

Todd A. Frank, P.E.
Senior Engineer

Professional Profile

Mr. Todd Frank is a Senior Engineer in Exponent's Vehicle Engineering practice at the Test and Engineering Center (TEC) in Phoenix, Arizona. He addresses issues related to accident reconstruction, computer simulation, rollover analysis, and photogrammetry. Mr. Frank specializes in computer applications in accident reconstruction and presentation of results using 3-D graphics and animation. He has conducted single-moving and two-moving crash tests and vehicle handling tests. Mr. Frank has experience with test fixture design, instrumentation, and data analysis. Mr. Frank is an experienced motorcycle operator and has expertise in reconstruction and crash testing of motorcycles.

Mr. Frank has 10 years of experience in litigation animation working as a Project Engineer for Demonstratives, Inc./Engineering Animation, Inc. in Ames, IA. His responsibilities included performing accident reconstruction using photos, drawings, maps, USGS Data, and various other types of data and working on cases of patent infringement.

Academic Credentials and Professional Honors

B.S., Mechanical Engineering, Iowa State University, 1995

Licenses and Certifications

Registered Professional Mechanical Engineer, Arizona, #51098

Additional Education

Eos Systems Inc., *PhotoModeler Collision Investigation*, September 2006

Northwestern University Traffic Institute, *Traffic Accident Reconstruction*, September 2007

Engineering Dynamics Corporation, *HVE Forum*, Phoenix, AZ, Spring 2006

Publications

Frank TA, Smith JW, Hansen DC, Werner SM. Motorcycle rider trajectory in pitch-over brake applications and impacts. SAE Technical Paper Series, 2008-01-0164, Presented at SAE World Congress and Exhibition, Detroit, MI, April 2008.

Project Experience

Designed a sled test fixture and testing protocol for a motorcycle that was used to study occupant trajectory during braking and braking-into-impact scenarios.

Professional Affiliations

- Society of Automotive Engineers (member)
- American Society of Mechanical Engineers (member)
- Southwestern Association of Technical Accident Investigators, Inc.—SATAI (member)