



EUGENE M. VANDERPOL, MSME, PE, ACTAR



Executive Vice President of Biomechanics

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EDUCATION

Master of Science, graduated December 1993. Mechanical Engineering Design with an emphasis in Biomechanics, San Diego State University. Recipient of Graduate Equity Fellowship for graduate research. Research was in the specific field of Biomechanics and its engineering parameterization.

Bachelor of Science, graduated December 1991. Mechanical Engineering with an emphasis in Design/Biomechanics. San Diego State University.

PROFESSIONAL CERTIFICATIONS

Licensed Professional Engineer (P.E.), October 1995. Mechanical Engineering licensure through examination by the California Department of Consumer Affairs. License number M-29992.

Accredited, The Accreditation Commission for Traffic Accident Reconstruction (ACTAR), January 1998. Recognition for academic achievement, completion of accident specific training, and applied experience in the field of Accident Reconstruction through examination.

Registered Emergency Medical Technician (NREMT), June 1998. Certified through the National Registry of Emergency Medical Technicians. Trained in evaluating the nature and extent of traumatic and/or medical conditions, as well as the administration of emergency pre-hospital medical care.

MEMBERSHIPS

- Accident Reconstruction Network
- American Society of Mechanical Engineers, #4824660
- Association for the Advancement of Automotive Medicine
- Biomedical Engineering Society
- California Association of Accident Reconstruction Specialist
- Senior, National Academy of Forensic Engineers, #541
- National Association of Professional Accident Reconstruction Specialist
- National Society of Professional Engineers, #103540968
- Society of Automotive Engineers, #5787533044-A
- Southwestern Association of Technical Accident Investigators

WORK EXPERIENCE

Executive Vice President – Biomechanics and Accident Reconstruction, *Aperture LLC Carlsbad, former VA Forensics* (07/1998 to present)

- Specializing in forensic Biomechanics, Human Factors, Accident Reconstruction, and Slips, Trips & Falls. Provide analyses and/or on-site investigations for both plaintiff and defense attorneys.
- Analyses are specific to the understanding of the human body's kinematic and kinetic responses to varying loading modes, thereby delineating the causal relationship between insult and injury.
- Applying engineering and human factors to driver perception/reaction time, human response and behavior to specific environmental stimuli, visibility, attention, lighting, and assessment of perceptual and cognitive performance.



Expert testimony in arbitration, deposition, and trial, or have been retained as a Biomechanical Forensic Expert, Accident Reconstruction Expert and/or Slips, Trips & Falls Expert in the following states:

Alabama	Alaska	Arizona	California	Colorado	Connecticut
Florida	Georgia	Hawaii	Idaho	Illinois	Iowa
Kansas	Kentucky	Louisiana	Maryland	Michigan	Massachusetts
Mississippi	Missouri	Montana	Nebraska	Nevada	New Hampshire
New Jersey	New Mexico	New York	N. Carolina	Ohio	Oklahoma
Oregon	Pennsylvania	Rhode Island	S. Carolina	Tennessee	Texas
Utah	Washington	West Virginia			

National Director of Biomechanical Engineering, *CMR Forensic Consultants*, (10/1994 to 07/1998)

- Director and Senior Engineer of a national forensic and research engineering team consisting of four full-time Mechanical and Biomedical Engineers. Supervised the dynamic testing of bumper absorber systems as well as bumper impact strengths. Coordination of two research offices (San Diego and New York) in regard to research data and analysis.
- Analysis of over 1000 cases throughout the United States for both plaintiff and defense. Cases were specific to Accident Reconstruction, Slips, Trips & Falls, and/or Biomechanics.
- Forensic assignments ranged from delineating the biomechanical causality of injury with respect to occupant kinematics of varying bodily insults, to determination of velocity and perception/reaction time. Analyses of minor soft tissue sprain/strain injuries to significant whole-body trauma.

U.S. Water-Ski Association and ERO Industries through *San Diego State University*, (08/1990 to 10/1994)

- Empirically measured multi-axis biomechanical forces in relation to whole body kinematics and kinetics for aquatic injury. Analysis specific to muscle, ligament, tendon strengths, as well as bone failure modes.
- Implementation of this project required collaboration with doctors and physicians in the area of biomechanics as well as other recognized experts in the study of mechanical causality of injury.

