



If you are interested in BUZSAW, please contact Nancy Saucier, Director of New Venture Development at Nancy_Saucier@uml.edu or 978-934-3212.

BUZSAW

Medical Device

Status: Proof of Concept; Prototype under development

Joel Therrien of UMass Lowell's Electrical & Computer Engineering department has developed a QCM/SAW based acoustic wave (AW) device that addresses the limitations of current commercial technology, the linear SAW, maximizing the surface area of the sensor and eliminating the need to phase match each sensor. This has been accomplished by eliminating the need for the large number of repeated electrode pairs and migrating from a linear to circular design to enable self-alignment.

QCM/SAW enables the use of cells as the sensor element to analyze mechanical as well as visco-elastic properties. Additionally, frequency dependent response of the oscillator can be used to obtain more detailed diagnostics of the status of the cell response.

NVI believes solving these two major hurdles to broad adoption of QCM/SAW technology combined with the sensing accuracy of QCM/SAW will enable the technology to be applied for use as a diagnostic for therapeutics, toxins, and pathogens.

New Venture Initiative is interested in this technology due to its sensing accuracy. NVI is currently working to further the commercial capability of this technology and assess potential market opportunities by:

- Awarding an internal translational grant of \$24,000 further development of a stable sensor prototype
- Pairing mentors with the faculty inventor to drive to commercial milestones
- Exploring opportunity to integrate the technology into the existing laboratory technology suite
- Identification of a potential initial target market to focus the creation of a comprehensive database of frequency dependent responses