

## ***Curriculum Vitae***

**Stephen M. "Steve" Ashton**

**Accredited Accident Reconstructionist, A.C.T.A.R. # 1474**

**N.H.T.S.A. Qualified S.F.S.T. Expert**

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### **E X E C U T I V E   S U M M A R Y**

Reconstructed over 100 crashes involving passenger vehicles, tractor-trailers, pedestrians, motorcycles and a shopping cart. Deposed in Franklin County, Ohio and Hamilton County, Ohio. Evidence given on the following issues: impact speed analysis, time/distance analysis, point of perception, seat-belt usage, point of impact placement, etc. Qualified Expert in Hamilton County Common Pleas, Montgomery County Common Pleas and Fairfield Municipal Court (Butler County).

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### **S U M M A R Y   O F   Q U A L I F I C A T I O N S**

#### **CrashTeams Southern Ohio & Southern Indiana**

*2008 - present*

Member of the largest crash reconstruction company in the world. Crashteam provides crash, collision and accident investigation and reconstruction services, including solving impact speeds, calculating point of impact, 3D Animations and all other related accident reconstruction services.

- President of O.T.A.R.A. (Ohio Traffic Accident Reconstruction Association) incorporated 2008. Serves as a forum for education and mentoring.
- Ohio and Indiana State Licensed Private Investigator

#### **Ashton Collision Reconstruction Technology**

*2005 – 2008*

Fairfield, Ohio

State Licensed and A.C.T.A.R. accredited auto accident reconstructionist business dedicated to the investigation and reconstruction of vehicle accidents involving passenger cars, motorcycles, trucks, pedestrians and bicycles.

#### **Forest Park Police Department**

*1980 - 2008*

Forest Park, Ohio

*Duties:* Assigned to Traffic Division 1982 – Fatal Auto Accident Investigator; November 2005 – Lieutenant in charge of Road Patrol; December 1998 to November 2005 – Sergeant in Charge of Traffic Division; Auto Accident Reconstructionist, President/Founder of O.T.A.R.A. (Ohio Traffic Accident Reconstruction Association),

Write and Coordinate Traffic Grants, D.U.I. Taskforce Coordinator, C.A.L.E.A. Policy Accreditation Program Manager

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### **F O R M A L E D U C A T I O N**

Certified Law Enforcement Executive, 2006

Police Executive Leadership College, 1999

University of Cincinnati, Cincinnati, Ohio, *Criminal Justice*, BS – 1990.

University of Cincinnati, Cincinnati, Ohio, *Law Enforcement*, AS – 1980.

University of Cincinnati, Cincinnati, Ohio, *Psychology*, 1974 – 1976.

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### **C E R T I F I C A T I O N S**

N.H.T.S.A. D.W.I. Detection and Standardized Field Sobriety Testing Instructor Qualification - May 2011

ARAS360 Trainer Certification - April 2011

Bosch CDR Technician and Analyst Certification – February 2010

Crash Data Retrieval (I.P.T.M.) – December 2008

Private Investigator (Ohio License # 200821001347) – May 2008

Private Investigator (Indiana License # P120900475) - October 2008

Visual Statement Accident Reconstruction Software Certification – September 2008

Total Station Forensic Mapping Certification – June 2005

A.C.T.A.R. #1474 (Accreditation Commission for Traffic Accident Reconstruction) – September 2004

Auto Accident Reconstructionist (I.P.T.M.) – July 2003

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### **S P E C I A L I Z E D C O U R S E S / T R A I N I N G**

Course - "*Electronic Data Recorder*," Topics: Passenger Vehicle EDR Data, CDR System Overview, Seat Belt Pre-Tensioners, Algorithm Enable, Deployment vs. Non-Deployment Events, Diesel Engine ECM's - Overview, Non-ECM and Aftermarket EDR's, GPS Units and Crash Investigation, Train Crashes and EDR Application. Columbus Police Academy, Columbus, OH., Instructor: Chuck Veppert, March 9, 2012.(8 Hours)

