

MEDIA RELEASE

A*STAR'S INSTITUTE OF MICROELECTRONICS AND SFC FLUIDICS COLLABORATE TO DEVELOP POINT-OF-NEED TRAUMATIC BRAIN INJURY DIAGNOSTIC DEVICE

1. **Singapore, 27 November 2012-** A*STAR's Institute of Microelectronics (IME) and SFC Fluidics[®], a USA microfluidics-based biomedical device development company, will be collaborating to develop a portable diagnostic tool for rapid triaging of traumatic brain injury (TBI) victims and to improve the treatment strategies. TBI is one of the most common causes of death and disability in the world, usually resulting from blasts, falls, knocks, traffic accidents, and assaults.

2. The proposed diagnostic tool is a fully-integrated, automated biosensor device which requires only a drop of blood to detect up to three biomarkers released by the brain after sustaining injury. The biomarker readings will be displayed on an easy-to-read screen, along with an indicator alerting the care giver to the severity of the injury.

3. Unlike conventional diagnostic tools such as neurological tests and computed tomography (CT) scans, the biosensor device does not require any trained personnel for sample handling. The portable feature of the device facilitates rapid on-site diagnosis of the injury. Caregivers will be able to respond quickly with the proper course of treatment to prevent injury aggravation.

4. The biosensor device leverages and integrates IME's silicon-based microfluidic sensor and biosensor technology and bio-electrochemical assay development capability. IME has built up strong capabilities in biomedical microsystems and has established deep collaborations with the clinical community and key industry partners in Singapore to advance silicon-based Point-Of-Care diagnostics devices.

5. “This collaboration exemplifies the extension of “More-than-Moore” technologies to healthcare. Building on our core capabilities in silicon-based microfluidics and biosensor technology, we can help our partner create innovative diagnostic tools to improve TBI treatment,” says Prof. Dim-Lee Kwong, Executive Director of IME. “Working with SFC provides a good opportunity for us to deepen our knowledge in healthcare applications to enable high quality and affordable healthcare solutions.”

6. “We are excited to partner with IME, a leading R&D institute with a diverse suite of capabilities, including microfluidics, MEMS, nanoelectronics, integration and packaging. SFC has been expanding fast for the last few years. We have developed quite a few very exciting new technologies in the microfluidics and biomedical sensor areas. Some of these technologies have been commercialized. By leveraging on IME’s industry standard mass production facilities, we can cut down the product development cycle time. “The TBI project is the start of a longer term collaboration that SFC will explore together with IME,” commented by Dr. Sai Kumar, Vice President of Research and development, SFC Fluidics.

About Institute of Microelectronics (IME)

The Institute of Microelectronics (IME) is a research institute of the Science and Engineering Research Council of the Agency for Science, Technology and Research (A*STAR). Positioned to bridge the R&D between academia and industry, IME's mission is to add value to Singapore's semiconductor industry by developing strategic competencies, innovative technologies and intellectual property; enabling enterprises to be technologically competitive; and cultivating a technology talent pool to inject new knowledge to the industry. Its key research areas are in integrated circuits design,

advanced packaging, bioelectronics and medical devices, MEMS, nanoelectronics, and photonics. For more information, visit IME on the Internet: <http://www.ime.a-star.edu.sg>.

About Agency for Science, Technology and Research (A*STAR)

The Agency for Science, Technology and Research (A*STAR) is the lead agency for fostering world-class scientific research and talent for a vibrant knowledge-based and innovation-driven Singapore. A*STAR oversees 14 biomedical sciences, and physical sciences and engineering research institutes, and seven consortia & centre, which are located in Biopolis and Fusionopolis, as well as their immediate vicinity. A*STAR supports Singapore's key economic clusters by providing intellectual, human and industrial capital to its partners in industry. It also supports extramural research in the universities, hospitals, research centres, and with other local and international partners.

About SFC

Founded in 2003, SFC Fluidics® is a privately held company located in Fayetteville, Arkansas. The company's unique product lines span a diverse range of markets including point-of-care diagnostics, analytical instrumentation and laboratory liquid handling. A driving trend in biomedical and analytical instrumentation is toward higher performance, lower operating cost, and improved portability. The company's products are based on innovative technologies that improve speed, performance and affordability. Its mission is to expand scientific knowledge, advance health care, and improve overall quality of life through enabling microfluidics technologies.

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