Northeastern Occupational Biomechanics and Ergonomics Laboratory (NOBEL)

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The Occupational Biomechanics and Ergonomics Laboratory research aims to prevent work-related musculoskeletal disorders (MSDs) by understanding injury mechanisms through laboratory and field studies that utilize biomechanics, neuromuscular, exposure-response, and intervention study designs and methods. Located on the ground floor of Robinson Hall, this space contains a state of the art office space for research staff and trainees and a human movement and biomechanics laboratory space, both approximately 600 square feet. The flexible design of biomechanics laboratory space allows for a range of experiments investigating thumb movements while using mobile computing technology to the ergonomics of dynamic office workstation designs. The laboratory contains equipment to measure human motion and posture, surface electromyography, and applied forces. Human motion equipment includes Northern Digital Optotrak system and Ascension Technology Mini-Bird systems. Electromyography equipment included 12 channel Delsys and an 8 channel wireless Mega systems. Load cells to measure force include custom made force plates for computing to ATI 3-axis force-torque sensors.