

KEYNOTE SPEECH

Applied Biomechanics: Prosthetic and Orthopaedics

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Abstract. *Wiechert BU. 2017. Applied Biomechanics: Prosthetic and Orthopaedics. Proc Internat Conf Sci Engin 1: xiii-xiii.* Biomechanics is closely related to engineering, because it often uses traditional engineering sciences to analyze biological systems. Some simple applications of Newtonian mechanics and/or materials sciences can supply correct approximations to the mechanics of many biological systems. Applied mechanics, most notably mechanical engineering disciplines such as continuum mechanics, mechanism analysis, structural analysis, kinematics and dynamics play prominent roles in the study of biomechanics. Usually biological systems are much more complex than man-built systems. Numerical methods are hence applied in almost every biomechanical study. Research is done in an iterative process of hypothesis and verification, including several steps of modeling, computer simulation and experimental measurements. Prosthetics and orthotics are clinical disciplines that deal with artificial limbs (prostheses) for people with amputations and supportive devices (orthoses) for people with musculoskeletal weakness or neurological disorders and some disability person. The development of prosthetics and orthotics disciplines is depend on development of science and engineering. The understanding of this multidiscipline field is important the advancement in this field. In this session i will overview the current development in prosthetics and orthotics field, expl ain a brief survey on its method, and discuss perspective for future trend and development.