Associate Advisor for the ACS Heart Catheter Design Team, *San Diego State University*, (08/1989 to 12/1989)

- Assisted and advised on a machine process to drill blood flow holes on ceramic heart catheters without fragmentation.
- Project required designing a unique high volume method to enable blood passage through in-vivo heart angioplasty surgery.

RESEARCH & CRASH TESTING

- Jointly conducted approximately 150 human volunteer rear-end, frontal, and side & side-swipe impact tests, all with occupant parameterization.
- Extensive work in biomechanics, automotive design, structural static and dynamic design, metallic, non-metallic and composite materials.
- Continuing research and testing in the structural integrity of modern vehicle design, bumper compression strengths, occupant safety and the kinematic response of the human body.
 - Riverside College University. Biomechanical coordinator of low-speed crash testing with human volunteers. Empirical rear-end and frontal impact tests incorporating occupant/vehicle parameterization. 2000-2003. Riverside, California.
 - Low Speed Crash Testing for Biomechanical Engineering Students at The University of California-Berkeley and Sacramento State University. Biomechanical coordinator of low-speed crash testing with human volunteers. Empirical rear-end, frontal, and side & side-swipe impact tests incorporating occupant/vehicle parameterization using accelerometer/video data. June 9, 2000. Concord, California.
 - University of California-Riverside. Biomechanical coordinator of low-speed crash testing with human volunteers. Empirical rear-end and frontal impact tests incorporating occupant/vehicle parameterization. October 27, 1999. Riverside, California.

- University of California-Riverside. Biomechanical coordinator of low-speed crash testing with human volunteers. Empirical rear-end, frontal, and side & side-swipe impact tests incorporating occupant/vehicle parameterization. April 29, 1998. Riverside, California.

PUBLICATIONS, EDITOR & PEER REVIEWER

- Biomechanics & the Human Spine; *MEDIGRAM*, Volume 73; October 1995.
- The Biomechanics of Cervical Injury; *MEDIGRAM*, Volume 74; November 1995.
- Trauma During Pregnancy; *MEDIGRAM*, Volume 82; December 1996.
- A Novice Unlicensed Child Operator of a Motorized Dirt Bike Versus an Ambulance Driver, *Proceedings of the Human Factors and Ergonomics Society 58th Annual Meeting*, October 2014.

Evaluator for the Society of Automotive Engineers (SAE) *Technical Papers Transaction Selection Committee* for Accident Reconstruction and Body Research & Engineering. Warrendale, Pennsylvania.

LECTURES BY INVITATION/TEACHING

Guest Lecturer/Speaker, XIII Symposium on Bioengineering, March 25-27, 2022. Porto, Portugal. 800 Participants Representing 16 Countries. Presentation, Panel Discussion, and Student Breakout Session on *Forensic Injury Biomechanical Engineering, defined as the application of engineering principles and procedures towards the purposes of the law.*

MCLE Presentations, lecture throughout the United States in the field of Biomechanics as related to automobile accidents, Slips, Trips & Falls, and accident reconstruction. Topics include the biomechanics of the carpal-tunnel, shoulder, knee, temporomandibular-joint (TMJ), soft tissue spinal kinetics and kinematics, whole body occupant kinematics, causation and mechanism of injury, baby seat performance, headlight examination, driver reaction time, visibility and perception, passenger seat belt, and compartmental interaction.

Lecturer, *Riverside Community College in conjunction with the Riverside County Sheriff's Department Training & Education Bureau*; Biomechanics of Low Velocity Impacts, (10/00 to 8/03)

- Lecturer in the field of Biomechanical Engineering as related to low velocity impacts. Lectures incorporated basic anatomy, biomechanics, and human impact tolerance thresholds.
- Biomechanical coordinator of low-speed crash testing with human volunteers. Participated as the "volunteer subject" in multiple frontal and rear-end automobile crash tests.

