How is your research tackling some of the major challenges facing humanity in the 21st century?

My research examines groundwater systems with a focus on deep groundwater. This research is attempting to address how much groundwater we have, how much of it can we use sustainably and how can we protect it, especially in areas where we have competing interests from the energy industry.

Deep groundwater resources often exist in proximity or overlap with zones of the Earth's subsurface where oil and gas are found, along with areas where geothermal energy production and carbon sequestration are possible.

This research is bringing attention to issues around the need to protect and manage groundwater resources, which we expect to become more important with climate change and population growth.

What impact is your work having locally and/or globally?

The research done in the Canadian Prairies has brought attention to the potential impact of energy development on groundwater resources. We are also beginning to understand the potential of groundwater resources to address future water security issues.

My research group has produced work that has helped understand the role of deep groundwater in the hydrologic cycle. Deep groundwater has often been ignored but our recent studies have demonstrated that the hydrologic cycle extends to depths of several km and makes up a larger volume of the Earth's water than previously thought. These findings have required hydrologists to think about where to put the bottom of their models.

What was your inspiration for becoming a professor in the fields of environment and sustainability?

I grew up in Northern Ontario and was always curious about what the impacts of logging, pulp and paper production and mining were on the environment. Between rhetoric from environmental organization and the stances of industry, it was hard to figure out where the truth lied. I wanted to understand these issues and pursue solutions. And, I wanted the ability

to think deeply about environmental problems and the associated science. I wanted to be able to chart my own course and follow my own curiosity.

What is your favourite course to teach and why?

My favourite course to teach is geological mapping, which is associated with my primary appointment in Geological Engineering. I love the opportunity to get out into the field and work with students.

If you could create your dream course, what would it be?

I would love to be able to teach a groundwater hydrology course that integrates classroom and field components. That's a challenge with our short field season in Saskatchewan and everything else that competes for time in faculty and student schedules.

What do you like the most about teaching in SENS and to SENS students?

SENS students think broadly about the implications of the material I teach, which is heavy on scientific and technical material. I appreciate the opportunity to have conversations around the societal implications of groundwater hydrology.

What book (of any genre) would you recommend to a new student starting a program at SENS?

I have drawn a great deal of inspiration from Robert MacFarlane's work lately. The picture he paints of the Earth's subsurface in *Underland* has influenced my work on deep groundwater systems.

What is your favorite magical or mythical animal and why?

That is something I've never given much thought to. Given my luck fishing this summer, I'll go with walleye.