

# The Institute of Biomedical Engineering

*...where cutting edge research meets hands-on clinical care*

May 6, 2016 | Dr. Erik Scheme

UNB

# The Institute of Biomedical Engineering

## Core Research Faculty

- Dr. Kevin Englehart – Director
- Dr. Jon Sensinger – Associate Director
- Dr. Erik Scheme – NB Innovation Research Chair
- Dr. Chris McGibbon – Professor, Kinesiology
- Dr. Ed Biden – Professor, Mechanical Engineering



## Staff

- Engineers, Clinicians & Administrative staff

## Key Collaborators

- Rehabilitation Institute of Chicago
- Stan Cassidy Centre for Rehabilitation
- Industry



# Specialty Clinical Care

## Atlantic Clinic for Upper Limb Prosthetics

### Most advanced upper limb fitting clinic in Canada

- Myoelectric/powerd upper limb prostheses
- Custom prosthetic devices
- >120 clients



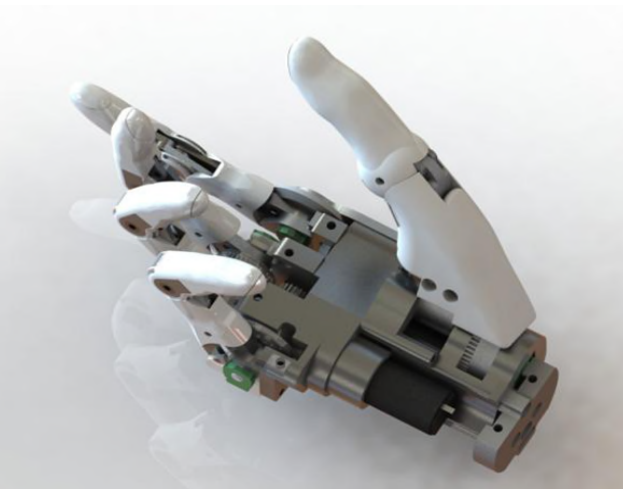
# Global Leaders in Prosthetics Research

## DARPA Revolutionizing Prosthetics

- US Military Research

## UNB Advanced Hand System

- Dexterous prosthetic hand, pattern recognition control system



# Clinical Assessment Tools

## BioTone

### A Neuromuscular Assessment Toolkit

- Being validated (160 patients) at four clinical centres in Canada and the US
- Professional training and user software allows for easy clinical deployment

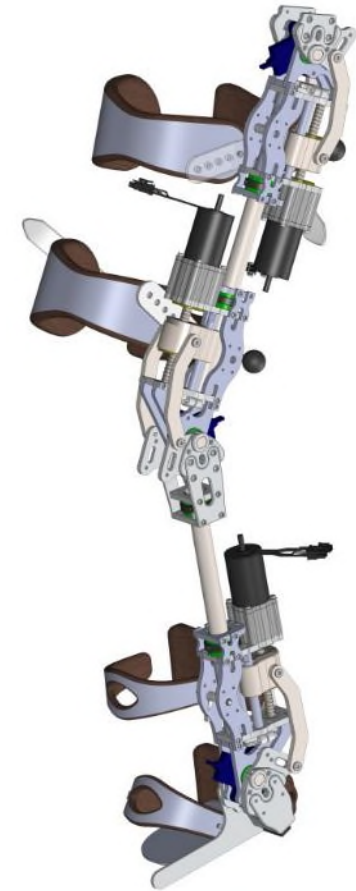


# Exoskeletons

## UNB 'Natural' Exoskeleton

A **robotic exoskeleton** that moves naturally in uncertain environments

- Stroke patients with spasticity



# Health Analytics

## Polypharmacy in Seniors

New Brunswick  
Health Research  
Foundation



Fondation de la  
recherche en santé  
du Nouveau-Brunswick



### Physicians & EHRs



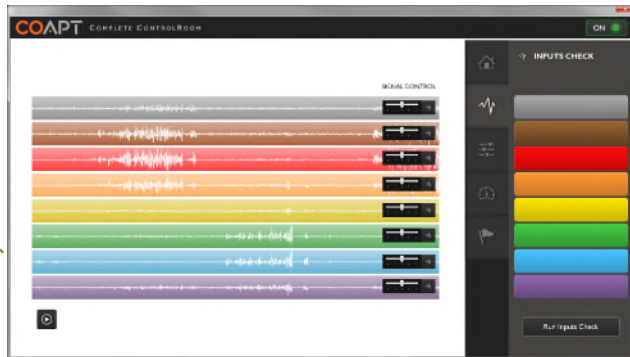
### Patient oriented care



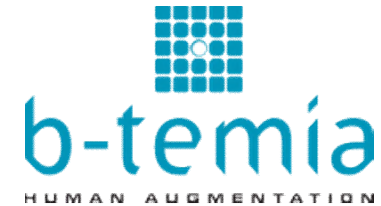
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# Industry Partnerships & Startups



# Industry Partnerships & Startups



# Summary

- **Mandate:**
  - Training
  - Research
  - Community Service
- **Strong roots in prosthetics**
- **Diversification of specialties**
  - Increased industry partnerships
  - Entrepreneurship
  - Driver for economic growth





Thank you!

