Abstract

SAFETY AND MOBILITY: APPROACHES TO REDUCING MOTOR VEHICLE TRAUMA IN THE 21ST CENTURY

Motor vehicle crashes remain a leading health concern around the world. According to the World Health Organization, trauma resulting from road traffic incidents killed an estimated 1.3 million people in 2015 and was a Top 10 cause of death worldwide. In this seminar, an overview of public and private efforts to address this worldwide health problem is presented with emphasis on biomedical engineering efforts. These include anthropomorphic test devices, advanced multi-stage inflatable restraints, and pretensioning and force-limiting belts. Future considerations are explored in light of anticipated automated driving systems (ADS). In particular, additional challenges may accompany ADS interior features and must be addressed before the promise of these technologies may be fully realized. Recent efforts by the Toyota global organization, including the Collaborative Safety Research Center (CSRC), and others to continue research advances are addressed.