

Exponent®
Engineering & Scientific Consulting

Marc Paradiso, M.S., P.E.

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Professional Profile

Mr. Paradiso has worked in the areas of accident reconstruction, vehicle dynamics, consumer product design, and failure analysis since 2006. He specializes in the investigation and reconstruction of on- and off-road motor vehicle accidents.

Mr. Paradiso has performed investigations of collisions involving passenger cars and trucks, motorcycles, pedestrians, cyclists (including e-bikes), as well as medium- and heavy-duty commercial vehicles including tractor-trailers, straight trucks, transit buses, and construction and farm equipment. He is knowledgeable about Advanced Driver Assistance Systems (ADAS) and has experience in retrieving electronic data from passenger vehicle event data recorders (EDR) and commercial vehicle electronic control modules (ECM). He routinely analyzes and interprets the recovered data as it relates to the subject incident using engineering principles.

Mr. Paradiso has analyzed component failures, machine-related accidents, and product design, performance, and safety claims. He has conducted full-scale vehicle tests including high- and low-speed crash tests to validate reconstructions, understand vehicle and occupant kinematics and dynamics, and characterize vehicle structural performance. He was a leader in the development and fabrication of Exponent's micro-mobility test sled, allowing for repeatable crash testing of consumer products like e-scooters and e-bikes. The test sled was also designed to incorporate an instrumented Anthropomorphic Test Device (ATD) on the micro-mobility product to collect data for use in occupant injury assessment.

Mr. Paradiso's current research focus is on Advanced Driver Assistance Systems (ADAS), and he is an active participant in the SAE Truck and Bus Automation Safety Committee. He has investigated and reconstructed accidents by retrieving and analyzing data stored on both heavy vehicle and passenger vehicle ADAS systems. His understanding of ADAS systems and their limitations, combined with his background in accident reconstruction, create the knowledge and expertise to address the efficacy of these systems in failure-to-equip claims, and whether the circumstances of a specific incident were within the design performance of the system.

Mr. Paradiso makes use of advanced technology such as drones, three-dimensional laser scanners, and portable handheld LiDAR scanners for the purposes of documenting evidence, reconstructing vehicle collisions, and creating accurate and informative demonstratives. He is proficient in the use of photogrammetric techniques, reconstruction simulation software (HVE and PC-Crash), and numerical analyses to objectively evaluate evidence and reconstruct a crash or incident.

Prior to joining Exponent, Mr. Paradiso worked for an engineering firm designing and analyzing structures and equipment used in the entertainment and theatrical performance industry. He later moved into consumer product design and worked for a manufacturer of child strollers where he performed design, development, and testing work to ensure product compliance with both internal and regulatory standards. His last role before joining Exponent was as a vehicle dynamicist and performance and simulation

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engineer supporting vehicle manufacturers and teams in the INDYCAR series. In this role, he was responsible for creating multibody vehicle models, running vehicle lap time simulations, performing component lap time impact studies, and conducting real-time data analysis from the pit lane during practice sessions and races.

Academic Credentials & Professional Honors

M.S., Mechanical Engineering, Clemson University, 2009

B.S., Mechanical Engineering, Georgia Institute of Technology, 2004

Licenses and Certifications

Professional Engineer, Arkansas, #19805

Professional Engineer, Georgia, #PE041569

Professional Engineer, New York, #101518

Certified Crash Data Retrieval (CDR) Technician

Certified Crash Data Retrieval (CDR) Analyst

Prior Experience

Engineering Analyst / Trackside support Engineer, Pratt & Miller Engineering, 2011-2016

Design Engineer, Panoz Auto Development, 2011

Associate Design Engineer, Graco Children's Products, 2010-2011

Entertainment Engineer, McLaren Engineering Group, 2005-2007

Professional Affiliations

SAE International (Formerly The Society of Automotive Engineers)

The American Society of Mechanical Engineers (ASME)

Publications

Kuykendal, M., Easter, C., Koszegi, G., Alexander, R., Paradiso, M., et al., "Advanced Driver Assistance Systems (ADAS): Assessing the Efficacy of Non-Impact Testing for Evaluating the Performance of Frontal Collision Mitigation Technology," SAE Technical Paper 2025-01-8056, 2025, https://doi.org/10.4271/2025-01-8056.

Scally, S., Paradiso, M., Koszegi, G., Easter, C. et al., "Advanced Driver Assistance System (ADAS) Performance Variability with Partial Overlap Targets," SAE Technical Paper 2024-01-2038, 2024, https://doi.org/10.4271/2024-01-2038.

Paradiso M., McDowell E. “Restitution and Crash Pulse Duration from Low-Speed Crash Tests,” SAE Technical Paper 2023-01-0617, 2022

Como, S., Paradiso, M., Campbell, I., Garman, C. et al., "Crash Test Methodology for Electric Scooters

with Anthropomorphic Test Device (ATD) Riders," SAE Technical Paper 2022-01-0853, 2022

Skiera, J., Crosby, C., Bare, C., Paradiso, M., Campbell, G. “Passenger Vehicle Dynamic Response and Characterization of Side Structure during Low- to Moderate-Speed Side Impacts,” SAE Technical Paper 2019-01-0420

Invited Presentations

Paradiso M, Easter C. EDR in the ADAS World. Presentation at the 2024 SAE Accident Reconstruction Digital Summit, February 6, 2024.

Kuykendal M, Paradiso M. AR? Accident Recreation in the New Age of ADAS-Equipped Vehicles. Presentation at the 2023 SAE Accident Reconstruction Digital Summit, March 2023.

Paradiso, M. Technology in Accident Reconstruction. Tennessee Defense Lawyers Association, 2019

Courtney A, Lawson R, Paradiso M. Why Do Bad Things Happen to People in “Good” Cars? North Carolina Association of Defense Attorneys, 2021

Campbell I, Paradiso M. Car Crashes in the New Year: Reconstruction and Injury Analysis Techniques for Modern Vehicles. Florida Defense Lawyers Association, 2022

Additional Education & Training

Reconstruction and Analysis of Rollover Crashes of Light Vehicles, SAE International, 2025

HVE Forum, Engineering Dynamics Company LLC, 2024

Introduction to Highly Automated Vehicles, SAE International, 2022

HVE Forum, Engineering Dynamics Company LLC, 2022

Accident Reconstruction, The Autonomous Vehicle and ADAS, SAE International, 2020

Bosch Crash Data Retrieval Data Analyst Course, Collision Safety Institute, 2019

HVE Simulations Accident Reconstruction Training Course, Engineering Dynamics Company LLC, 2019

Aerial & Scissor Lift Operator Certification, 2018

Accessing and Interpreting Heavy Vehicle Event Data Recorders Seminar, SAE International, 2018

Bosch Crash Data Retrieval Technician Level I and II, Collision Safety Institute, 2016

CXLT Certification Program, Excel Tribometers, LLC, 2016

Introduction to Dymola and Modelica, Claytex, 2015

VeSyMA for Vehicle Dynamics (Dymola), Claytex, 2015