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MANULIFE FINANCIAL SCHOLARSHIPS

Pursuing a PhD in electrical and computer engineering at the University of Alberta, Kathleen is not a typical structural engineer. Specializing in nanotechnology, the structures she builds are tiny, colourful films that compliment those of a traditional structural engineer by making surfaces harder and buildings more energy efficient.

Kathleen hopes to develop thin film sensors that will address the need for remote sensing in hard-to-reach or dangerous locations where humidity, carbon monoxide or volatile organic compounds must be detected. Her work with 'nano carpets', porous thin films that are structured in a way that they change colour as humidity levels change, has the potential to improve efficiency, safety, allow for new control systems and increase the zone of exploration in mine sites.