La Crosse Institute For Movement Science (LIMS)

Thomas Kernozek, PhD, FACSM, Director

The Institute was created in 2005 at the University of Wisconsin—La Crosse in the Department of Health Professions, Physical Therapy Program. LIMS brings together scientists and clinicians from various disciplines seeking applied knowledge related to human movement, factors related to injury, and in the foundations of therapeutic exercise used in the treatment and rehabilitation of injury.

Each year over 40 students from graduate and undergraduate programs from the UW-L campus are involved in laboratory research including Physical Therapy, Exercise and Sport Science, Physics, and Biology. High-technology funding from the State of Wisconsin supports 8 Physics Biomedical student internships in the laboratory.

Due to the many publications from the clinical biomechanics laboratory, LIMS has developed a national/international reputation.

100 manuscripts!

Tom Kernozek, professor in the Physical Therapy program since 1996, published his 100th manuscript. He states “This was a tremendous accomplishment for the LIMS, the Physical Therapy Program, and myself. I could not have done it without the support of my colleagues, collaborators, and graduate/undergraduate students that have worked in my lab over the years. It has truly been incredible to get to this point in my career and that many other researchers have come to recognize our work here at UWL.”

LIMS uses visual feedback in community screening to prevent ACL injury risk in female athletes

ACL injury risk is 2-8 times greater for female athletes. UWL and Gundersen Health System are partnering to reduce these numbers! Portable force plate and video feedback are being used to reduce the risk of ACL injury in female athletes. Immediate data is projected to a visual display to augment training to examine the effectiveness of immediate movement based feedback. If you would like your school to be involved in this project, please contact us! Grants from UWL and Gundersen Medical Foundation have supported these efforts.

Interested in being a participant or working with LIMS?

Contact Drew Rutherford, MS, drutherford@uwlax.edu or Tom Kernozek, PhD tkernozek@uwlax.edu for details
Recently Published or In Press Research (2017-2018)


LIMS research continues to have national and international impact. The figure below shows the growth in the number of citations from other authors in acknowledging our work in their research.

**We measure movement performance!**

Our laboratories have sophisticated equipment that measure motion, impact forces, pressures on the feet or in seating, muscle activation, energy cost and heart rate, or for the imaging of tendons or soft tissue.

These data can be used to determine the loading on joints and muscles to give insight to how and why injuries may occur or for the improvement of performance to keep you active.

Musculoskeletal models are used to determine loading on bone, joints, ligaments, and tendons.

Pressure distribution measures show us the pressure points in seating or on your foot during walking or running.

For more information contact:

**Tom Kernozek, PhD, FACSM, Director of LIMS**

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Check out our lab on your smartphone!