**SAM TERRY, ACTAR # 2068** **SAM@EXHIBIT-A.NET**
**702-994-9540**

# CURRICULUM VITAE

## TESTIMONY

- Qualified as a reconstruction expert in the Eighth Judicial District Court in Clark County, Nevada
- Qualified as a reconstruction expert in the Second Judicial District Court in Washoe County, Nevada
- Qualified as a reconstruction expert in the Henderson Justice Court in Clark County, Nevada
- Qualified as a reconstruction expert in United States District Court for the District of Nevada

## SPECIALIZED EXPERIENCE

- Impact Severity "Delta V"
- Sight & Visibility Analysis
- Time/Distance Analysis
- Commercial Vehicle Accidents
- Skidmark Analysis
- Lamp Examinations
- Vehicle Dynamics
- Motorcycle Accidents
- Pedestrian Accidents
- Animations
- Forensic Mapping
- Roll-over Accidents
- Dynamic Vehicle Testing
- Mechanical Failure Analysis
- Seat-belt Usage Analysis
- Military Vehicle Accidents
- Heavy Truck Dynamics
- High Resolution Courtroom Exhibits
- Tire Failure Examination
- Product Liability
- Air Brake Analysis

## EDUCATION, TRAINING, AFFILIATIONS & PUBLICATIONS

*(Education)*

- Over 900 hours of specialized education relative to crash reconstruction – detailed on page 3
- Bachelor of Science (B.S.) Degree in Industrial Technology - Texas State University (Formerly Southwest Texas State) San Marcos, Texas. May 1997
- Successfully completed the examination for the Accreditation Commission for Traffic Accident Reconstruction (ACTAR), an 8 hour exam designed to qualify experienced accident reconstructionists on an international basis. ACTAR # 2068, December 2008

*(Licenses)*

- Commercial Drivers License CDL-A, endorsements for Doubles, Tripples and Tankers
- Motorcycle License "M" endorsement
- US Military "Secret" Security Clearance

*(Memberships)*

- Member, National Association of Professional Accident Reconstruction Specialists (NAPARS)
- Member, Accident Reconstruction Network (ARC Network)
- Member, Southwestern Association of Technical Accident Investigators (SATAI)
- Member, International Network of Collision Reconstructionists (INCR)

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*(Publications)*

- "Recent Advancements in Crash Animations Make Them Affortdable", April 2012, Attorney at Law Magazine
- "Evaluation of Motorcycle Braking System Performance & Characteristics Relative to Current Regulatory Standards" July/Aug 2010, Accident Reconstruction Journal
- "A Discussion on Using a Pendulum as a Method for Impact Testing Vehicle Sub-systems" SAE 2002-01-0687

## PROFESSIONAL WORK EXPERIENCE

2004 – PRESENT **OWNER / OPERATOR** – EXHIBIT-A, LLC
DBA CRASHTEAMS LAS VEGAS

Dedicated to providing high-quality, high-accuracy motor vehicle crash analysis in a timely and cost-effective manner. Perform manual and computer-aided accident reconstructions, speed/time/distance analysis, vehicle dynamics, product defect investigation and testing and causation-avoidance prevention. Develop vehicle crush profiles for crush energy calculations. Accomplish line-of-sight determination. Locate and document exemplar vehicles. Utilize the latest technology to collect accident site geometric data and physical evidence for use in constructing detailed renderings of accident scenes and vehicle damage profiles for impact severity.

Perform full vehicle performance testing in accordance with SAE, FMVSS, ISO, FMCSR and ASTM for passenger car, light truck, heavy truck and motorcycle. Design custom tests suitable for replicating specific crash related events.

2000 – PRESENT **CONSULTANT / PROGRAM MANAGER**
NEVADA AUTOMOTIVE TEST CENTER

Perform vehicle stability and handling evaluations including end-limit maneuvers and roll-over determination on passenger cars, light trucks and commercial vehicles. Analyze vehicle static and transient response through subjective and objective evaluations. Accomplish complete accident reconstructions including site and vehicle inspections, analysis, documentation and final reports. Responsible for proposal writing, test planning, instrumentation, testing, data processing, analysis and final reports for vehicle tests. Driver training instructor for 2 and 4-wheel drive light trucks and class 8 heavy trucks.

