FOR IMMEDIATE RELEASE

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

San Antonio, TX, USA, 6 June 2016

Trajan Scientific and Medical (Trajan) announces two advancements in the development of devices and components for nano-electrospray ionization mass spectrometry (nanoESI-MS), in collaboration with the University of Adelaide in Australia, and with Queen's University and Université Laval in Canada.

Trajan and the University of Adelaide's Institute for Photonics and Advanced Sensing (IPAS) have been awarded an A$0.5 million Australian Research Council (ARC) Linkage grant to create glass capillaries and tubes with advanced geometries to enhance the sensitivity of mass spectrometry.

While photonics has a long history of developing unique glasses for optical sensors, there has only been an embryonic investigation into adopting these glass fabrication processes for mass spectrometry.

By collaborating on new R&D projects, Trajan can take full advantage of its recent expansion of glass fabrication capabilities, now comprising advanced manufacturing facilities in Melbourne, Australia, as well as San Diego, USA, and its co-location within IPAS in Adelaide, Australia.

Significant enhancement of nanoESI-MS sensitivity in this fabrication work with IPAS is expected to accelerate progress in disease research, biomarker discovery and drug development.

Trajan and Queen's University (Queen's), Kingston, Canada, via PARTEQ Innovations, the University's technology transfer organization, have established a framework to license Professor Richard Oleschuk group's multi-lumen emitter tip technology developed in collaboration with Professor Younès Messaddeq of Université Laval's Center for Optics, Photonics and Lasers (COPL), Québec City, Canada.

Queen's, Université Laval and Trajan will collaborate to commercialize multi-lumen emitter tip technology and also undertake further research to develop the next generation of emitter tips for the mass spectrometry industry.

Mr Mike Bailey, General Manager of Trajan's Precision Fluidic Solutions Business Unit said he was encouraged by the speed at which Trajan and its University partners have been able to execute on the evolution of the glass fabrication capabilities from photonics to the field of mass spectrometry.

"In less than nine months Trajan has moved from a hypothetical discussion with our academic partners to execute our first tangible collaboration in the development of a next generation of glass devices and components to enhance the sensitivity of electrospray mass spectrometry. We are now keen to see that enthusiasm translate into new products that benefit the mass spectrometry community" said Mr Bailey.

Prof. Richard Oleschuk said this is an example of the interesting things that can happen when you have people with expertise in separate fields work with one another, and each have access to cutting edge fabrication and instrumentation resources. It is gratifying to see an idea become both a research reality and great opportunity with a supportive commercial partner."

Prof. Younès Messaddeq, head of the Canada Excellence Research Chair in Photonic Innovations at Université Laval, said that it is the remarkable synergy between the research teams at Queen's University and Université Laval that has allowed the development of this novel technology over such a short period of time.

More Information

- Trajan Scientific and Medical www.trajanscimed.com
- University of Adelaide's Institute for Photonics and Advanced Sensing www.adelaide.edu.au/ipas
- Queen's University at Kingston www.queensu.ca
- Queen's University Department of Chemistry www.chem.queensu.ca
- Prof. Richard Oleschuk www.faculty.chem.queensu.ca/people/faculty/oleschuk
- PARTEQ Innovations www.parteqinnovations.com
- Université Laval www.ulaval.ca
- Université Laval's Center for Optics, Photonics and Lasers www.copl.ulaval.ca
- Prof. Younès Messaddeq www.cercp.ca

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NOTES FOR EDITORS

1. **Trajan Scientific and Medical**

Trajan collaborates with academic and industry partners to develop and deliver innovative products. Together we will deliver 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.

A 17,000 m^2 Ringwood site in Melbourne, Victoria, is home to Trajan's corporate headquarters and ISO accredited manufacturing operations. With over 300 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. **IPAS**

The Institute for Photonics and Advanced Sensing (IPAS) fosters excellence in research in materials science, chemistry, biology and physics and develops disruptive new tools for measurement. A global hub of Photonics research, IPAS is one of 5 research institutes at The University of Adelaide, and holds links with companies and Universities on almost every continent. The 185 researchers at IPAS develop novel photonic, sensing and measurement technologies that are creating new tools for scientific research and stimulating the creation of new industries.
www.adelaide.edu.au/ipas

3. **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

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. **PARTEQ Innovations**
   PARTEQ Innovations was founded in 1987 by Queen's University at Kingston, Ontario, Canada to commercialize intellectual property (e.g. inventions) arising from university-generated research. PARTEQ's mission is to provide Queen's and partner institution researchers with the intellectual property and commercialization expertise that are needed to advance their discoveries to the public, while returning the proceeds from those activities to researchers and their institutions.
   www.parteqinnovations.com

6. **Université Laval**
   Located in Quebec's historic capital, a World Heritage City, Université Laval was founded in 1852 and is the first French-language university in the Americas, its origins dating back to 1663. Université Laval's 1,400 professors-researchers share their knowledge with 48,000 students, 10,000 of whom are enrolled in graduate-level programs. It receives more than $ 300 million annually in funding from its private and public partners for research done on campus or through its network of affiliated medical research centers. Year in year out, Université Laval ranks in the top ten of Canadian universities in terms research funding.
   www.ulaval.ca

7. **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 m2 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

8. **Prof. Messaddeq**
   Younès Messaddeq holds the position of Canada Excellence Research Chair in Photonic Innovations, providing unique world-class expertise in glass and optical fibers that will become the corner stone for the development of future photonic components for communications.
   www.cercp.ca