

Abstract Submitted
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**Using Video Analysis and Biomechanics to Engage Life Science
Majors in Introductory Physics** JEFF STEPHENS, Misericordia University —

There is an interest in Introductory Physics for the Life Sciences (IPLS) as a way to better engage students in what may be their only physical science course. In this talk I will present some low cost and readily available technologies for video analysis and how they have been implemented in classes and in student research projects. The technologies include software like Tracker and LoggerPro for video analysis and low cost high speed cameras for capturing real world events. The focus of the talk will be on content created by students including two biomechanics research projects performed over the summer by pre-physical therapy majors. One project involved assessing medial knee displacement (MKD), a situation where the subject's knee becomes misaligned during a squatting motion and is a contributing factor in ACL and other knee injuries. The other project looks at the difference in landing forces experienced by gymnasts and cheer-leaders while performing on foam mats versus spring floors. The goal of this talk is to demonstrate how easy it can be to engage life science majors through the use of video analysis and topics like biomechanics and encourage others to try it for themselves.

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