1997 - 2000 **ACCIDENT ANALYST –** VERIFACT CORPORATION

Conduct accident investigation and reconstruction through deciphering roadway evidence, electronic site surveys, vehicle damage inspections, accident diagrams, analysis and final reports. Accomplish analysis in the areas of: linear and rotational momentum, speed determination from tire marks and/or crush, work, force and speed change "delta-V". Performed failure analysis including: structural, electrical, drive train and suspension. Performed static loading and dynamic impact tests on vehicles and components.

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## SYNOPSIS

Mr. Terry has extensive knowledge and experience in the areas of accident reconstruction and vehicle dynamics. He has been involved in the documentation, analysis, or reconstruction of over 2,000 vehicle accidents. His experience includes the most advanced methodology for line of sight, lighting & visibility & obstructed view studies, time and motion analysis, speed/distance analysis and rollovers. Mr. Terry has extensive vehicle knowledge with expertise in all vehicle systems including air & hydraulic brakes, lamps & lighting, suspension design & handling & tire analysis. Additionally, he operates as vehicle dynamics consultant performing vehicle stability and handling maneuvers on passenger cars, light trucks and class 5, 6, 7 and 8 commercial trucks.

Mr. Terry has instructed numerous driver training classes for the Deparment of Homeland defense, US Marine Corps and the US Army including on and off-road handling and mobility classes on commercial and pre-production vehicles. Additionally, Mr. Terry has instructed driver training classes for stability and handling of Class-8 heavy-trucks. Mr. Terry has personally conducted a multitude of dynamic vehicle tests related to vehicle braking, dynamics, ride quality and handling. An abbreviated list of tests conducted is detailed in page 6 of this CV.

## EDUCATION & TRAINING CURRICULUM DETAIL – (1000 HOURS)

- **2024 Southwestern Association of Technical Accident Investigators (SATAI) Winter Conference & Crash Testing – Jan. 4-6, 2024 (16 hrs)**
    1. 3D Technologies for Crash Scene Documentation – Eugene Liscio
    2. Motorcycle Reconstruction Topics – Compass Kinetics
    3. Digital Forensics – Shanon Burgess
    4. The Biomechanics of Motorcycle Helmets – Nick Carpenter
- **SATAI Summer Conference – Aug. 18-19, 2023 (16 hrs)**
    1. Reconstructing Accidents in the ADAS Age – Alan Moore
    2. Tire Forensics – TJ Tennent
    3. Takata Airbag Inflator Research – Richard Gill
    4. Monte Carlo Analysis in Accident Reconstruction – Ken Strohmeyer
- **National Association of Professional Accident Reconstruction Specialists (NAPARS) Human Factors in Crash Reconstruction, Apr. 4, 2023 (2 hrs)**
- **National Association of Professional Accident Reconstruction Specialists (NAPARS) Aerial Photogrammetry in Crash Reconstruction by Andrew Klane, Mar. 17, 2023 (2 hrs)**
- **SATAI Spring Conference – Mar. 2-4, 2023 (16 hrs)**
    1. Vehicle System Forensics, Berla, Ive – Wes Vandiver
    2. Event Data Recorder (EDR) Updates – Brad Muir
    3. Forensic Photography – Brandon Nabozny
    4. Vehicle Speed Analysis Using iNPUT-ACE – Michael Jorgensen & Scott Swinford
- **National Association of Professional Accident Reconstruction Specialists (NAPARS) Event Data Recorder (EDR) update with Andrew Rich, Feb. 24, 2023 (2 hrs)**

