Collision Research and Analysis Inc.

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ANGELO TOGLIA, JR., P.E.

CURRICULUM VITAE

POSITION

Research and Consulting Engineer specializing in accident reconstruction and analysis. Consulting activities include the engineering analysis, reconstruction, and computer simulation of automobile collisions, as well as industrial and slip/trip-and-fall accidents. Activities also include vehicle crash and performance analysis and testing, occupant kinematics and human factors analysis as it relates to accident reconstruction, forensic video and photograph analysis, as well as the testing of vehicle components, including seats, door latches, restraint systems, and other vehicle safety systems.

EXPERIENCE

Collision Research & Analysis, Inc., Research and Consulting Engineer - 2001 to present.

Has participated in the analysis and reconstruction of over 1000 automobile collisions, including single- and multiple-vehicle impacts, rollovers, and pedestrian and bicycle impacts involving passenger cars, motorcycles, buses, and light, medium, and heavy trucks. Utilizes various advanced computer programs in the reconstruction, simulation, and animation of vehicle dynamics and occupant kinematics. Also analyzes and reconstructs industrial and slip/trip-and-fall accidents.

Additional activities include employing photogrammetric techniques for the forensic analysis of photographs and video, using three-dimensional surveying and scanning equipment for the documentation and analysis of accident scenes, vehicles, and various vehicle subcomponents, downloading passenger vehicle and heavy truck Event Data Recorders (EDRs), fabricating scale models and other exhibits for trial, and offering deposition and trial testimony.

Exponent Failure Analysis Associates, Consulting/Test Engineer - 1993 to 2001.

Conducted hundreds of full-scale static and dynamic tests on automobiles, as well as automotive and non-automotive components, designed to evaluate the collision performance of safety-related components. Full-scale tests on vehicles included single- and multiple-vehicle impact, sled deceleration, rollover, roof crush, and inverted drop tests. Components analyzed included fuel systems, doors and door latch systems, seat systems (including child safety seats), and restraint systems. Performed various FMVSS standardized testing of automobiles and their components. Documented and analyzed vehicle tests, vehicles, accident scenes, and hundreds of automotive components using still photography, including macro-photography and microscopy.

Conducted hundreds of dynamic aircraft seat development and certification tests. Analyzed occupant kinematics using film analysis techniques. Performed static and dynamic tests on bicycles and race car components to determine compliance with federal and international standards.

EDUCATION

Master of Science in Mechanical Engineering - University of Arizona, Tucson, AZ - 1993
Bachelor of Science in Mechanical Engineering with Honors - University of Arizona, Tucson, AZ - 1991

PROFESSIONAL LICENSES

Registered Professional Mechanical Engineer in Alabama (#28555), Arizona (#32868), and Washington (#42151)
Certified FAA Part 107 Remote Pilot (#4462897)

PROFESSIONAL AFFILIATIONS

Member of the Society of Automotive Engineers (SAE)
Associate Member of the Association for the Advancement of Automotive Medicine (AAAM)
Member of the American Society of Mechanical Engineers (ASME)
Member of Tau Beta Pi National Engineering Honor Society

ANGELO TOGLIA, JR., P.E.

PUBLICATIONS & PRESENTATIONS

Hovey, C.B., Toglia, A., "Four-Point Planar Homography Algorithm for Rectification Photogrammetry: Development and Applications," Society of Automotive Engineers Paper 2013-01-0780, 2013.

Toglia, A., Stephens, G.D., Michalski, D.J., Rodriguez, J.L., "Applications of Photomodeler in Accident Reconstruction", American Society of Mechanical Engineers Paper IMECE2005–79250. Presented by A. Toglia at the 2005 ASME International Mechanical Engineering Congress and Exposition in Orlando, Florida.

Moffatt, E.A., Cooper, E.R., Croteau, J.J., Parenteau, C., Toglia, A., "Head Excursion of Seat Belted Cadaver, Volunteers and Hybrid III ATD in a Dynamic/Static Rollover Fixture," Society of Automotive Engineers Paper 973347. Presented by E. Moffatt and A. Toglia at 41st Stapp Car Crash Conference (1997) in Detroit, MI, and included in the Conference Proceedings.