Guest Lecturer/Speaker, *University of California-Riverside College of Extended Studies*; Biomechanics of Low Velocity Impacts, (4/98 to 2/01)

- Courses involved Automotive Biomechanical Engineering as related to low velocity impacts. Student body consisted of medical doctors, chiropractors, and accident reconstructionists. Classes taught through the College of Extended Studies in the Traffic Accident Investigation and Reconstruction Program.
- Biomechanical coordinator of low-speed crash testing with human volunteers. Participated as the "volunteer subject" in multiple frontal and rear-end automobile crash tests.

Approved Provider for The State Bar of California to grant Mandatory Continuing Legal Education (MCLE) credit; Topic: "Biomechanical Forensic Engineering", "Accident Reconstruction Analysis", and "EDR Black Box Analysis."

LORIAN Education Services; Topics: Biomechanical Evidence and Causation of Low Impact Injuries. September 10, 1999. Town & Country Convention Center; San Diego, California.

Sharp Memorial Hospital under the Accreditation Council for Continuing Medical Education (ACCME); TRAUMA JOURNAL CLUB ACTIVITY, Topic: "Biomechanics of Auto Accidents." Attendance: 20 trauma physicians. January 30, 1997. The Sharp Auditorium; San Diego, California.

AEGIS Institute; MEDICAL FRAUD INVESTIGATION, Topic: "Biomechanics of Automobile Accidents and Slip/Trip-and-Falls." Attendance: 120-140 nurses and physicians in the forensic field. September 9-12, 1995. The Queen Mary; Long Beach, California.

CONTINUING EDUCATION

- California Association of Accident Reconstruction Specialists (CA2RS): Accident Reconstruction and Biomechanics – Scene diagrams, documenting and analyzing evidence, live human volunteer crash testing, photogrammetry analysis. Irvine, CA, October 2022
- California Association of Accident Reconstruction Specialists (CAARS): *Crash Investigation, Perception/Response, Roadway Evidence, Proper Documentation Methodology, Mapping and Measuring, Collision Photography, Vehicle Documentation, Measuring Protocols, Vehicle Behavior (Documentation/PDOF/Rotation), Conservation of Momentum, Energy Principles, Cellular Carrier Data Forensic Analysis*. October 21-23, 2021. Lake Tahoe, California.
- Northwestern University Center for Public Safety, *Advanced Crash Reconstruction Utilizing Human Factors: Perception-Response Time, Nighttime Recognition, Driver Decision Making, Gap Acceptance, Pedestrian Acceleration and Walking Speeds, Vehicle Acceleration Rates, Drivers' Responses*. Remote Learning, August 10-14, 2020.
- California Association of Accident Reconstruction Specialists (CAARS): *Pedestrian Crashes, Scene Body and Vehicle Evidence, Pedestrian Impact Research, Testing and Modeling with PC Crash, Electric Scooters - Performance Characteristics of Acceleration and Deceleration, Non-Electric Scooters - Performance of Push-type Scooters, GPS Data Extraction/Processing*. October 24-26, 2019. Palm Springs, California.
