



*Louise Meunier, P.Eng.  
Professional Engineers Ontario  
PhD in environmental engineering  
Queen's University*

## *CCPE - MANULIFE FINANCIAL SCHOLARSHIPS*

*Louise Meunier, P.Eng., believes that protecting the environment is everyone's responsibility.*

*A member of Professional Engineers Ontario (PEO), Louise earned her bachelor's and master's degrees in mechanical engineering at the Royal Military College of Canada.*

*Currently pursuing a PhD in chemical engineering at Queen's University, Louise's research focuses on nonylphenol ethoxylates (NPEs) and their metabolites.*

*NPEs are soaps or detergents widely used in the production of institutional and industrial cleaning products, paints and pesticides that find their way into municipal wastewater through the effluents of textile industries. Annually, more than 100,000 tons of NPEs are produced worldwide.*

*In fish, NPEs mimic estrogens and reduce reproduction. It is believed that NPEs may cause similar damage to the human body.*

*Louise's PhD thesis will focus on the development of an immobilized soil bioreactor to treat industrial and municipal effluents contaminated with NPEs. She hopes to achieve a solution that can be incorporated into the wastewater treatment system of a municipality or a specific industry.*

*While Louise believes that she is not in a position to bring changes at the macro level, she trusts that she can have some impact at the micro level, helping contribute to academia and her family's future. "There's always a solution," says Louise. "Engineers are trained to find the solution. It's a question of perseverance."*