- **SATAI Winter Conference – Feb. 18-20, 2022 (16 hrs)**
  1. Night Time Accidents – Retro and Night Photos/Videos – Jeff Suway
  2. Toyota Safety Sense Testing and Research – Tim Reust
  3. Laser Scanning and Photogrammetry – Lou Peck
- **SATAI Winter Conference – Jan. 23-25, 2020 (16 hrs)**
  1. Toyota Safety Sense and Vehicle Control History: How it works and how to retrieve and use the data. – Brad Muir
  2. Performance Characteristics of Electric Scooters used by Bird, Lime, Jump, Lyft and others. – Tim Reust
  3. Input-Ace – Utilizing Video Evidence in Traffic Investigations – Andrew Frederics
- **2019 SATAI Summer Conference – July 26-27th, 2019 (16 hrs)**
  1. Planar Collisions – Nick Carpenter
  2. Tesla Event Data Recorders (EDR) – Weston Brown
  3. Heavy Truck Accident Reconstruction – Wes Grimes
  4. Nighttime Accidents Human Factors – Jeff Suway
- **SATAI Crash Conference – Jan. 17-19, 2019 (16 hrs)**
  1. Using the Monte Carlo Method in Accident Reconstruction – Roger Barrette
  2. Nighttime Crashes on Unlit and Lighted Roads – Swaroop Dinakar
  3. Drivers Acceleration Behaviors – Jeffrey Muttart
- **2018 SATAI Summer Conference July 27-28th, 2018 (16 hrs)**
  1. Heavy Vehicle EDR's (HVEDR) – Brad Higgins
  2. Kawasaki EDR's – Edward Fatzinger
  3. Vehicle Inspections – Mark Salem
- **2018 SATAI Winter Crash Conference – Jan. 25-27, 2018 (16 hrs)**
  1. Pedestrian Collision Reconstruction – Mike DiTallo & Roger Barrette
  2. Traffic Signals – Daniel Vomhoff III
  3. Low Speed Crash Analysis – Bob Anderson
  4. Momentum Energy Restitution (MER) Analysis – Billy Cox
- **2017 SATAI Summer Conference – July 28-29, 2017 (16 hrs)**
  1. Tires 102/Tire Forensics
  2. Forensic Mapping Using UAV's
  3. DVR Evidence: Documentation, Analysis and Preservation
- **2017 SATAI Spring Conference – Mar. 31-Apr. 1, 2017 (16 hrs)**
  1. Motorcycle Collision Reconstruction – Wade Bartlett
  2. Structural Crashworthiness & Finite Element Crash Simulation – Russell Gish
  3. Ran off road crashes: When the driver doesn't stay on the straight & Narrow – Brian Coon
- **Advanced Collision Reconstruction with CDR Applications – Mar. 20-24, 2017 – Accident Analysis & Reconstruction Inc. Las Vegas, NV (40hrs)**
- **Bosch Full CDR Technician – Online March 2017 – Institute of Police Technology & Management (IPTM) (24hrs)**
- **2016 SATAI Fall Conference - Oct. 6-8, 2016 (16 hrs)**
  1. Documentation and Reconstruction of Night Time Accidents - Jeff Suway
  2. Drug Toxicology - DPS Crime Lab
  3. Bicycle Collision Reconstruction and Helmet Issues - Gerald Bretting

