Exponent®
Engineering & Scientific Consulting

John Struble

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Professional Profile

Mr. Struble specializes in automotive and heavy truck accident reconstruction. He also has expertise in vehicle structural performance, restraint system analysis, and rollover initiation.

Another primary area of interest for Mr. Struble is crush energy analysis and how it relates to a wide variety of crash modes, from vehicle-to-vehicle side impacts to pole impacts to underride/override collisions. Mr. Struble has evaluated vehicle performance in real-world collisions with respect to the Federal Motor Vehicle Safety Standards. He is also certified to download and analyze air bag control modules using the CDR download system and is trained in downloading engine data from commercial vehicles.

Prior to joining Exponent, Mr. Struble worked at the National Highway Traffic Safety Administration, where he worked on the development of the Rollover New Car Assessment Program. After leaving the NHTSA in 2003, Mr. Struble worked as a consultant with Struble-Welsh Engineering, Inc., providing accident reconstruction services in negligence and products liability litigation cases. Mr. Struble has been retained on a wide variety of cases and has been qualified as an expert in multiple State and Federal jurisdictions. He is very experienced in accident investigation, including vehicle inspections, site inspections, and the acquisition and interpretation of electronic data, including event data, telematics and video. He has worked on behalf of a variety of different clients, including commercial fleets, vehicle manufacturers and Tier I suppliers. Through the course of his work at the NHTSA and in his consulting practice, Mr. Struble has gained experience in test design and analysis, from a component level to full-scale vehicle testing.

Mr. Struble is a co-author of a textbook on accident reconstruction and his work has been published by SAE and ASME, in the areas of accident reconstruction and restraint system analysis. One of his papers, “Side Impact Structural Characterization from FMVSS 214D Test Data,” won SAE’s prestigious Arch T. Colwell Merit Award, which recognizes papers of outstanding technical merit and original contributions to mobility science. Another of his papers was selected for SAE’s Transactions, a repository of superior SAE technical publications.

Academic Credentials & Professional Honors

M.S., Mechanical Engineering, Georgia Institute of Technology, 2002

B.S., Mechanical Engineering, University of Arizona, 2000

Prior Experience

Senior Engineer, Struble-Welsh Engineering, 2003-2011

Safety Standards Engineer, Crash Avoidance, NHTSA, 2002-2003

Research Assistant, Georgia Institute of Technology, 2000-2002

Research Engineer, Struble-Welsh Engineering, 2000

Development Engineering, IBM, 1998-1999

Development Engineering, BMW of Germany, 1998

Research Assistant, NASA Space Grant, University of Arizona, 1996-1997

Professional Affiliations

National Association of Professional Accident Reconstruction Specialists (NAPARS)

SAE International

American Society of Mechanical Engineers—ASME

Association for the Advancement of Automotive Medicine—AAAM

Patents

Patent Number 6,988,020: Method and Apparatus to Move an Accessor within a Data Storage and Retrieval System, issued January 17, 2006 (with RC Inch, JE Bosley, and K Tyldesly).

Publications

Technical Publications

Struble DE, Struble JD. Calculating Vehicle Side Structure Stiffness from Crash Test Data: Effects of Impactor Characteristics. SAE Paper 2020-01-0640, April 2020.

Struble JD, Struble DE. Crush energy and stiffness in side impacts. SAE Paper 2017-01-1415, presented at the 2017 International Congress & Exposition, Detroit, MI, April 2017. Published in SAE International Journal of Transportation Safety, Vol. 5, No. 1, 2017.

Struble D, Welsh K, Struble J. Crush energy assessment in frontal underride/override crashes. SAE paper 2009-01-0105, presented at the 2009 International Congress & Exposition, Detroit, MI, April 2009. Published in SAE SP 2224, Accident Reconstruction, 2009.

Welsh K, Struble D, Struble J. Restraint system markings and occupant kinematics in crash tests with disabled seat belt restraint systems. ASME paper IMECE2007-42042, presented at the 2007 ASME International Mechanical Engineering Congress and Exposition, Seattle, WA, November, 2007. Published in Proceedings of the 2007 ASME International Mechanical Engineering Congress and Exposition, 2007.

Welsh K, Struble D, Struble J. Lateral structural deformation in frontal impacts. SAE paper 2006-01-1395, presented at the 2006 International Congress & Exposition, Detroit, MI, March 2006. Published in SAE SP 1999, Accident Reconstruction, 2006. Selected for inclusion in SAE 2006 Transactions: Journal of Passenger Cars - Mechanical Systems, 2006.

Struble J. Micro-scale planar and two-dimensional modeling of two phase composites with imperfect bonding between matrix and inclusion. MS Thesis, Georgia Institute of Technology, 2002.

Struble D, Welsh K & Struble J. Side impact structural characterization from FMVSS 214D test data. SAE paper 2001-01-0122, presented at the 2001 International Congress & Exposition, Detroit, MI, March 2001. Published in SAE SP 1596, Progress in Safety Test Methodology, 2001. Selected for inclusion in SAE Transactions: Journal of Passenger Cars - Mechanical Systems, 2001. Winner of the Arch T. Colwell Merit Award.

Books

Struble DE, Struble JD. *Automotive Accident Reconstruction: Practices and Principles*, 2nd Edition. CRC Press: Boca Raton, FL. February 2020.

Presentations

Struble J. NHTSA centrifuge testing. SAE-DC Regional Meeting, Greenbelt, MD, 2003.

Additional Education & Training

“Advanced Applications of Heavy Vehicle EDR Data,” SAE International, 2023.

“Accessing and Interpreting Heavy Vehicle Event Data Recorders,” SAE International, 2023

“Advanced Photogrammetry for Collision Reconstruction,” Lightpoint Scientific, 2022

"Vehicle Crash Reconstruction: Principles and Technology" SAE International, 2018

“Applying Automotive EDR to Traffic Crash Reconstruction,” SAE International, 2017

“Accessing and Interpreting Heavy Vehicle Event Data Recorders,” SAE International, 2013

“Microsoft Visual Basic for Applications (VBA),” ASME - Philadelphia Section, 2013

"2013 HVE Forum," Engineering Dynamics Corporation, March 2013

"Heavy Vehicle Accident Reconstruction," Northwestern University Center for Public Safety, May 2012

"Crash Data Retrieval Data Analyst Course," Collision Safety Institute (only course approved by Bosch, manufacturer of the CDR tool), April 2009

"Crash Data Retrieval Technician Course," Collision Safety Institute (approved by Bosch, manufacturer of the CDR tool), April 2009

"Biomechanics of High-Impact Injuries," National Transportation Safety Board (with AAAM), April 2007

"Tire & Wheel Safety Issues," SAE International, March 2006

"Vehicle Accident Reconstruction Methods," SAE International, March 2005

"Vehicle Dynamics for Passenger Cars and Light Trucks," SAE International, March 2004

"EDC Reconstruction," Engineering Dynamics Corporation, January 2004