Exponent®
Engineering & Scientific Consulting

Zdravko Salipur, Ph.D.

Manager | Human Factors
Phoenix
+1-623-587-4112 tel | zsalipur@exponent.com

Professional Profile

Dr. Salipur has over 15 years of research experience with a focus in biomechanics, and specialized expertise in ergonomics, wheeled mobility devices, assistive technology, rehabilitation engineering. Currently, he works in Exponent's Phoenix User Research Center (PURC), where he conducts user research, product usability testing, and health and safety research.

Dr. Salipur has extensive technical expertise related to motion capture, product safety, product effectiveness, and product-to-human interactions. He also has experience with experimental testing, ranging from sled and full-scale vehicle testing to component-level mechanical testing, including testing with anthropomorphic test devices (ATDs) and human subjects. While at Exponent, Dr. Salipur has conducted numerous motion capture and ergonomic studies for various industrial clients ranging from consumer electronics to industrial machine manufacturers. His research and analyses help guide the decision-making process in various stages of the product design cycle. Dr. Salipur also frequently conducts incident investigations and product evaluations in the context of legal proceedings in a variety of jurisdictions and has testified on multiple occasions.

Prior to joining Exponent, Dr. Salipur worked as a Graduate Research Assistant at the Injury Risk Assessment and Prevention (iRAP) Laboratory at the University of Louisville, where he received the National Institute on Disability and Rehabilitation Research's (NIDRR's) prestigious Switzer Fellowship as Principal Investigator for his Doctorate research. Dr. Salipur also worked at the University of Michigan Transportation Research Institute (UMTRI) and gained hands-on experience with crash investigations while working alongside a certified National Automotive Sampling System (NASS) investigator.

Academic Credentials & Professional Honors

Ph.D., Mechanical Engineering, University of Louisville, 2013

M.Eng., Mechanical Engineering, University of Louisville, 2008

B.S., Mechanical Engineering, University of Louisville, 2005

Switzer Fellowship, National Institute on Disability and Rehabilitation Research (NIDRR)

Grosscurth Fellowship, University of Louisville

Pi Tau Sigma, Mechanical Engineering Honor Society

Tau Beta Pi, Engineering Honor Society

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Professional Affiliations

Executive Committee Member, Member of the Board of Directors, Bosnian-Herzegovinian American Academy of Arts and Sciences

Society of Automotive Engineers—SAE

American Society of Mechanical Engineers—ASME

ANSI/RESNA Standards Committee on Wheelchairs and Transportation—COWHAT

Languages

Bosnian

Serbian

Croatian

German

Publications

Frost K, Bertocci G, Salipur Z. Wheelchair securement and occupant restraint system (WTORS) practices in public transit buses. Assistive Technology Journal 2013; 25(1).

Salipur Z, Frost K, Bertocci G. Investigation of wheelchair instability during transport in large accessible transit vehicles. Journal of Rehabilitation Research and Development 2012; 49(6).

Salipur Z, Bertocci G. Wheelchair tiedown and occupant restraint loading associated with an adult manual transit wheelchair in rear impact. Journal of Rehabilitation Research and Development 2010; 47(2).

Salipur Z, Bertocci G. Development and validation of rear impact computer simulation model of an adult manual transit wheelchair with a seated occupant. Medical Engineering and Physics 2010; 32:66-75.

Published Abstracts and Presentations

Salipur Z, Bertocci G. Development and validation of rear impact computer simulation model of an adult manual transit wheelchair with a seated occupant. Proceedings, Annual RESNA 2008 Conference, June 2008.

Salipur Z, Bertocci G, Manary M, Ritchie N. Wheelchair tiedown and occupant restraint system loading associated with an adult manual ANSI WC-19 transit wheelchair with a seated 50th percentile ATD exposed to rear impact. Proceedings, Annual RESNA 2007 Conference, June 2007.

Manary M, Bezaire B, Bertocci G, Salipur Z, Schneider L. Crashworthiness of forward-facing wheelchairs under rear impact conditions. Proceedings, Annual RESNA 2007 Conference, June 2007.

Selected Invited Presentations

Salipur Z. You May Affect the Outcome: Knowing the Ins & Outs of Wheelchair Transportation Safety. American Public Transportation Association (APTA), Risk Management Seminar 2017. San Diego, CA, August, 2017.

Salipur Z., Hashish R. The Biomechanics of Lower Back Injuries. Continued Legal Education Seminar, Uhaul Legal Department, Phoenix, AZ, March 2016.

Salipur Z., Sharpe S. Biomechanics: How to Determine Injury Mechanism. Continued Legal Education Seminar, Arizona Association of Defense Counsel, Phoenix, AZ, November 2014.

Salipur Z. Kinematic environment and consequences of wheelchair tiedown and occupant restraint system practices on wheelchair passenger safety in fixed-route transit. Biomedical Engineering Society (BMES) Research Showcase, University of Louisville, Louisville, KY, April 2012.

Salipur Z. Kinematic environment and consequences of wheelchair tiedown and occupant restraint system practices in fixed-route transit. American Society of Mechanical Engineers (ASME), Louisville Professional Chapter Meeting, Louisville, KY, February 2012.

Salipur Z. Consequences of wheelchair tiedown and occupant restraint system practices on wheelchair passenger safety in fixed-route transit. Mary E. Switzer Research Fellowship Seminar National Institute on Disability and Rehabilitation Research (NIDRR), Arlington, VA, December 2011.

Salipur Z. Development and validation of rear impact computer simulation model of an adult manual transit wheelchair with a seated occupant. Annual Conference of Rehabilitation Engineering and Assistive Technology Society of North America (RESNA), Washington, D.C., June 2008.

Salipur Z. Wheelchair tiedown and occupant restraint system loading associated with an adult manual ANSI WC19 transit wheelchair with a seated 50th percentile ATD exposed to rear impact. Annual Conference of Rehabilitation Engineering and Assistive Technology Society of North America (RESNA), Phoenix, AZ, June 2007.

Salipur Z. Transit wheelchair performance and tiedown loading in rear impact. Biomedical Engineering Society (BMES), University of Louisville Student Chapter -Professional Development Forum, April 2007.

Salipur Z. Transit wheelchair performance and tiedown loading in rear impact, American Society of Mechanical Engineers (ASME) / American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) Louisville Professional Chapters, Professional Development, Louisville, KY, March 2007.