- California Association of Accident Reconstruction Specialists (CAARS), *Utilizing Video Evidence in Traffic Investigations*. June 13, 2019. Fontana Police Department; Fontana, California.
- Accident Reconstruction Network (ARC) & Collision Safety Institute (CSI), ARC–CSI Crash Conference, *Reconstruction from Body Worn Cameras, Gap Acceptance of Approaching Vehicles, NTSB Highway Crash Investigations, Reconstruction and Injury Analysis in Low-Speed Collision, Pedestrian and Nighttime Recognition, Deploying Drones, Collision Scene Mapping using UAS Technology, Unmanned Aircraft, Passenger Vehicle Braking Performance, Overheating of Heavy Duty Truck Brakes, Pedestrian Walking Speeds, Pedestrian Crash Reconstruction Methodologies*. September 18-21, 2017. Las Vegas, Nevada.
- California Association of Accident Reconstruction Specialists (CAARS), *Newton's Laws, Delta V, Crush Energy and Momentum – Combining Crush Stiffness with Momentum, Crush Stiffness Effects on Delta V, CRASH SMAC and SIMON Simulation Concepts and Case Studies*. October 26-29, 2016. South Lake Tahoe, California.
- Society of Automotive Engineers (SAE), 58th Annual STAPP Car Crash Conference, *Evaluation of Axonal Strain as a Predictor of Mild Traumatic Brain Injuries Using Finite Element Modeling, Dynamic Responses of Impact Post Mortem Human Surrogates from Interior to Superior Loading at the Pelvis, Head Injury Biomechanics, Thorax Injury Biomechanics, Abdomen Injury Biomechanics, Lower Extremity Biomechanics, Spine Injury Biomechanics, Injury Criteria and Motor Vehicle Regulations, Occupant Kinematics in Laboratory Rollover Tests*. November 10-12, 2014. San Diego, California.
- Accident Reconstruction Network (ARC) & Collision Safety Institute (CSI) Crash Conference, *Reconstruction Techniques for Analyzing Low Delta-V Crashes, HVEDR: New Engines, New Software, New Coverage, Human Fatigue & 1 Big Risk to Driver Performance, Motorcycle Sliding Friction, Conspicuity & Visibility: Issues & Testing, Wheel Slip & Its Effect on Reported Vehicle Speed*. June 3-4, 2014. Palace Station; Las Vegas, Nevada.
- Accident Reconstruction Network (ARC) & Collision Safety Institute (CSI) Crash Conference, *Damage, Energy and Computer Simulations, Braking Systems for Passenger Cars and Light Trucks, Reliability of Crash Triggered Video and Data Recorders for Accident Reconstruction, Advances in Forensic Photography for Crash Investigations, Motorcycle Crash Case Study and Evolving Motorcycle Technologies*. May 14-16, 2013. Palace Station; Las Vegas, Nevada.
- California Association of Accident Reconstruction Specialists (CAARS), *Motorcycle: Reconstruction/Investigation, Crash Tests, Glance Patterns, Rider Braking Behavior, Slide Data, Inspections, Motorcycle Lane Sharing*. November 1-3, 2012. Reno, Nevada.

