



◀ Strategically located at the QEII Health Sciences Centre and IWK Health Centre in Halifax, Canada, the Biomedical Translational Imaging Centre (BIOTIC) provides single-point access to the expertise, equipment, support services, clinicians, and patient populations you need to explore and validate potential new medical technologies. We will work with you to refine your ideas and move them along the path to commercialization in a way that minimizes risk and maximizes the value of your new technology.



EXPAND YOUR RESEARCH TEAM

BIOTIC's team has expertise in fields including:

- medical physics and imaging
- cellular and molecular biology
- radiology, neurology, experimental psychology
- mechanical, electrical and computer engineering
- mathematics and computer science
- pre-clinical and clinical imaging
- project management and business development

We will help you develop your product with R&D support to:

- advance, test and validate technologies
- plan and conduct imaging-related studies
- access and develop experimental models
- recruit participants
- gather and analyze data
- facilitate collaborations and partnerships



ACCESS ADVANCED IMAGING EQUIPMENT

BIOTIC's team works closely with collaborators and clients to help you both expand and realize your ideas for new medical technologies. Our array of pre-clinical and clinical imaging equipment allows us to test new technologies from every angle along the continuum—from proof-of-principle studies in model systems to pre-market validation studies in humans. Because our scientists and engineers are constantly extending the capabilities of our equipment, we use our IP to gather data that is not available through any other means.

BIOTIC's team facilitates imaging studies that will help you:

- shed light on disease progression and response to treatment over time
- identify and validate diagnostic and therapeutic targets
- prove that the concept behind your technology is sound
- test the effectiveness of your product or approach
- validate work flows for your technology
- explore potential new applications for your technology



CONDUCT PRE-CLINICAL RESEARCH

Pre-clinical PET/CT and SPECT—PET/CT allows for simultaneous evaluation of molecular, cellular, anatomical and metabolic information, while SPECT produces high-resolution 3-D images of radio-labelled molecules. It works with the PET/CT system to detect a wide range of biomarkers.

3T pre-clinical MRI/optional PET—The MRI renders exquisitely detailed images of soft tissues, including iron-oxide labelled cells and molecules. With the PET insert, both MRI and PET data (functional and anatomical) can be obtained rapidly and simultaneously for more comprehensive, accurate data. MRI anatomical images can also be overlaid with separate SPECT and PET images.

A fully equipped biological level 2 lab and onsite animal care facility with quarantine area provide researchers with a rare opportunity to conduct longitudinal studies in a wide range of animal models.



“ **BIOTIC provides deep scientific expertise, world class facilities, translational experience, and other characteristics essential for advances in modern health care and life science research.**”

- George Abe, CEO, Cubresa

“ **Together as partners we have the right mindset, the right skill set and the right vision to commercialize the next great ideas in diagnoses and treatment of these diseases.**”

- Heather Chalmers, General Manager, GE Healthcare Canada

EXPLORE CLINICAL IMAGING

Our clinical imaging facilities provide access to non-invasive technologies for brain and body imaging in humans. Thanks to our location in research-intensive adult and pediatric hospitals, we can connect you to the clinicians and patient populations who will enable you to explore clinical issues and test, refine and validate technologies.



MRI—our 3T clinical MRI scanner provides detailed anatomic, functional and spectroscopic images. It is fully outfitted for studies of the brain, heart, abdomen and pelvis.



Magnetoencephalography (MEG)—our child-friendly 306-channel whole-head MEG passively and non-invasively detects magnetic signals generated by neural activity, revealing detailed information about participants’ brain function.



Electroencephalography (EEG)—the 128-channel EEG system records the electrical activity of the brain with high spatial accuracy. Its active electrode technology reduces set-up times and maximizes participants’ comfort.



Audiometry—An audiometer complements the EEG, enabling new research directions in hearing science and device development.

LEVERAGE OUR EXPERIENCE

We have a solid track record of successful medical-technology collaboration. We work with companies, from start-ups to multinationals, to develop technologies from proof-of-principle to multi-site clinical trials. For example, we are working with companies to:

- create algorithms for faster, more accurate MRI diagnosis of prostate cancer and fatty liver disease and more detailed pre-surgery maps of the brain
- pioneer MEG-based systems for non-invasively mapping vital brain functions like language and speech prior to brain surgery
- validate a new technology for diagnosing Alzheimer’s disease in a living person’s brain
- develop control systems for an MRI-compatible device that makes tumours more susceptible to radiation
- develop and test new capabilities for a novel table-top pre-clinical SPECT system
- study the effectiveness of radiopaque embolic beads designed to block blood flow to tumours
- invent new tools for measuring changes in hearing after ear surgery and to aid recovery of motor function following stroke.

As scientists and engineers backed by a multidisciplinary team, advanced imaging equipment, and a specific mandate to collaborate with industry to translate early-stage technologies into health care advances, we will work with you to achieve your technology-development goals.

FOR MORE INFORMATION

Visit www.bioticimaging.com or contact Denise Lalanne, denise.lalanne@iwk.nshealth.ca, 1.902.473.1856