- **2016 ARC-CSI Crash Conference – May 23-26, 2016 (40 hrs)**
  1. Comparison of IIHS driver & passenger-side small overlap crashs – Becky Meuller
  2. Comparative Crash Analysis Using NHTSA NASS Crash Data & Sources – Larry Wilson
  3. Scene and Vehicle Data Analysis to Evaluate Pre-Crash Brake App. – Rudy Limpert
  4. 30? – Lenny Simpson
  5. When Do Airbags Deploy? – W.R. Rusty Haight
  6. Lateral Acceleration Through a Curve, Real Meas. of Normal Drivers – Tim Reust
  7. Evaluation of Wheel Impact in a Rollover Collision Through Simulation – Eric Deyerl
  8. Crash Reconstruction Case Studies – Rich Yoder
  9. Safely Working Around Hybrids, Electric Vehicles & Newer Safety Systems – Chris Gutierrez
- **2016 SATAI Spring Conference – Mar. 4-5, 2016 (16 hrs)**
  1. Cleve Bare: Energy Dissipation in High Speed Frontal Collisions
  2. Clay Lawson: Child Seats – Identifying Misuse & Failures
  3. Mike DiTallo & Tom Green: Faro 3D Laser Scanning and its Uses in Crash Reconstruction
  4. Mike DiTallo & Tom Green: Update on HVEDR – Paccar & Hino Engines
  5. Mike DiTallo & Tom Green: Review of Conservation of Energy, Speed from Damage, Delta-V & Force Balance
- **2015 SATAI Fall Crash Conference – Sept. 10-12, 2015 (20 hrs)**
  1. Jeff Muttart: Human Factors in Acceleration
  2. Frank Richardson: Compliance Crash Testing for NHTSA
  3. Wes Grimes: 3D Laser Scanning
- **2015 SATAI Spring Conference – Mar. 13-14, 2015 (16 hrs)**
  1. John Daily: Practical Evidence Interpretation
  2. Louis Peck: Motorcycles – Fundamentals & Dynamics
  3. Daniel Vomhoff III: Researching & Using Stiffness Values
- **Human Factors for Traffic Crash Reconstruction – Northwestern University/Crash Safety Research Center, North Las Vegas, NV Oct. 20-24, 2014 (40 hrs)**
- **2014 SATAI Fall Conference – Sept. 25-27, 2014 (20 hrs)**
  1. Bruno Schmidt – Applied Physics & Rotational Mechanics
  2. Pat Donahue – GM Ignitions & Related recalls
  3. Don Stevens – Rollover Accidents
- **Motorcycle Rider Course I – College of Southern Nevada, Sept. 17-19, 2014 (20 hrs)**
- **Tire Mechanics & Inspection – Forensic Tire Examination by Thomas Giapponi Glendale, AZ, Sept. 2014 (20 hrs)**
- **2014 SATAI Spring Conference – Mar. 14-15, 2014 (16 hrs)**
  1. Jeff Muttart – Reconstructing a Nighttime Car Versus Pedestrian Crash
  2. Interviewing Witnesses & Drivers
  3. Jim Sobek – Headlight Performance in Pedestrian Strikes
- **Optics, Lighting & Visibility for the Forensic Investigator , Fishers, IN Aug. 19-23, 2013 (40 hrs)**
- **2012 SATAI Fall Conference – Sept. 28-29th, 2012 (16 hrs)**
  1. Commercial Motor Vehicle Air Brake Systems
  2. CMV Collision Investigations – Methods & Myths

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- **ARAS360HD Advanced 3d Computer Animation – May29-1, 2012 (24 hrs)**
- **ARAS360 Advanced 3d Computer Diagramming – Jan. 4-6, 2011 (24 hrs)**
- **Advanced Auto Pedestrian Collision Reconstruction (IV) – North Las Vegas, NV, November 2010 (40 hrs)**
- **2011 SATAI Spring Conference – March 11-12th, 2011 (8 hrs)**
  1. Rollover Reconstruction
  2. Current Topics in Low Speed Reconstruction & Biomechanics
- **2010 ARC-CSI Crash Conference – May 24-27, 2010 (28 hrs)**
  1. Low Speed Crash Analysis
  2. Motorcycle Accident Reconstruction
  3. Commercial Motor Vehicle Forensic Inspection for the Reconstructionist
  4. PDOF and Angle Development Over Time
  5. Impact Speed and Post-Collision Speedometer Readings
  6. Conspicuity Sheeting, Retro Reflective Tape Wear
  7. Accelerometers and other Devices used for Skid and other testing
  8. GPS – The Overlooked EDR
  9. Using Motion Equations in Accident Reconstruction
  10. Onstar & Automatic Crash Response
  11. Find Speed and Acceleration from Video
- **2009 SATAI Summer Conference – July 10-11th, 2009 (16 hrs)**
  1. MADYMO dummy simulation software for Accident Reconstruction
  2. Biomechanical Analysis of Rollover Crashes
  3. Seat Belts in Rollover Crashes
- **2009 ARC-CSI Crash Conference – June 1-4, 2009 (32 hrs)**
  1. Evaluating Nighttime Response
  2. Optics, Lighting & Visibility for the Forensic Investigator
  3. Estimation of Vehicle Speed & Trajectory Based on Video from a Vehicle-Mounted Camera
  4. Commercial Vehicle Dynamics Factors in Collision Reconstruction
  5. Death Investigations & Their Psychological Effect on Police Officers and Reconstructionists
  6. Accuracy of Critical Speed Formula (CSF) When Applied to Yaw Marks Leading to Rollovers of SUVs
  7. Braking Efficiency of Motorcycles
  8. A Common Sense Approach to Explaining Real World Acceleration Values
  9. Human Factors Testing
  10. Air Brake Fundamentals & Advanced Technology plus Air Brake Performance
- **ACTAR Prepatory Course, SSR Training, Natick, MA – Oct. 6-9, 2008 (32 hrs)**
- **2008 ARC-CSI Crash Conference – June 2-5, 2008 (32 hrs)**
  1. New Vehicle Technologies and Their Relationship to Proper Crash Reconstruction Techniques
  2. Momentum and Energy: a Code 3 Case Study
  3. Judkins Law And it's Applications To The Human Factors Of Collision Avoidance And Witness Recall
  4. The introduction of close-range photogrammetry as a routine accident reconstruction tool