- California Association of Accident Reconstruction Specialists (CAARS), *Auto-Pedestrian Crash Reconstruction, Determining the Area of Impact*. August 30, 2012. Orange County, California.
- Accident Reconstruction Network (ARC) & Collision Safety Institute (CSI) Crash Conference, *Hybrid Vehicles and EDR Data, Seat Belt Analysis, ECM Data in Reconstruction, Low Speed Collisions and Biomechanics, Establishing Speed Limits*. June 5-7, 2012. Palace Station; Las Vegas, Nevada.
- California Association of Accident Reconstruction Specialists (CAARS), *Safety Restraint Systems and the Airbag Control Module*. October 20, 2011. Anaheim Sheraton; Anaheim, California.
- Accident Reconstruction Network (ARC) & Collision Safety Institute (CSI) Crash Conference, *Intersection Collisions, Applications of GPS, Roadway Design, Momentum/PDOF/Delta-V, Auto-Pedestrian, and Human Factors*. May 24-25, 2011. Palace Station; Las Vegas, Nevada.
- Accident Reconstruction Network (ARC) & Collision Safety Institute (CSI) Crash Conference, *Accelerometers, Motorcycle Accident Reconstruction, Low Speed Analysis, Equations, Commercial Vehicle Inspections, Speed and Acceleration from Video*. May 24-27, 2010. Palace Station; Las Vegas, Nevada.
- California Association of Accident Reconstruction Specialists (CAARS), *Accident Reconstruction & Biomechanical Analysis of Pedestrian Collisions (Perception/Reaction, Acceleration and Walking Speeds, Injuries/Mechanisms)*. May 19, 2010. Riverside Police Department; Riverside, California.
- Orange County Traffic Investigators Association, *Auto Sketch*. March 29-31, 2010. Irvine Police Department; Irvine, California.
- Southwestern Association of Technical Accident Investigators, Inc. (SATAI), *Aftermarket Components and the EDR, Vehicle Stiffness Calculations/Data, Black Boxes*. November 26-27, 2009. Humphrey's; San Diego, California.
- California Association of Accident Reconstruction Specialists (CAARS), *Traffic Signals, Auto-Pedestrian & Auto-Bicycle Accident Investigation & Reconstruction, Validation & Testing Searle Formulae*. October 1-3, 2009. Anaheim Sheraton; Anaheim, California.
- Accident Reconstruction Network (ARC) & Collision Safety Institute (CSI) Crash Conference, *Commercial Vehicle Dynamics & Air Brakes, Motorcycle Braking, Vehicle Speed From Video, Nighttime Response, Forensic: Optics, Lighting and Visibility*. June 1-4, 2009. Palace Station; Las Vegas, Nevada.
- San Diego County Collision Investigators Association (SDCCIA), *Motorcycle Collision Reconstruction Workshop*. May 15, 2009. San Diego, California.
- California Motorcyclist Safety Program (CMSP), *Experienced Rider Course*. April 26, 2009. Palomar College; San Marcos, California.
- Southwestern Association of Technical Accident Investigators, Inc. (SATAI), *Critical Speed Yaw, Pole/Narrow Object Impacts, Rotational Mechanics, Analysis of Airborne Vehicles*. October 31 - November 1, 2008. Humphrey's; San Diego, California.
- California Association of Accident Reconstruction Specialists (CAARS), *Vehicle Component Inspection (Suspension System, Vehicle Lamps, Tires, Brakes, Steering System), CDR Update*. August 20, 2008. Santa Ana, California.
- California Association of Accident Reconstruction Specialists (CAARS), *Pedestrian Accident Reconstruction, Nighttime Visibility, Commercial Vehicle Accident Reconstruction, Low Speed Collisions*. October 18-19, 2007. Sheraton; Anaheim, California.
- Southwestern Association of Technical Accident Investigators, Inc. (SATAI), *Truck Brake Issues and Conspicuity*. November 3, 2006. Humphrey's; San Diego, California.
- Collision Safety Institute (CSI), *Crash Data Retrieval (CDR) Technician Course & Data Analyst Certification*. August 7-10, 2006. Vallejo, California.

