



**COLLISION
AND INJURY
DYNAMICS**

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CHRISTOPHER D. WILHELM, MSME

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Professional Competence

Vehicular Accident Reconstruction and Mechanical Forensics involving passenger car and commercial vehicles. Subspecialties include Automotive Systems Analysis, Crash Data Retrieval and analysis, and heavy vehicle Event Data Recorder imaging and analysis.

Education and Certification

SAE Accident Reconstruction Certificate; 2017
California Driver's License M1 Motorcycle Endorsement; 2010
Master of Science in Mechanical Engineering
- Loyola Marymount University; 2009
Bachelor of Science in Mechanical Engineering
- Loyola Marymount University; 2007
Engineer-in-Training/FE No. 126295, California; 2006



Training

Society of Automotive Engineers

- Reconstruction and Analysis of Motorcycle Crashes; 2018
- Tire Forensic Analysis; 2017
- Basic Tire Mechanics and Inspection; 2017
- Reconstruction and Analysis of Rollover Crashes of Light Vehicles; 2016
- Vehicle Crash Reconstruction Methods; 2016
- Vehicle Dynamics for Passenger Cars and Light Trucks; 2016
- Accessing and Interpreting Heavy Vehicle Event Data Recorders; 2015
- Applying Automotive Event Data Recorder Data to Traffic Crash Reconstruction; 2014

Bendix Air Brake School; 2018

Collision Safety Institute: "Crash Data Retrieval Technician 1 & 2 Course"; 2015

Introduction to PC-Crash; 2014

Motorcycle Safety Foundation Basic Rider Course; 2010

Professional Experience

2014 – Present

Collision and Injury Dynamics, Inc. (Senior Staff Engineer)

Employed as a Forensic Engineer to perform analysis, reconstruction, and presentation of results of vehicular accident cases. Download and analyze crash data from Event Data Recorders from both passenger and commercial vehicles. Assist Senior Consultants in conducting vehicle and scene inspections, documentation, and analysis of forensic data from accident vehicles and accident scenes, involving laser total station and 3D scanning operations, and PC-Crash and HVE computer simulation and trial preparation.

2008 – 2014

ACT Lab LLC (Engineering, Quality & Management)

Employed as a Test Engineer responsible for bicycle and component certification and developmental testing. Worked with Forensic Engineers at Collision and Injury Dynamics to conduct case-specific, custom performance and failure evaluation testing. Analyzed product failures using data collected from custom Data Acquisition instrumentation. Supervised 3-7 test and engineering personnel in both US and China Locations. Budgeted, scheduled and managed daily lab operations with periodic international travel. Secured and maintained ISO 17025 3rd party accreditation. Continually developed test methods and accompanying documentation for a diverse inventory of standards.

Teaching Experience

Southwestern Association of Technical Accident Investigators, Inc. (SATAI): Rail Hazards for Cyclists;
2016

Organizations

American Society of Testing and Materials
Boy Scouts of America, Eagle Scout
Society of Automotive Engineers
Southwestern Association of Technical Accident Investigators

Biographical Sketch

Mr. Wilhelm was born in Torrance, CA in 1984. Most of his youth revolved around cars, football and Scouting. He earned his B.S. and M.S. in Mechanical Engineering from Loyola Marymount University. While at LMU he served as a resident advisor as well as the president of the student SAE and ASME chapters. He also served as a materials science research lab technician and the student shop foreman where he taught fellow students basic machining skills. As a graduate student, he focused his studies further on materials science and metallurgy. Mr. Wilhelm was still able to find time to pursue his passion for cars by participating in the Shell Eco Marathon where he took a team management role by guiding and instructing design, machining, tools and basic shop procedure.

During the last semester of his Master's program, Mr. Wilhelm began working for ACT Lab. He was initially hired to conduct bicycle quality and certification testing. As Mr. Wilhelm grew as an engineer, so did his responsibilities. By the end of his time at ACT he was designing and running customs tests, managing the US facility, and running quality control for the whole global company.

Outside the office, Mr. Wilhelm spends most of his time restoring and customizing cars as well as competitive track racing. He successfully campaigned a car for 3 seasons in the 24 Hours of LeMons race



series and is currently restoring a 1963 International Scout. When he's not working with vehicles you may find him hiking, backpacking, cooking, or perfecting a new beer recipe.

Reports and Publications

"Mechanical properties and microstructure characterization of coated AM2 Al 6061-T6 mats exposed to simulated thermal blast," In Press, *Engineering Failure Analysis*, 2009.

"Microstructure Analysis of Aluminum Alloy and Copper Alloy Circular Shells after Multiaxial Plastic Buckling," In Press, *Journal of Materials Engineering and Performance*, 2008.

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