

Joint Biomedical Engineering Seminar Series

MU ▪ MCW ▪ UWM

SEMINAR

Friday, March 30th, 2018

12:00 – 1:00 pm

Medical College of Wisconsin

HRC Room H1210/H1230

“Development of Protective Systems for Civilian and Military Personnel”

Michael Kleinberger, PhD

Team Leader, Injury Biomechanics

US Army Research Laboratory, Soldier Protection Sciences Branch

Abstract:

Researchers in the field of injury biomechanics help to develop a better understanding of the mechanisms and thresholds of injury as a result of physical loading or impact to the human body. This knowledge can then be applied to the development of protective systems to absorb energy and mitigate injuries associated with various threats to the human body. This presentation will provide an overview of the basic principles of occupant protection and injury prevention research, including discussions on real-world crash investigations, computational modeling, experimental testing, and the development and assessment of protective systems for both civilian and military applications. Specific examples will be presented from research conducted to address critical problems facing the US Departments of Transportation and Defense.

Biography:

Dr. Kleinberger received his B.Eng. degree in mechanical engineering from Cooper Union and his M.S. and Ph.D. degrees in biomedical engineering from Duke University with a concentration in biomechanics. He worked for seven years at the National Highway Traffic Safety Administration (NHTSA), where he was a senior researcher and program manager in the Biomechanics Research Division conducting experimental and computational studies related to occupant protection during vehicle collisions. He left NHTSA to establish and build an injury biomechanics program at The Johns Hopkins University Applied Physics Laboratory (JHU/APL), where he served in a number of supervisory and program management positions over a period of 16 years. His research has continued to involve a combination of experimental and computational studies related to human injury prediction and prevention, including serving as Technical Coordinator for the Army’s Warfighter Injury Assessment Manikin (WIAMan) Program. He currently serves as the Team Leader for Injury Biomechanics within the Soldier Protection Sciences Branch of the US Army Research Laboratory. He leads several projects involving the assessment and enhancement of personal protective equipment (PPE), and the determination of injury thresholds under blast, ballistic, and impact events. He also manages an external multi-university collaborative research program to investigate multi-scale injury mechanisms and develop material solutions to enhance Soldier protection. Dr. Kleinberger has published numerous papers and book chapters in the areas of occupant protection and

injury prevention, and is internationally recognized as an expert in the field. He has served as a scientific advisor to many government agencies and serves on the editorial review committees for several medical and engineering journals.

+++++

Medical College of Wisconsin is located at 1101 N. 87th St., Milwaukee, WI 53226. Parking is available across the street in visitor parking. Refreshments will be served.