- California Association of Accident Reconstruction Specialists (CAARS), *Traffic Collision Photography. Digital photography of scene, evidence, and injury*. June 12, 2006. Riverside, California.
- Institute of Police Technology and Management (IPTM), *Motorcycle Crash Investigation. Crash Analysis and Testing*. March 27-31, 2006. Orange, California.
- Collision Safety Institute (CSI), *Collision Trauma Biomechanics*. March 6-10, 2006. North Las Vegas, Nevada.
- Accident Reconstruction Network (ARC) & Collision Safety Institute (CSI) Crash Conference, *Damage and Energy, Pedestrian Crash Reconstruction Methodologies, Pedestrian Crash Injuries*. June 9, 2005. Palace Station; Las Vegas, Nevada.
- Southwestern Association of Technical Accident Investigators, Inc. (SATAI), *Commercial Vehicle*. November 5, 2004. Humphrey's; San Diego, California.
- California Association of Accident Reconstruction Specialists (CAARS), *Motorcycle Investigation and Reconstruction, Motorcycle Crash Testing, Helmet & Injury Analysis*. October 28-30, 2004. Flamingo Resort Hotel; Santa Rosa, California.
- Accident Reconstruction Network (ARC) & Collision Safety Institute (CSI) Crash Conference, *Evaluating Crashes for Injury Potential, Human Subject Crash Testing, Injury Potential and Occupant Kinematics, Epidemiology, Black Box Technology, Seat Belt Injuries*. June 19-23, 2004. Palace Station; Las Vegas, Nevada.
- Accident Reconstruction Network (ARC) & Collision Safety Institute (CSI) Crash Conference, *Collision Trauma Biomechanics, Low Speed Analysis and Biomechanics, New version CDR System*. June 11, 2003. Palace Station; Las Vegas, Nevada.
- Society of Automotive Engineers (SAE), *Passenger Vehicle Rollover TOPTEC: Causes, Prevention and Injury Prevalence, Biomechanics of Neck Injuries, Reconstruction of Rollover Accidents, Occupant Kinematics during Rollover*. April 22-23, 2002. Chaparral Suites, Scottsdale, Arizona.
- Southwestern Association of Technical Accident Investigators, Inc. (SATAI), *Human Factors & Ergonomics in Accident Reconstruction, Commercial Vehicle Brake Performance, Vehicles in Transitional Yaws*. March 8-9, 2002. Circus Circus; Las Vegas, Nevada.
- California Association of Accident Reconstruction Specialists (CAARS), *Injury Mechanisms During Motor Vehicle Collisions*. February 20, 2002. Anaheim Police Department; Anaheim, California.
- Southwestern Association of Technical Accident Investigators, Inc. (SATAI), *Crash, Black Box Data Retrieval, Air Bag Technology*. November 16-17, 2001. Humphrey's; San Diego, California.
- Consumer Attorneys Association of Los Angeles (CAALA), *Biomechanical Analysis of Traumatic Spinal Injuries*. September 7, 2001. The Venetian Hotel & Casino; Las Vegas, Nevada.
- Southwestern Association of Technical Accident Investigators, Inc. (SATAI), *Biomechanics in Rollover Collisions, Forensic Mapping*. July 13, 2001. Embassy Suites Hotel; Tempe, Arizona.
- Southwestern Association of Technical Accident Investigators, Inc. (SATAI), *Low Speed Impacts, Pedestrian Accident Reconstruction, Traffic Signal Timing*. November 5-6, 1999. Humphrey's; San Diego, California.
- University of California-San Diego (UCSD), School of Medicine, Continuing Medical Education, *Accidental Injury: Biomechanics & Prevention*. October 23-24, 1999. La Jolla, California.
- Lawyers & Judges Publishing Company (L&J), Inc., *Low-Speed Accident Reconstruction and Litigation Seminar*. October 22, 1999. SunSpree Resort; Scottsdale, Arizona.
- California Association of Accident Reconstruction Specialists (CAARS), *First Annual Training Conference. Speed from Crash, Black Box Technology*. October 15-16, 1999. Concord Hilton; Concord, California.

