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Engineering & Scientific Consulting

Juff George, P.E.

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Professional Profile

Mr. George addresses issues involving the biomechanics of human injury. His work has focused on issues involving the biomechanics of human injury in slip, trip, and fall events, interactions involving consumer products, occupational and industrial accidents including falling objects and falls from heights, and all modes of automotive collisions. He has utilized his research experience in human gait to investigate individuals negotiating various environments including stairways, curbs, and level-ground, with a focus on the role of footwear. As a certified English XL Tribometrist, he has assessed the condition of walkway surfaces and its role on overground walking.

Mr. George has evaluated the safety of a wide variety of consumer products, including juvenile products, playground equipment, sports equipment, and household appliances for potential hazards associated with the use and misuse of these products. In conjunction with this work, he has used large scale incident and injury databases such as the Consumer Product Safety Commission (CPSC)'s National Electronic Injury Surveillance System (NEISS) to identify potential hazards and hazard patterns. Mr. George has evaluated various accidents to evaluate the risk of injury to multiple body regions. Particularly, he has investigated the injury mechanisms and kinematics of children during their interaction with various child products, including child restraint systems, toys, handheld carriers, soft infant carriers, slings, swings, bouncers, strollers, highchairs, bassinets, inclined sleepers, infant bedding, activity centers, floor seats, cribs, and beds. He has been involved in the evaluation of various issues related to CPSC inquiries and product recalls.

Mr. George has also evaluated occupant kinematics and injury mechanisms in automobile collisions, including frontal, rear-end, lateral impacts, and sideswipes, as well as rollovers. He has been involved in full scale vehicle to-vehicle crash testing with anthropomorphic test devices (ATDs). He has analyzed issues related to injury causation to determine whether an injury mechanism is present in an event and has assessed how the forces experienced by the body compare to everyday activities.

Academic Credentials & Professional Honors

M.S., Biomedical Engineering, Drexel University, 2010

B.S., Biomedical Engineering, Drexel University, 2010

Engineering Management Certificate, Drexel University, 2010

Tau Beta Pi Honor Society

Kappa Theta Epsilon Honor Society

Licenses and Certifications

Certified English XL Tribometrist (#1403509)

Certified Playground Safety Inspector (#24439-0617)

Licensed Professional Engineer, Pennsylvania #PE088877

Licensed Professional Engineer, New York, #101784

Professional Affiliations

ASTM International, F-13 Pedestrian/Walkway Safety and Footwear (member)

ASTM International, F-15 Consumer Products (member)

American Society of Biomechanics (member)

Society of Automotive Engineers (member)

Languages

Malayalam

Publications

Bruno A., Toney-Bolger M., George J., Koller J., Filatov A., Olberding J. "Evaluation of occupant kinematics in low- to moderate-speed frontal and rear-end motor vehicle collisions." SAE Technical Paper (2019-01-1226).

George J., Heller M.F., Kuzel M.J. "Effect of shoe type on descending a curb." Work 2012; 41:3333-3338.

Heller M.F., George J., Kuzel M.J., Kwasniak A.M. "Effect of ascending and descending a curb on normal gait: A review of the literature." Proceedings, International Conference on Slips, Trips, and Falls 2011, Buxton, United Kingdom, 2011.

George J., Heller M.F., Fritton K.E., Kuzel M.J. "Effect of shoe type on level-ground walking in women." Proceedings, International Conference on Slips, Trips, and Falls 2011, Buxton, United Kingdom, 2011.

Heller M.F., George J., Yamaguchi G.T., McGowan J.C., Prange M.T. "Linear head accelerations resulting from short falls onto the occiput in children." Annual Meeting of the American Society of Biomechanics, University Park, PA, 2009.

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Additional Education & Training

Using the 3D Static Strength Prediction Program, The University of Michigan, Center for Occupational Health & Safety Engineering, Ann Arbor, MI, May 2-3, 2013