

Old Dominion University

Sports Medicine Research Laboratory:

Building a Foundation for Dynamic Human Movement Science

The Old Dominion University Sports Medicine Research Lab (SMRL) was recently established in the Fall of 2003. The SMRL includes a 3-dimensional Flock of Birds computerized motion analysis system and two Bertec forceplates to analyze the biomechanical aspects of human movement. In addition, a Neurocom Smart Master balance system with extended forceplate capabilities and extensive videocamera and computer systems exist for dynamic motion analysis. The research agenda for the SMRL is currently focused on lower extremity injury prevention utilizing epidemiological, biomechanical, and motor learning/control approaches aimed at preventing injuries in the physically active (specifically youth athletes and military soldiers). Current collaborative research efforts are being discussed and conducted across the Exercise Science, Sport, Physical Education, and Recreation (ESPER) department and the departments of Physical Therapy and the Virginia Modeling, Analysis, and Simulation Center. The goal of this presentation is to present the research agenda of the SMRL and invite collaborative efforts from individuals in Electrical and Computer Engineering to join in the Human Movement Science research effort. Numerous areas of collaboration can be conducted in the joint effort of applying engineering concepts to the role of the sports medicine researcher in analyzing human movement. Utilizing the strengths of each individual department specialty is the goal in the development of an ODU campus based initiative aimed at intensifying the human movement science research across departments in the hopes of establishing a vibrant research environment for applied human movement research.