5. Video Applications in Crash Reconstruction
6. Reconstruction of Precision Immobilization Technique (PIT)
7. Engine Idle Acceleration
8. Current trends in Ped Crash Reconstruction
9. Airborne Analysis with Rotational Mechanics

- **Leica Scan Station Training - Training on the Leica Scan Station 1 and corresponding Cyclone software. Long Beach, CA, October 2007 (16 hrs)**
- **Vehicle Accident Reconstruction Methods, SAE Intl., Detroit, MI, Aug. 2005 (16 hrs)**
- **Conducting Vehicle Handling Maneuvers - Hands-on training course with Doug Milliken, Carson City, NV, June 2005 (16 hrs)**
- **Heavy Truck Handling Symposium, SAE Intl., Greenville SC, May 2005 (24 hrs)**
- **Passenger Vehicle Rollover, Causes, Prevention and Injury Prevalence, SAE International, Scottsdale, AZ, April 2002 (16 hrs)**
- **Vehicle Dynamics for Passenger Cars and Light Trucks, SAE International, Detroit, MI, June 2001 (24 hrs)**
- **Hydraulic Brake Systems, SAE Intl., February 2001 (24 hrs)**
- **Commercial Vehicle Inspection / Investigation, Texas A&M University, Houston, TX, October 1999 (40 hrs)**
- **Accident Investigation II, Northwestern University, Evanston, IL, Oct. 1998 (80 hrs)**

## VEHICLE PERFORMANCE EVALUATION & TESTING EXPERIENCE

**BRAKING**

- FMVSS 105 – Hydraulic & Electric Brake Systems
- FMVSS 135 – Light Vehicle Brake Systems
- FMVSS 121 – Air Brake Systems
- FMVSS 122 – Motorcycle Brake Systems
- ECE R13H – European Brake Standard

**STABILITY & HANDLING**

- ISO 3888 – Severe Lane Change Maneuver
- AVTP 03-30 – Steering & Maneuverability
- AVTP 03-160W – Dynamic Stability
- SAE J266 – Steady State Directional Control Test for Passenger Cars & Light Trucks
- NHTSA J-Turn
- SAE J695 - Turning Ability And Off Tracking--Motor Vehicles
- SAE J2181 - Steady-State Circular Test Procedure for Trucks and Buses

**TIRE TESTING**

- NATO/FINABEL 20.A.5 – Tire Run-Flat Testing
- Tire Blow-Out Testing – non-standardized tests

**MILITARY TESTING**

- TOP 1-1-014 - Ride Dynamics
- TOP 1-2-610 - Human Factors Engineering
- TOP 2-2-002 – Wheeled Vehicle Dynamic Stability & Handling
- TOP 2-2-500 - Vehicle Characteristics
- TOP 2-2-504 - Acceleration Maximum and Minimum Speeds
- TOP 2-2-505 - Inspection and Preliminary Operation of Vehicles
- TOP 2-2-508 - Automotive Safety and Health Hazard Evaluation

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- TOP 2-2-609 – Steering & Manoeuvrability
- TOP 2-2-610 - Gradeability and Side Slope Performance
- TOP 2-2-650 – Engine Cold-Starting & Warm up
- TOP 2-2-607 – Cooling Systems
- TOP 2-2-602 – Acceleration & Maximum Speed

**SOUND**

- SAE J986 – Sound Level for Passenger Cars & Light Trucks
- SAE J366 – Exterior Sound Level for Heavy Trucks and Buses
- SAE J1470 – Measurment of Noise Emitted by Accelerating Highway Vehicles
- SAE J1169 – Measurement of Light Vehicle Exhaust Sound Under Stationary Condition