ERICKSON FORENSIC

Mark S. Erickson, P.E.

Erickson Forensic LLC
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Education

M.S., Oregon State University — 2002
Mechanical Engineering
Focus: Dynamics / Control Systems

B.S., Oregon State University — 2001
Mechanical Engineering
Honors: Magna Cum Laude

Employment

Erickson Forensic LLC; West Linn, OR — 2017-
Forensic Engineer – Accident Reconstructionist

Hayes + Associates, Inc.; Corvallis, OR — 2002-17
Forensic Engineer – Accident Reconstructionist

Department of Mechanical Engineering, Oregon State University; Corvallis, OR — 2001-02
Graduate Research Assistant

Oregon State University; Corvallis, OR — 2000-01
Undergraduate Researcher

Certifications

Licensed Professional Engineer (OR #65442PE – WA #50999)
Certified Accident Reconstructionist. Accreditation Commission for Traffic Accident Reconstruction (ACTAR #1345)
Certified Crash Data Retrieval Technician & Data Analyst
Certified Tribometrist: CXLT; BOT3000E
Laser Scanning and Scan Data Interpretation Certification (FARO Focus 3D)
FAA Remote Pilot – small Unmanned Aircraft Systems rating (sUAS Cert. 3909705)

Specialized Training

Northwestern University – Center for Public Safety: Evanston, IL — Oct 2002
Accident Reconstruction - Driving Strategy and Tactics; Reconstruction Physics.

Human Vehicle Environment (HVE) Forum: Las Vegas, NV — Apr 2003
Dynamic Vehicle Simulation; Biomechanical Occupant Simulation.

California Association of Accident Reconstruction Specialists: Anaheim, CA Biomechanical Injury Causation; Bicycle Crash Reconstruction; Vehicle Code.	Oct 2003
Forensic Accident Reconstructionists of Oregon (FARO): Hillsboro, OR Tire Mark Interpretation; Vault Analysis; Head Lamp Examination; Yaw Analysis.	Jul 2004
University of Oregon: Eugene, OR Investigation of Head Injury Mechanism; Validation of Brain Injury Models.	Dec 2004
FARO: Eugene, OR Biomechanics in Vehicle Collisions; Occupant Kinematics; Injury Mechanisms.	Apr 2005
Accident Reconstruction Network/Collision Safety Institute: Las Vegas, NV Crash Testing and Reconstruction; Commercial Vehicle EDR; Airbag Systems.	Jun 2005
FARO: Hillsboro, OR Drag Factor & Coefficient of Friction Validation Testing.	Aug 2005
FARO: Salem, OR Pedestrian/Bicycle Crash Testing and Reconstruction Validation.	Aug 2006
Society of Automotive Engineers (SAE): Detroit, MI World Congress.	Apr 2007
SAE International: Detroit, MI Occupant and Vehicle Kinematics in Rollovers.	Apr 2007
FARO: Portland, OR Narrow Object Collision and Motorcyclist Ejection Kinematics.	Aug 2007
FARO: Portland, OR Low Speed Collision & Water Related Crash Reconstruction.	Nov 2007
FARO: Hillsboro, OR Forensic Analysis of Seat Belts & Traffic Signal Theory.	May 2008
Collision Safety Institute: Glendale, AZ Crash Data Retrieval (CDR) Technician Certification Course.	Jul 2008
Collision Safety Institute: Glendale, AZ CDR Data Analyst Certification Course.	Jul 2008
FARO: Hillsboro, OR Motorcycle Crash Reconstruction; Heavy Vehicle ECM Data Retrieval.	Oct 2008
FARO: Eugene, OR Damage-Energy Methods; Heavy Vehicle Brake Systems/Elec. Stability Control.	Mar 2009
Association for the Advancement of Automotive Medicine (AAAM): Seattle, WA Injury Scaling and AIS.	Jun 2009
SAE: Portland, OR Tire Testing and Modeling for Vehicle Dynamics.	Apr 2010
FARO: Eugene, OR Road Evidence; Human Perception/Reaction; Crash Data Retrieval.	May 2011
Oregon State University: Corvallis, OR Advanced Human Anatomy and Physiology (1)	Jun 2011
Oregon State University: Corvallis, OR Advanced Human Anatomy and Physiology (2)	Jul 2011
FARO: Salem, OR Motorcycle Crash Reconstruction - Injury Analysis from Motorcycle Crashes.	Feb 2012

