

PRESS RELEASE

February 11, 2020

TRACE MATTERS INTRODUCES SPION TO ENABLE IN VIVO MASS SPECTROMETRY

FOR IMMEDIATE RELEASE

Somerville, Massachusetts–February 11, 2020–Trace Matters Scientific today introduced SPion™ –a revolutionary technology that enables the world’s most sensitive and versatile remote analysis with mass spectrometry. Until now, the lack of proper instrumentation for efficient ion transfer from a remotely located sample to the mass spectrometer made sensitive in situ analysis for such a sample nearly impossible. SPion™ overcomes this major roadblock by redefining the front-end architecture of a mass spectrometer and transforming it into a simple lightweight handheld probe. SPion allows scientists to bring the accuracy and specificity of a mass spectrometer to their sample in native state, and experience unprecedented sensitivity in remote analysis. This allows for, amongst other applications, in vivo or living sample molecular profiling. This will be revolutionary for health and biological sciences including cancer surgery and research.

“SPion™ addresses one of the significant challenges that had remained unsolved for many decades in the field of mass spectrometry: the capability to efficiently transfer ions over relatively long distances, similar to how photons are contained and guided through optical fibers,” said Dr. Mazdak Taghioskoui, Trace Matters Scientific’s CEO and the inventor of the technology. *“Mass spectrometry is one of the most powerful techniques for capturing molecular information and is a power tool for precision and personalized medicine. The capabilities that SPion™ brings to the table extends the use of mass spectrometry to even more applications, importantly, to point-of-care in vivo direct tissue analysis. Our goal is to turn a mass spec into a medical device –a tool that will provide highly accurate tissue biopsy results in real-time in the operating room.”*

The in vivo sample analysis capability is a game changer because it allows observing the biology and chemistry of living tissue without disruption. Typically, samples must be removed for analysis, and in the process, a great deal of time and accuracy is sacrificed. In addition to producing more relevant data via in vivo analysis, SPion™ addresses many problems associated with ex vivo techniques, such as tedious sample preparation, cross-contamination, bias trends, and instability of analytes. With SPion™, it is now possible to produce molecular information directly from a living tissue with the same sensitivity of a standard mass spectrometer.

In the first ever implementation of this technology, Trace Matters has partnered with Professor Nathalie Agar of the Department of Neurosurgery at Brigham and Women’s Hospital of Harvard Medical School to demonstrate the technology in cancer surgery. *“My group has tirelessly investigated over the past decade the potential of using mass spectrometry to support clinical, and more specifically, surgical decision-making. The premise of our work has been to eventually fully integrate mass spectrometry into every surgery room,”* said Professor Agar, the director of Surgical Molecular Imaging Laboratory. *“The SPion™ platform overcomes our current limitations and could not be more timely. We urgently need this technology in our ongoing investigations, and we are happy to have the opportunity to work on validating, optimizing, and implementing this new exciting technology,”* said Professor Agar.

Trace Matters is planning to present the results in 68th ASMS Conference on Mass Spectrometry and Allied Topics (ASMS) 2020 in Houston, TX. Learn more about SPion™ at www.tracematters.com/technology

Availability

In the initial Select Release, SPion™ will be made available to a small group of leading scientists world-wide with the most demanding urgency. Learn more about the Select Release at www.tracematters.com/selectrelease

About Trace Matters Scientific

Trace Matters is a technology startup focused on developing the next generation of mass spectrometry technologies for a variety of demanding applications. Trace Matters technologies include innovative mass spectrometry hardware, methods, and applications to solve the most demanding mass spectrometry analysis needs in various industries.

Press Contact

media@tracematters.com

Disclaimer

SPion™ is neither offered, marketed, nor intended for use as a “medical device,” as defined by the U.S. Food and Drug Administration’s regulations, or other counterpart foreign entities. SPion is not intended for use in the diagnosis of disease or other conditions, or in the cure, mitigation, treatment, or prevention of disease, in man or animals. SPion™ is intended and marketed solely for use in research settings.

– end –