Trajan Scientific and Medical

media@trajanscimed.com
www.trajanscimed.com

FOR IMMEDIATE RELEASE

Trajan and Queen's University awarded Mitacs grant to develop MES technology for mass spectrometry

Kingston, Ontario, Canada – 2 March 2020

Trajan Scientific and Medical (Trajan) and Queen's University (Queen's), Kingston, Canada, have been awarded a Mitacs Accelerate grant to develop new multiple electrospray (MES) technologies to increase throughput and sensitivity in mass spectrometry (MS).

The existing partnership between Trajan and Queen's will directly benefit from the Mitacs Accelerate grant, enabling continued research into the performance of novel front-end solutions for MS.

Trajan's CEO, Mr Stephen Tomisich said, "Core to Trajan's commercial success is partnering with leading academic groups in key research areas that add value to analytical workflows, to ultimately make a positive impact on human wellbeing through improved scientific measurements."

Trajan and Queen's have been collaborating since 2016 on multi-lumen emitter tip technology developed by Professor Richard Oleschuk's research group and Université Laval's Center for Optics, Photonics and Lasers (COPL), Québec City, Canada.

Queen's Professor Richard Oleschuk, said, "We are excited to have Trajan support further development of our patented multi emitter platform. It is gratifying to see how innovation at Queen's University is being translated into commercial products for the mass spectrometry community."

"Trajan is helping bridge the commercialization void, bringing a Queen's/Laval technology closer to a commercialized product." said Prof Oleschuk.

"Advances in improving sensitivity will drive the mass spectrometry field over the foreseeable future. Through our partnership with Trajan, we hope to capitalize on Queen's/Laval University technologies to enhance and ruggedize mass spectrometry." said Prof Oleschuk.

The new Mitacs supported project covers fabrication of novel MES glass technologies that will help improve the throughput and sensitivity of ESI-MS to measure biological, environmental and pharmaceutical compounds.

Trajan is a world leader in manufacturing and providing MS solutions to the global market, particularly in the design of precision fluidic components with instrument integration expertise for more robust solutions.

Mr Tomisich said, "We have identified Canada as a growth area for MS technologies, and we are engaging with economic development groups in Ontario and Alberta to build a nationwide hub for our R&D in health sciences."

Dr Andrew Gooley, Trajan's Chief Scientific Officer said, "Working with Queen's University over the past four years, we have witnessed technology translate from bench-top academic research, through to the commercialization stage."

"This rewarding collaboration has also resulted in a member of Professor Richard Oleschuk's research group, Dr Kyle Bachus, joining Trajan to continue to drive the development of this technology both technically and commercially." said Dr Gooley.

Dr Kyle Bachus, General Manager of Trajan's Precision Fluidic Systems Business Unit, says that, "From completing my own PhD at Queens, and now leading the MS program at Trajan, I have experienced firsthand how these partnerships can help accelerate technology development."

"I am thrilled to be involved in this project to develop new MES technology, to offer high-throughput high-sensitivity analysis; essentially running microflow liquid chromatography (LC) with the sensitivity of nano-ESI which can't be achieved with traditional MS emitters." said Dr Bachus.

Emitters are used in high sensitivity LCMS in a wide range of research applications, such as environmental monitoring, biomedical applications, drug discovery and therapeutic drug monitoring. Compared to current emitters available on the market, MES emitters are predicted to provide more efficient ion generation, most notably in the field of proteomics.

The next stage of the project is set to start in 2020.

Related news
Trajan developing devices and components to enhance sensitivity of nanoESI-MS

More information
Mitacs Accelerate www.mitacs.ca/en/programs/accelerate
Trajan Scientific and Medical www.trajanscimed.com
Queen's University at Kingston www.queensu.ca
Prof. Richard Oleschuk www.faculty.chem.queensu.ca/people/faculty/oleschuk
Université Laval's Center for Optics, Photonics and Lasers www.copl.ulaval.ca

Media contact information
Trajan Scientific and Medical
Tel: +44 (0) 1908 568 844
media@trajanscimed.com

PR-0060-G

NOTES FOR EDITORS

1. Trajan Scientific and Medical

Science that benefits people

Trajan is focused on breakthrough solutions to improve human wellbeing through biological, environmental or food related measurements. Our focus is on developing and commercializing technologies that enable analytical systems to be more selective, sensitive and specific - especially those that can lead to portability, miniaturization and affordability.

