

Institute of Biomedical Engineering

OVERVIEW

The Institute of Biomedical Engineering (IBME) is a research institute within the University of New Brunswick (UNB). Founded in 1965, IBME has evolved to become a world-renowned, multi-disciplinary research unit involved in a broad spectrum of activities in biomedical engineering. IMBE's mandate is to further education, research and community service in biomedical engineering.

RESEARCH CAPABILITIES

- Electromyography
- Prosthetics and Control Systems
- Human Motion
- Rehabilitation
- Computational Motor Control
- Ergonomics
- Telehealth
- Clinical Engineering
- Medical Device Design and Development
- Occupational Therapy

MAJOR PROJECTS

UNB Hand

Researcher(s): Dr. Kevin Englehart

Partner(s): Liberating Technologies

Creating a prosthetic hand that uses state-of-the-art technology to give the end user a more fluid natural range of motion, by providing an enhanced man-machine interface.

BioTone - Clinician Tools for Neuromuscular Evaluation

Researcher(s): Dr. Chris McGibbon

Partner(s): Stan Cassidy Centre for Rehabilitation and Accreon

Developing a portable device called the BioTone that a therapist can use during routine clinical examinations to acquire objective and reliable measures of patient muscle function.

DARPA HAPTIX - Functional Metrics for Humans with Bi-directionally Integrated Prostheses

Researcher(s): Dr. Jonathon Sensinger, Dr. Paul Marasco (Cleveland Clinic) and Dr. Jacqueline Herbert (Alberta)

Developing bi-directional peripheral nerve interfaces for use in upper-limb prostheses. UNB's role is developing a platform for effective performance metrics.

Research Chair in Medical Devices and Technologies

Researcher(s): Dr. Erik Scheme

Building a medical devices ecosystem in New Brunswick by conducting applied research with companies in the medical technologies sector.

FACILITIES

Atlantic Clinic for Upper Limb Prostheses

Specializing in fitting myoelectric prostheses. Also works with other fittings such as cosmetic restorations, passive prostheses, recreational adaptations, or specially designed custom prosthetic devices.

Biomedical Signals Laboratory

Providing state-of-the-art instrumentation and computing for the acquisition and analysis of biomedical signals.

Human Motion Analysis Laboratory

Containing specialized equipment for capturing joint kinematics and loads.

RESOURCES

- Specialized pupil tracking equipment
- Balance Platform
- Wired and wireless EMG acquisition systems
- Haptics phantom, 3D augmented reality system
- Electronics shop- Allows for fabrication of parts in house

For more information please visit: www.unb.ca/research/institutes/biomedical