

Motion Capture and Analysis Laboratory (MOCA)
Institute for Computer Graphics
Institute for Biomedical Engineering



Optical motion capture technology enables the accurate recording of human movement. The technology consists of infrared (IR) light sources, reflective markers, IR cameras, and associated image-processing software that enable the digital recording of 3-Dimensional positions of moving targets in space. Such markers are usually attached to various parts of a human body to capture their motions in space as a function of time. This technology is vital to a variety of applications including the synthesis of motions of

digital characters in movies and computer games, rehabilitation of neurological and physiological disorders in adults and children, analysis of sports performance, analysis of primate locomotion in anthropology, and creation of performance pieces based on capturing dance motion.

Motion Capture and Analysis (MOCA) Laboratory operates under the auspices of the Institute for Computer Graphics (ICG). The Institute for Biomedical Engineering (IBE) is a vital partner and provides additional required computing equipment and support personnel. The objective of MOCA is to provide the infrastructure (laboratory space, equipment, support personnel) to enable researchers, educators, and clinicians across the University and the greater Washington D.C. area to capture, analyze, and apply digitized human motion for a variety of applications. In addition, MOCA and the ICG will act as a catalyst and a focal point to enable researchers and educators to conduct collaborative activities across traditional discipline boundaries that involve human motion.

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www.icg.gwu.edu/MOCA
Staughton Hall 301