

**GREGORY D. STEPHENS**  
**CURRICULUM VITAE**

**POSITION**

Research and Consulting Engineer specializing in various areas of transportation accident analysis and automotive safety system performance. Consulting activities include the engineering analysis and reconstruction of automobile, auto-pedestrian, truck, bicycle and motorcycle collisions, as well as various aspects of automotive safety collision performance. Activities also include occupant kinematics analysis as it relates to accident reconstruction, development of specialized reconstruction techniques, vehicle crash and performance testing, as well as testing of vehicle components including seats, door latches, restraint systems and other vehicle safety systems.

**EXPERIENCE**

Research Engineer with the accident reconstruction firm, **Collision Research and Analysis, Inc.** from 1989 to present. Participated in the analysis (including computer analysis), reconstruction, and trial preparation of over twenty five hundred automobile, auto-pedestrian, truck, bicycle and motorcycle collisions.

Has conducted and analyzed numerous full scale automotive crash tests along with hundreds of laboratory experiments designed to evaluate the collision performance of safety related components. Components include fuel systems, door latch systems, seat systems (including child safety seats), bumpers and restraint systems.

Has conducted and analyzed numerous visibility studies in daytime as well as low-light and nighttime environments.

Design Engineer with **Pima County Department of Transportation and Flood Control** (1986 - 1987). Activities included the design and layout of numerous highway and structural projects.

**RESEARCH ACTIVITIES**

Currently involved with extensive research in various areas vehicle subsystem crash safety performance, including seat and door latch system collision performance, as well as crush characteristics of large and small vehicle collisions. Published and presented numerous papers and articles relating to the areas of automotive seat and door systems collision performance, photogrammetric analysis and reconstruction, child restraint system collision performance and child behavioral studies, and night visibility analysis and reconstruction. Lectured in numerous seminars on topics concerned with the side and rear impact environments as well as the associated occupant kinematics and vehicle crash performance. Attended numerous conferences, seminars and meetings relating to the fields of accident reconstruction and automotive safety. Also involved with various SAE Standards Committees concerned with the research and drafting of standards that assist the scientific community and Federal Government in developing methods to test vehicles and associated subcomponents.

**EDUCATION**

Bachelor of Science - Aerospace Engineering, 1989  
Boston University College of Engineering

**PROFESSIONAL AFFILIATIONS**

Member of Society of Automotive Engineers (SAE)  
Member of Association for the Advancement of Automotive Medicine (AAAM)  
Member of American Society of Mechanical Engineers (ASME)

**RECOGNITIONS/AWARDS**

Recipient of the 1994 American Association for the Advancement of Automotive Medicine - Scientific Paper Award for the Child Safety and Behavioral work presented in Lyon, France.

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### SELECTED PUBLICATIONS & PRESENTATIONS

C. Parenteau, S. White, R. Burnett, G. Stephens et al., “Rear-End Impacts – Part 1: field and Test Data Analysis of Crash Characteristics,” SAE Technical Paper 2022-01-0859.

D. Viano, R. Burnett, S. White, G. Stephens et al., “Dual-recliner ABTS Seats in Severe Rear Sled Tests with the 5<sup>th</sup>, 50<sup>th</sup> and 95<sup>th</sup> Hybrid III,” SAE Technical Paper 2021-01-0971.

G. Stephens, D. Michalski, C. Parenteau, R. Burnett., “A Mathematical Model to Assess Occupant Compartment Intrusion on Rear Occupant Responses in Rear Crashes.” International Mechanical Engineering Congress and Exposition IMECE2020-24613.

C. Parenteau, G. Stephens, J. Yaek, S. Gregory, “The Effect of FMVSS 301R on Vehicle Structure in Rear Impact,” SAE Technical Paper 2020-01-1226.

A. Asay, J. Carter, J. Funk, G. Stephens, “Rollover Testing of a Sport Utility Vehicle (SUV) with an Inertial Measurement Unit (IMU),” SAE Technical Paper 2015-01-1475.

A. Togli, G.D. Stephens, D.J. Michalski, J.L. Rodriguez, “Applications of Photomodeler in Accident Reconstruction”, American Society of Mechanical Engineers, November 2005, IMECE2005–79250.

G. Stephens, “Traffic Collision Types and Associated Injuries”, Association for the Advancement of Automotive Medicine, September 2005, Faculty Member

G. Stephens, “Accident Reconstruction – Vehicle and Occupant Dynamics”, Washington Association of Independent Medical Examiners, August 2004, Faculty Member

G. Stephens, “Accident Reconstruction: State of the Art TOPTEC – Specialized Use of Computer Simulations,” Society of Automotive Engineers, May 2001, Phoenix, AZ.

G.D. Stephens, T.J. Long, D.M. Blaisdell, “Energy Analysis of Automotive Seat Systems,” Society of Automotive Engineers, March 2000, SP-1494 (SAE #2000-01-1380).

G. Stephens, “Accident Reconstruction: State of the Art TOPTEC – Side Impact Collision Performance,” Society of Automotive Engineers, December 1999, Costa Mesa, CA.

G. Stephens, “Car Crashes and Occupant Injuries: A Team Approach to Crash Investigation – Side Impact Environment,” Association for the Advancement of Automotive Medicine, April 1998-2004, Organizer and Faculty Member.

G. Stephens, “Automotive Seat Design for Safety TOPTEC – Automotive Seat Collision and Test Performance,” Society of Automotive Engineers, August 1995, Marina Del Rey, CA.

U. Meissner, G. Stephens, L. Alfredson, “Children in Restraints,” 38<sup>th</sup> Annual Proceedings, Association for the Advancement of Automotive Medicine, September 1994, pp. 93-106.

D.M. Blaisdell, G. Stephens, U. Meissner, “Collision Performance of Automotive Door Systems,” Society of Automotive Engineers, March 1994, pp. 53-64 (SAE #940562).

E. Klein, G. Stephens, “Visibility Study – Methodologies and Reconstruction,” Society of Automotive Engineers, September 1992, pp. 19-35 (SAE #921575).