SAE: Portland, OR Wheel Separation; Warnings; Loss Prevention.	May 2012
SAE International: Fairview, OR Heavy Vehicle Dynamics.	Jun 2012
Oregon State University: Corvallis, OR Biomechanics of Musculoskeletal Injury	Fall 2012
FARO: Salem, OR Heavy Vehicle Acceleration/Deceleration Testing.	Jun 2013
Bendix: Tacoma, WA Heavy Vehicle Brake Systems.	Jun 2014
FARO: Kirkland, WA 3D Laser Scanning Certification – Data Acquisition; Registration & Interpretation	Mar 2015
PPI – FARO: Portland, OR NW Forensic Scanning Conference – Crash/Crime Scenes – Inclement Weather.	Nov 2015
SAE International: Charlotte, NC Accessing and Interpreting Heavy Vehicle Event Data Recorders.	May 2016
Society of Automotive Engineers (SAE) International Driver Distraction from Electronic Devices: Insights and Implications.	May 2016
SAE Oregon, Portland Autonomous Vehicle Systems: Sensor Hardware, Software/Control Systems	Apr 2017
Excel Tribometers: Denver, CO XL Tribometrist Certification Program	June 2017
Occam – Forensic Video Solutions: Post Falls, ID Video Examinations for the Police Investigator	Jan 2018
Crash Data Group; Texas Assoc of Accident Reconstruction Spec: Houston, TX EDR Summit. Autonomous Vehicle Systems/Performance, Crash Data Research, Collection & Analysis	Mar 2018
Association for Advancement of Automotive Medicine (AAAM) Impaired Driving: Effects of Marijuana Use on Traffic Safety	Nov 2019
National Assoc of Professional Accident Reconstruction Specialists (NAPARS) Heavy Vehicle EDR Data Analysis	Oct 2020
Washington Association of Technical Accident Investigators (WATAI) 3D Forensic Methodologies, Video Analysis, EDR/HVEDR, Autonomous & Advanced Driving Systems	May 2021
Washington Association of Technical Accident Investigators (WATAI) Human Factors: PRT; Nighttime Recognition; Headlight Illumination; Photometry; Distracted Driving; Fatigue; Looming Threshold; M/C Applications; Object Detection; Photographs/Videos.	Oct 2021
ASTM International Autonomy in Aviation Symposium.	Jan 2022
Regan Scientific Instruments, Walkway Management Group Tribometry: BOT-3000E Training Program	Jul 2022
Crash Data Group Academy Event Data Recorder Imaging; Crash Data Retrieval	Jan 2023
University of North Florida, Institute of Police Technology and Management (IPTM) EDR Interpretation and Data Analysis for Crash Reconstruction	Feb 2023
National Assoc of Professional Accident Reconstruction Specialists (NAPARS) Aerial Photogrammetry in Crash Reconstruction	Mar 2023

National Assoc of Professional Accident Reconstruction Specialists (NAPARS) Human Factors; Driver Behavior, Performance & Perception-Response	Apr 2023
National Assoc of Prof. Acc. Recon. Specialists (NAPARS) Digital Video Analysis	Jun 2023
Society of Automotive Engineers (SAE) International Advanced Driver-Assistance Systems (ADAS); EDR Systems	Feb 2024
Lightpoint Scientific Video Analysis: Reverse Projection; Line-of-Sight; Pixel Tracking; 3D Laser Scan Mapping/Camera Match	Nov 2024
Society of Automotive Engineers (SAE) International sUAS/Drone Mapping for Accident Reconstruction	Jan 2025
Lightpoint Scientific Video Analysis: Fixed Reference Traverse; Line-of-Sight – CAD, Laser Scan, Point Cloud, Orthomap Integration	Apr 2025

Professional Affiliations

American Society for Testing and Materials (ASTM International)
Society of Automotive Engineers (SAE International)
National Assoc of Traffic Accident Reconstructionists & Investigators (NATARI)
Association for the Advancement of Automotive Medicine (AAAM)
National Assoc of Professional Accident Reconstruction Specialists (NAPARS)
American Society of Photogrammetry and Remote Sensing (ASPRS)

Publications

1. Lee, E.L., Lee, P.J., Erickson, M.S., and Hayes, W.C.: Increase in Vehicle Front, Rear and Side Stiffness Coefficients in the Past Twenty Years Necessitates New Representative Database. SAE International, 2014-01-0351, 2014.
2. Erickson, M.S., Bauer, J.J., and Hayes, W.C.: The accuracy of photo-based three-dimensional scanning for collision reconstruction using 123D Catch. SAE International, 2013-01-0784, 2013.
3. Erickson, M.S.: Fidelity of biodynamic simulation models for low speed collinear rear crash conditions. SAE International, 2012-01-0570, 2012.
4. Erickson, M.S. and Hayes, W.C.: Drag factor attenuation for rotating vehicles. Accident Reconstruction Journal, vol. 18, no. 3, 2008.
5. Erickson, M.S. and Hayes, W.C.: The implications of active control technology for crash reconstruction. Accident Reconstruction Journal, vol. 18, no. 1, 2008.
6. Erickson, M.S. and Hayes, W.C.: Damage-based collision severity reconstruction technique. Collision - The International Compendium for Crash Research, vol. 2, issue 1, 2007.
7. Hayes, W.C., Erickson, M.S., and Power, E.D.: Forensic injury biomechanics. Annual Review of Biomedical Engineering, vol. 9, 2007.
8. Erickson, M.S. and Costello, M.: Production line calibration for sensors on actively controlled bullets. Journal of Manufacturing Science and Engineering, vol. 126, pp. 368 – 376, 2004.