- Wayne State University (WSU) School of Medicine & The Society of Automotive Engineers (SAE), International Symposium *WHIPLASH '98* Conference. November 5-6, 1998. The Buttes Conference Resort Center; Tempe, Arizona.
- Society of Automotive Engineers (SAE), *42nd Annual STAPP Car Crash Conference*. November 2-4, 1998. The Buttes Conference Resort Center; Tempe, Arizona.
- Society of Automotive Engineers (SAE), San Diego Chapter's Monthly Forum. *Airbags and Biomechanics*. January 29, 1998. San Diego, California.
- University of California-Riverside (UCR), 40-hrs classroom lecture, *Principles of Investigating Low Speed Impacts, Empirical Low Velocity Rear-end and Frontal Crash Tests with Human Volunteers*. November 17-21, 1997. Riverside, California.
- Society of Automotive Engineers (SAE), *39th Annual STAPP Car Crash Conference*. November 8-10, 1995. San Diego, California.

RELATED INTERESTS

- 47 years motorcycle riding experience.
- 40 years of Class "M" motorcycle licensure.
- Active member and contributor of several motorcycle and automotive User Groups.
- Automotive enthusiast and part time tuner.
- Avid motorcycle enthusiast and part time builder. Partial list of current/previous motorcycle ownership:
 - 2018 BMW R1200 GSA
 - 2018 Can Am X3 RS (UTV)
 - 2017 Can Am X3 (UTV)
 - 2015 Polaris RZR 1000 (UTV)
 - 2014 Polaris RZR 1000 (UTV)
 - 2012 Kawasaki GTR1400 (Sport-Touring)
 - 2012 Polaris RZR 900 (UTV)
 - 2009 Polaris RZR 800 (UTV)
 - 2008 Honda GL1800 Goldwing (Touring)
 - 2008 Kawasaki GTR1400 (Sport-Touring)
 - 2007 Yamaha YFZ 450 (Quad/ATV)
 - 2007 Yamaha Raptor 700R (Quad/ATV)
 - 2006 Suzuki M109R (Cruiser)
 - 2006 Yamaha Raptor 700 (Quad/ATV)
 - 2005 Honda CRF 450X (Dirt-Distance)
 - 2005 Honda TRX 400EX (Quad/ATV)
 - 2004 Honda GL 1800 Goldwing (Touring)
 - 2004 Honda CRF 450R (Dirt-Racing)
 - 2004 Honda ST1300 (Sport-Touring)
 - 2002 Honda CR250R (Dirt-Racing)
 - 2001 Yamaha Banshee 350 (Quad/ATV)
 - 1998 Honda ST1100 (Sport-Touring)
 - 1996 Honda XR250L (Dirt)
 - 1986 Honda VFR750 (Sport)
 - 1985 Yamaha FJ1100 (Sport)
 - 1983 Honda VF750 (Sport)
 - 1981 Suzuki GS550 (Sport)
 - 1973 Yamaha RD350 (Sport)

APERTURE AZ/CA/NV 2024 FEE SCHEDULE

Tax ID Number: 84-2522312

Designated Expert Hourly Rates

• Eugene M. Vanderpol, MSME, PE, ACTAR	\$745/hour
Testimony Fee	\$845/hour
Video Recorded Testimony Fee	\$1,690/hour

1-hour minimum charged in 1-hour increments for testimony.

Payment for deposition testimony must be received 48 hours prior to the deposition (NV only).

Expert testimony canceled within 24 hours will be assessed a 1-hour cancellation fee.

Additional Hourly Rates

• 3D/Graphic Animator	\$185 - \$345/hour
• Administrative Support	\$75 - \$165/hour
• Case Support	\$135 - \$325/hour
• Forensic Expert/Engineer	\$135 - \$750/hour

Initial Case Setup Fees

• Retainer / Designation Fee	\$2,500 (\$1,000 non-refundable)
• Initial Consultation, Conflict check, and File Set Up	\$350

Fixed Fees

• 3D Laser Scanner**	\$500/day
• ATD/Crash Test Dummy	\$1000/ per use
• Berla Infotainment Plug-In**	\$700/vehicle
• Digital Photos	\$1.50/per photo
• DMV Records	\$15/each
• Drone*	\$350/day
• EDR Equipment and software**	\$300/vehicle
• Exemplar Vehicle Database	\$200/vehicle model
• Flash Drive	\$25/per
• Hi-Res Aerial / Oblique Images - Eagle View	\$10/Per
• Heavy Vehicle ECM**	\$600/vehicle
• Luminance Meter**	\$300
• Open Records Request	\$300/initial \$150/secondary
• Robotic Total Station**	\$600
• RTK GPS Unit**	\$600
• Simulation Software	\$250/per
• Toyota Techstream (VCH)	\$250/vehicle
• Tribometer**	\$100
• Vehicle Scales**	\$200/per use

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|--|----------------|
| • Video/Screenshot(s) purchased from NTV | \$500-\$1,500 |
| • Videos | \$25/per video |
| • VIN Vehicle Report | \$20/vehicle |

** These equipment charges are per application, not per case, and do not include the applicable hourly rates outlined above.

Digital Forensics

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| • ACM Chip Swap | \$5,000 |
| • Chip-Off | \$1,000 |
| • Cloud Forensics | \$1,000 |
| • Computer Forensics | \$1,500 |
| • HVEDR Chip Swap | \$10,000 |
| • Mobile Forensics | \$1,500 |

Travel

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|--------------------------|-----------------|
| • Flight/Meals/Train/Car | At Cost |
| • Mileage | \$Gov Rate/mile |

*Aperture maintains the right to deploy resources whose billing rates differ from those listed to satisfy time and scope requirements. Additionally, rush rates will apply as follows:

- 150% of listed rates for requested work within 15 business days.
- 200% of listed rates for requested work within ten business days.

*Aperture reserves the right to adjust pricing without notice

No expert designations or acceptance of assignment without prior written acceptance.