With over 450 staff worldwide across Australia, Europe, USA and Asia, Trajan serves customers in over 100 countries with highly specialized consumables and components used in scientific analysis and clinical applications.

www.trajanscimed.com

2. Queen's University at Kingston

Established by Royal Charter of Queen Victoria in 1841, Queen's is one of Canada's oldest degree-granting institutions. Located in Kingston, Ontario, it is a mid-sized university with several faculties, colleges and professional schools, as well as the Bader International Study Centre (UK).

Queen's is a full-spectrum, research-intensive university supported by award-winning faculty and enviable success in garnering national and international prizes and funding. Our scholars conduct leading-edge research in a variety of areas, including:

- power electronics and software engineering
- global development and cultural studies
- bioethics
- nationalism and democracy
- particle astrophysics
- mental health
- natural resources and infrastructure
- basic and clinical biomedical sciences
- healthy environments and sustainable energy systems
- social issues such as surveillance, poverty and bullying

The Queen's Department of Chemistry is regarded as one of the best in Canada for both teaching and research. Research is focused in alternative, multidisciplinary areas housed within a state-of-the-art building. The facility boasts five Canada Research Chairs, three Queen's National Scholars, four recipients of the Premier's Research Excellence Award and six fellows of the Chemical Institute of Canada.

www.queensu.ca
www.chem.queensu.ca

3. Mitacs

Mitacs is a national, not-for-profit organization that has designed and delivered research and training programs in Canada for 20 years. Working with 70 universities, 6,000 companies, and both federal and provincial governments, we build partnerships that support industrial and social innovation in Canada.

Mitacs was founded in 1999 as a Canadian Network of Centres of Excellence, dedicated to supporting applied and industrial research in mathematical sciences and associated disciplines. In 2003, we launched a research internship program designed to increase deployment of highly educated graduates into the private sector. Open to all disciplines since 2007, Mitacs has expanded in response to industrial and university needs, including programs in R&D management, professional skills development, and international research training. Mitacs is committed to its core vision of supporting research-based innovation and continues to work closely with its partners in industry, academia, and government.

From aerospace systems to childhood literacy rates, Mitacs-funded research helps to strengthen connections, improve economic performance, and create jobs. Over the past 20 years, we have supported more than 20,000 research projects, trained more than 33,000 student and postdoc career-skills participants, and supported more than 3,600 international research collaborations.

Mitacs has 25 offices across Canada, a robust leadership team, and a coast-to-coast business development team dedicated to building and supporting new partnerships.

Accelerate program: www.mitacs.ca/en/programs/accelerate

4. Prof. Oleschuk

Richard Oleschuk is one of Canada's top mid-career bioanalytical chemists whose research focuses on developing analytical techniques that are "stingy with sample". His lab has an impressive track record of working with collaborators and instrument manufacturers and has produced several contributions employing polymerization, microfabrication and the use of novel materials towards instrumentation development.

www.faculty.chem.queensu.ca/people/faculty/oleschuk

5. Université Laval's Centre for Optics, Photonics and Lasers (COPL)

The Centre for Optics, Photonics and Lasers (COPL) is a strategic cluster of optics/photonics researchers from eight universities in the province of Quebec. Founded in 1989, the COPL is headquartered in Québec City in a 10,000 m^2 building opened in 2006 and solely dedicated to research and training in optics and photonics. The Centre boast a critical mass of expertise and carries out research in six areas: Photonic Materials, Optical Design and Instrumentation, Optical Communications, Biophotonics, Lasers, Guided-Wave Optics.

www.copl.ulaval.ca