BME is proud to announce the Master’s Defense of

RHEAGAN CHAMBERS

BME MS Candidate

“PUPILLARY DEVICE DESIGN FOR OCULAR CRANIAL NERVE MONITORING”

Abstract: Inspection of the pupillary reflex and extraocular motor function can provide invaluable information about the integrity of the cranial nerves, as well as indirectly indicate changes in intracranial pressure (ICP). In critical ICU patients and patients with severe traumatic brain injuries (TBI), monitoring these physiological mechanisms has shown that dysfunction may be proportional to the degree of injury. In the operating room, current devices for reflex pupillometry are based on 40-year-old technology, measure at irregular intervals, and require logistically difficult manipulations. In this thesis, a prototype device design is proposed that can be positioned on or nearly on-eye, and provide continuous measurement of both ipsilateral and contralateral pupil responses simultaneously in real-time or near real-time while being minimally invasive. The primary applications of this device are in neurosurgery, emergency medicine, and telemedicine.

April 27th, 2018 2:00 pm
Keating, Room 103

Host: Marek Romanowski, PhD
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Persons with a disability may request a reasonable accommodation by contacting the Disability Resource Center at 621-3268 (V/TTY).