



McMaster forms partnership with Aevitas to find innovate wastewater solutions

HAMILTON, August 3rd, 2016 – McMaster University engineers are working with Brantford-based company Aevitas to find innovative ways to treat industrial wastewater.

Chemical engineers David Latulippe, Carlos Filipe and their research team have partnered with Aevitas, a Canada wide recycling and waste management company, to explore how to better detect and create more cost-effective and faster treatment solutions for biocides, which are chemical substances such as preservatives, pesticides and disinfectants used to control the growth of microorganisms.

Industrial manufacturers, such as automotive and steel plants use biocides in their production processes to control the growth of bacteria in the wastewater produced at these sites; a practice similar to that of adding chlorine to a swimming pool to kill bacteria and other organic contaminants. Millions of litres of biocide-contaminated wastewater are produced annually at a variety of manufacturing plants and then sent to special treatment plants such as Aevitas, which cleans industrial wastewater before sending it to municipal treatment plants.

Biocides remain active for long periods of time, with the potential to be harmful to humans and the environment, and are difficult and costly to detect. The McMaster/Aevitas partnership will develop a rapid detection method in a simple to use kit form that will reduce time of testing from six hours to approximately 20 to 30 minutes. It will also aim to detect a variety of biocide types and develop treatment solutions to remove or destroy biocide compounds from wastewater streams to better protect people and the environment.

“We are very fortunate to partner with Aevitas as it gives our research teams the opportunity to develop new technologies for a variety of wastewater types and thus have a significant impact on the entire wastewater treatment field,” said David Latulippe, Assistant Professor, Chemical Engineering, McMaster University.

“The overall usage of biocides at manufacturing plants is expected to be dramatically reduced by providing them with the detection kits to measure biocide levels in their wastewater. The proposed research is expected to yield a significant improvement in the quality of the treated wastewater and thus lead to healthier aquatic ecosystems in the receiving water bodies”

“This project will endeavor to keep Aevitas at the leading edge of wastewater treatment, an industry that will soon become the most critical segment of environmental protection,” said Tom Maxwell, Vice-President of Aevitas.

Recent changes to the Wastewater Systems Effluent Regulation (WSER) under the Federal Fisheries Act have tightened restrictions on discharge criteria prompting many municipalities to upgrade their sewer use bylaws. Brantford is one of the first municipalities to enforce the new standards and has notified its industrial and manufacturing partners about the change, providing the industry with enough lead time to meet the new standards that come into effect as early as 2020.

Similarly in February 2016 the city of Toronto updated their sewer use by-laws to address the discharge of wastewater from specific manufacturing sectors.

The research project is a two-year agreement supported by the Ontario Centres of Excellence (OCE) Voucher for Innovation and Productivity II (VIPII) program. "OCE is pleased to be able to stand behind this innovative solution to wastewater treatment," said Dr. Tom Corr, OCE's President and CEO. "We have a long history of supporting research that not only helps with environmental protection, but supports Ontario's economic prosperity as well."

Currently a Aevitas-McMaster pilot project, the research could have a far-reaching impact on the entire field of wastewater treatment including municipalities looking for cost-effective ways to comply with the new federal biocide regulation.

McMaster University, one of four Canadian universities listed among the Top 100 universities in the world, is renowned for its innovation in both learning and discovery. It has a student population of 23,000, and more than 175,000 alumni in 140 countries.

Aevitas Inc. is a Canadian company providing innovative and sustainable recycling and disposal services to industry for over 20 years. It owns and operates 9 facilities and over 100 specialized transportation vehicles to support a diverse customer base across Canada.

The City of Brantford is a community of 95,000 residents ideally located in the heart of southern Ontario and situated on the picturesque Grand River. Offering metropolitan amenities with a charming small town feel, Brantford is a naturally inspired, lively community with a diverse manufacturing sector, inviting historic neighbourhoods and a rich industrial legacy.

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