

Motor Behavior Lab

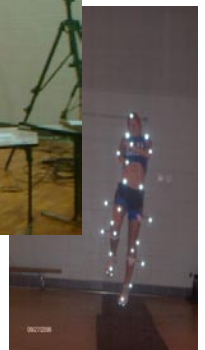
The Motor Behavior Laboratory is located in room 146 of the Kinesiology and Health Studies building located on the campus of Southeastern Louisiana University in Hammond, LA and supervised by Dr. Jennifer Jeansonne. The 4500 square foot lab is equipped with six rows of individually controlled lighting, an open space for our dynamic activities, eight networked computer work stations, and various equipment for motor learning research and class projects. The list of equipment includes, but is not limited to: an 8 camera – Vicon optical system with 2- force plates and video capabilities, a 2D video-based capture system, a 16-channel Delsys wireless EMG system, video cameras, VCRs, TVs, 2-Wii systems with 2 controllers, Wii Play and Wii Sports each, 1- Wii Fit, 1 Velotron bike, 2 dynafit Computrainers, 3 Computrainers, a System 4 Biodex Isokinetic dynamometer with all major joint attachments and work simulation tool attachments, and a Biodex balance system. Within this large area, how motor learning and control influences movement can be measured with biomechanical concepts and tools allowing for an overall look at motor behavior.

Faculty of the Exercise Science Concentration, Drs. Hollander, Jeansonne, Kraemer, and Sirikul. We include our graduate students and enthusiastic undergraduate students in a large portion of our data collection. This provides us with needed assistance and provides our students with a strong research experience.

We have collaborations on campus with athletics and industrial technology and off campus with our close neighbors in Baton Rouge and New Orleans.

Equipment and Instrumentation

- The large space is used for jump training and other dynamic activities
- 8 networked computer work stations used for data processing, lab activities and course work
- various equipment for motor learning research and class projects including reaction timers, mirror tracing boards, measuring devices, etc.
- an 8 camera – Vicon optical system
- a 2D/3D video based capture system
- a Bertec force plate



- a Kistler force plate
- video cameras, VCRs and TVs
- video editing equipment
- a 16 channel wireless Delsys EMG system, A dedicated laptop computer is used to record EMG and other analog data to merge biomechanical and exercise science concepts.
- a 2D/3D video-based capture system. Movement can be videotaped with up to four video cameras, all synchronized in time, with a time code recorded on each frame at 60 frames per second. Force plate data is synchronized with the video data to allow for analysis of the skill performance.
- TV monitors, digital video cameras, digital VCRs,
- CD/DVD read/write capabilities
- Large locking cabinets for storage of sensitive equipment



Software used in the lab

- SPSS
- LabView
- Statistix
- Microsoft Office
- HuMan biomechanics software
- Peak Motus
- EMG works
- Biodex



Current/Recent Research Projects:

- Effect of jump training on GRF of collegiate athletes and recreational athletes.
- Effect of fatigue on muscular coordination and strength.
- Cardiovascular improvements when using a Wii as a source of physical activity.
- Muscular activity effect of controlling the timing of Eccentric and concentric lifting.

