WISIR and hosted at the Banff Centre in Alberta. A couple months later, she was embarking on a prestigious fellowship with the International



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MELANIE GOODCHILD

Women's Forum and beginning her PhD studies at the same time.

The women's forum fellowship offers rising female leaders mentorship and training at Harvard Business School in Cambridge, Mass., and a top business school in France. The opportunity helped Goodchild expand her network and develop far-reaching connections, including one within the Earth Science division of NASA.

Before long, she found herself col-

laborating with NASA's Indigenous Peoples Capacity Building Pilot Project at the Ames Research Center in California.

"One of NASA's missions is to understand our home planet, the planet Earth," says Dr. Cindy Schmidt, the project lead. "And I feel, and I'm learning this through Melanie, that if we don't include indigenous knowledge in that, we're missing a huge piece of the whole view of looking at the Earth.

"She (Goodchild) brought up this whole idea of two-eyed seeing, which is basically two ways of seeing side by side, both indigenous (knowledge systems) and western science. So not thinking that one is better than the other or one is above the other," Schmidt says. "They don't need to be integrated, but you need to recognize both of them equally. And that, to me, was quite powerful."

In May, Goodchild travelled back to the familiar shores of Lake Superior, but this time to the Red Cliff Reservation in Wisconsin, as an invited speaker at what was a first for NASA – a workshop held on tribal land to discuss how indigenous knowledge systems could be incorporated


into the capacity building program.

Although plans for a second NASA workshop are in discussion, Goodchild continues to focus the majority of her PhD work on a project closer to home. She is developing the Turtle Island Institute – "a think and do tank" – that will effectively be an indigenous-led social innovation incubator. Its focus will be on tackling "wicked problems."

"People kept asking me, 'Well, what are the wicked problems?' And I said that's not up for me to define. That's up to our communities," Goodchild says. She explains the problems may be focused around biodiversity or conservation, or perhaps even the recommendations brought forward by the Truth and Reconciliation Commission, which documented the shameful history of Canada's residential school system.

McCarthy, who is supervising Goodchild's dissertation, says the idea is to focus on the design and prototyping phases and then develop the Turtle Island Institute into its own indigenous-led institution outside the university.

"The idea is that Melanie finishes her PhD and that hopefully we're going to be able to continue to incubate the Turtle Island Institute over the next three years at WISIR, do some of the research and project work with some of these groups to develop nine educational or curricular pieces and other process pieces – social innovation labs or systems mapping – that would help indigenous-led organizations or indigenous communities to use these tools to foster change."

And so for the foreseeable future, Goodchild will focus on solving wicked problems, which far too often affect indigenous people at a disproportionate rate. But no matter the size and the scope, she is determined to tackle any issue she encounters with optimism, an open mind and by gaining co-operation. Like the bold reminder inked on her arm reads: Never say die. 

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