

Injury and Crash Analysis, Curriculum Vitae

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BRUCE E. ENZ, A.A., B.A.

Accident Reconstruction & Analysis
Tractor Trailer/Vehicle Underride Analysis
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AREAS OF EXPERTISE

- Accident Reconstruction
- Vehicle Crashworthiness
- Occupant Compartment Safety Analysis
- Vehicle Underride Crash Analysis
- Fleet Safety

PROFESSIONAL EDUCATION

- 1983 Selected graduate level courses completed as part of program in Forensic Science, George Washington University, Washington, D.C.
- 1978 Multidisciplinary Highway Collision Training Course, Sponsored by U.S. Department of Transportation, National Highway Traffic Safety Administration, Phoenix, AZ
- 1977 B.A., University of Illinois, Urbana, IL
- 1976 A.A., Parkland Community College, Champaign, IL
- 1975 Police Psychology and Accident Investigation Techniques, University of Illinois, Urbana, IL
- 1970 Johns Hopkins University, Baltimore, MD, Chemistry Course
- 1964-1967 Undergraduate Program - Biology Major, Heidelberg College, Tiffin, OH
Program (biology, mathematics, chemistry) interrupted for military service
- 1964 Ohio Wesleyan University, Delaware, OH, Summer School

EXPERIENCE

- Present Injury and Crash Analysis, LLC
Indianapolis, Indiana

Traffic accident investigation, reconstruction and analysis involving on-site investigations, vehicle component damage analysis and the interpretation of scene and vehicle data: over 7,000 accidents since 1975 involving, but not limited to, automobiles, pedestrians, bicycles, motorcycles, tractor-trailers and trains.

Provides expert consultation and testimony in civil and criminal litigation involving traffic accidents and the determination, analysis and evaluation of the pre-crash, crash and post-crash phases of the human, vehicle and environmental factors that culminate in death or injury to vehicle occupants, pedestrians and other road users.

Reviews U.S. DOT and related foreign governmental agencies Motor Vehicle Safety Standards as applied to occupant protection performance of vehicles.

Involved in evaluation of fleet safety practices, driver hiring and training, vehicle operation, maintenance and inspection of trucks and buses as required by BMCS regulations. Evaluation of vehicle safety components and safety hazards such as blind spots, off-tracking and air turbulence.

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Analyzes trailer underrides by other motor vehicles. Has designed and installed Side Underride Guards (SURG) for trailers and tested them. Performed over 80 side underride crashes for trailers. Has overseen instrumented crashes as baseline on trailers with no SURG and then for trailers with side underride guards installed.

1980-1997 The Institute for Safety Analysis, Inc.
Gaithersburg, Maryland

Provided consulting services in traffic accident investigation and analysis to governmental agencies (e.g., Office of the U.S. Attorney, Washington, D.C.; Office of the Attorney General, Commonwealth of Pennsylvania; Office of the District Attorney, Fairfax County, Virginia).

Co-designer of the hand-held calculator marketed by the firm as the CAS-100 CRASH ANALYSIS SYSTEM.

Designer of a side-impact protection system (SIPS) for motorcycles.

1978-1980 Management Engineers, Inc.
Reston, Virginia

Dynamic Science, Inc.
McLean, Virginia

Field Engineer - Served as Field Engineer of a Multidisciplinary Accident Investigation Team (MDAI) under contract awarded by the U.S. Department of Transportation, National Highway Traffic Safety Administration (NHTSA). Primary focus on accidents involving school buses, fires with death or serious injury, tractor trailers equipped with anti-lock brakes, impact attenuator devices, seat belt failures and Ford vehicles "park-to-reverse" study.

1976-1978 Various short-term jobs while enrolled in college.

1975-1976 Gibson City Police Department
Gibson City, Illinois

Uniformed Police Officer - Traffic accident investigation and law enforcement duties.

1967-1974 Military Service - USAF - Interpreter and related work.

PUBLICATIONS

Kumar, Sri and Bruce Enz and Perry L. Ponder and Bob Anderson. Biomechanical Analysis of Protective Countermeasures in Underride Motor Vehicle Accidents. Presented at Rocky Mountain Bioengineering Symposium & International ISA Biomedical Sciences Instrumentation Symposium. Pp.89-94. Milwaukee, Wisconsin. April 2009.

Kumar, Sri and Anthony Sances and Bruce Enz and Russell Frieder. Biomechanics of Under Ride Motor Vehicle Crashes. Rocky Mountain Bioengineering Symposium. ISA Volume #468. Denver, Colorado. April 13-15, 2007.

Trego A. and B. Enz and D. Head and Y. Oshida. A Scientific Approach to Tractor-Trailer Side Underride Analysis. Society of Automotive Engineers: Advances in Vehicle Aggressivity and Compatibility, Side and Rear Impact and Rollover Protection, SP-1775, SAE 2003-01-0178, 2003.

Trego, Angela and Bruce Enz and Douglas N. Head. Analysis of Side Under Ride Crashes Misconceptions and the Problems. *Accident Investigation Quarterly*, Issue 27, Summer 2001.

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Thorbole, C.K. and D.A. Renfro and B. E. Enz. Biomechanical Modeling of the Bicyclist and Vehicle Impact to Identify the Optimum Front End Vehicle Geometry. 19th IASTED International Conference on Modeling and Simulation. Quebec City, Quebec. 2008.

Co-author of over 50 official MDAI reports on multidisciplinary accident investigations for the U.S. Department of Transportation, National Highway Traffic Safety Administration.

Brenner, Robert and Bruce Enz. Mechanisms of Head and Spine Trauma. Classification of Information Generated in a Motor Vehicle Crash Sequence. n.d.

Enz, Bruce E. Collision Forensics - The Crash - The Injury. Seventh International System Safety Conference. n.d.

Masakowski, Stephanie and Bruce E. Enz and James E. Cothorn and Walter F. Rowe. Fiber-Plastic Fusions in Traffic Accident Reconstruction. n.d.

Enz, Bruce and Yoshiki Oshida and Douglas N. Head and John Tomassoni and Anthony Sances, Jr. Mathematical Approach to Side Underride Vehicular Accidents. Mathematical Modeling and Scientific Computer. n.d.

Sances, Anthony, Jr. and Fred Carlin and Sri Kumaresan and Bruce Enz. Biomedical Engineering Analysis of Glass Impact Injuries. n.d.

Batzer, S.A. and B. E. Enz and G.G. Herndon and C.K. Thorbole and R. Hooker and T.K. Parnell and M. Ziejewski, Heavy Truck Roll Cage Effectiveness. *ASME International Mechanical Engineering Congress & Exposition*, Lake Buena Vista, Florida, IMECE2009-12423, 2009.