

## **Queen's professor wins national chemical engineering award**

*Kim McAuley is the first woman to be awarded the D.G. Fisher Award by the Canadian Society for Chemical Engineering*

Queen's University professor Kim McAuley has received the D.G. Fisher Award by the Canadian Society for Chemical Engineering for her major contributions to the systems and control engineering discipline. Dr. McAuley, who is also the associate dean of the Queen's School of Graduate Studies, is the first woman to receive the award.

"I feel extremely honoured to receive the D.G. Fisher Award," says Dr. McAuley. "To be recognized alongside some of the discipline's forbearers is a great privilege, particularly David Bacon and Tom Harris, who mentored me early in my career."

Both Drs. Bacon and Harris are past recipients of the D.G. Fisher Award from Queen's University.

Systems and control engineering involves the analysis, design, and optimization of complex systems in all sectors, from robotic manufacturing and assembly lines to petrochemical production and metallurgy. Practitioners use mathematical modeling to inform these large-scale industry processes with the aim of increasing efficiency and lowering production costs. In turn, this helps make products more affordable for consumers and lessens negative environmental impacts.

Dr. McAuley has worked with major chemical and polymer companies like ExxonMobil, DuPont and NOVA Chemicals to improve industrial processes, as well as 'clean tech' firms looking to transform existing small-scale processes into large-scale operations.

She recently worked with Enviro Innovate, a company based at Queen's University's Innovation Park, which has developed a technology that can remove carbon dioxide from industrial furnace emissions, which can then be used as a feedstock for bio-sourced jet fuel or to create new polymers. Dr. McAuley helped the company by modeling the intricacies of carbon dioxide absorption by small water droplets in the process so Enviro Innovate could better explain the causes of their high carbon dioxide removal rates to companies looking to curb their emissions impact.

"I would not have earned this award without the hard work and enthusiasm of my graduate students – both past and present," says Dr. McAuley, who currently oversees two Queen's Chemical Engineering doctoral students and six master's students. "Working alongside them has not only helped me progress my research, but our experiences together have increased my awareness of their needs and goals, and have given me an even better understanding of my role as associate dean of Graduate Studies."

Canadian systems and control experts are respected around the world and Dr. McAuley believes this global leadership in the field will continue to grow.

"I anticipate future winners of the D.G. Fisher award are amongst my colleagues at Queen's and our students," she says. "The industry demand for systems and control professionals continues to grow, particularly due to improvements in computing technology, better access to information and easier ways to collaborate internationally."

Every March, Dr. McAuley co-organizes a multi-institutional systems and control recruitment event for undergraduates contemplating masters degrees followed by a career in systems and control engineering. This spring will mark the fourth annual event, featuring research from 13 experts from six institutions.