Course - *"National Highway Safety Administration DWI Detection and Standardized Field Sobriety Testing Instructor Course,"* Topics: Concepts of Adult Learning and Teaching, The SFST Curriculum Package, Teaching Preparation Techniques, Techniques for Effective Classroom Presentations, Planning and Managing a Live Alcohol Workshop, Conducting Video Training Options for the S.F.S.T. Drinking Subject Testing Sessions, Practice Teaching, Written Examinations. Hilton Inn, Irvine, California, Instructor Robert LaPier, May 18 - 21, 2011. (36 Hours)

Course - *"National Highway Safety Administration DWI Detection and Standardized Field Sobriety Testing,"* Topics: Introduction and Overview, Detection and General Deterrence, Legal Environment, Overview of Detection, Note Taking and Testimony, Phase One - Vehicle in Motion, Phase Two - Personal Contact, Phase Three - Pre Arrest Screening, Concepts and Principles of the Standardized Field Sobriety Tests, Test Battery Demonstrations, Dry Run Practice Session, "Testing Subjects" Practice Session One, Processing the Arrested Suspect and Preparation for Trial, "Testing Subjects" Practice Session Two, Review and Proficiency Examinations, Written Examination. Crowne Plaza, Blue Ash, Ohio, Instructor Robert LaPier, April 29 - May 1, 2011. (27 Hours)

Course – *"ARAS360 Advanced 3D Computer Diagramming for Crash Reconstruction - Train the Trainer Course,"* Topics: Toolbar Interface, Class Projects, Drawing Tools, Surfacing, Adding Points, Animation, Simulation, Syncing Objects, Pedestrian Crashes, Camera Operation and Views, Momentum Tool, ARAS Genius Math Software Introduction, Merging Measurement Logs, Creation of AVI video files. ARAS360 Headquarters, Kamloops, BC, Canada, Instructor: Mike Kennedy (CEO). April 25-27, 2011. (24 Hours)

Course: *"Advanced Crash Reconstruction Utilizing Human Factors Research";* Topics: Nighttime Recognition, Headlight Analysis, How to Objectively Account for Expectancy, Pedestrian Walking Speeds, Driver Response to Potential Hazards, Acceleration Rate Research, Perception-Response Time, Brake Response Time, Leg Movement Time, Vehicle Latency Times, Time to Search, Crash Rate due to Speed Choice, Preparing Displays and Videos for Proper Court Perspective, Speed Estimation, Influence of Weather on Speed Choice, Distraction versus Visual Noise and Effect on Driver Response, Scientific Support for Starting Point for Time/Distance Calculations, Avoidance Analysis. Northwestern University Center for Public Safety, Instructor: Jeff Muttart, March 21-25, 2011. (40 Hours)

Course: *"Rotational Mechanics."* Topics: Use of Radians, Rectilinear Motion vs. Rotational Mechanics, Determining Revolutions, Review of Quadratic Equation, Explanation of Moment Arm, Angular Momentum, Parallel Axis Theorem, Speed Calculations Using Angular Momentum and Rotational Mechanics. Columbus Police Academy, Instructor: Det. Andrew Rich, BSME, ACTAR, February 11, 2011. (6 Hours)

Course - *"Visual Statement Edge FX 3D Computer Diagramming,"* Topics: Intro to Edge Fx, Basic Drawing Projects, Merging Measurement Logs, Total Station Practical Application, Total Station Downloading, Creation of Crime Scene Image Using 3D, Creating

3D Surface. Butler Tech Public Safety Building, Instructor: Rick Dowsett. January 24-28, 2011. (40 Hours)

Course - "*ARAS360 Advanced 3D Computer Diagramming*", Topics: Basic Drawing/Projects, Advanced Drawing Elevations, Basic Animation, Google Earth Importing, Animation, Momentum Tool, Importing Measurement Logs, Merging a Photo from Total Terrain, Animation Project, Total Station Downloads. Evansville, Indiana Police Department, Instructor: Dan Billington. November 30-December 3, 2010. (32 Hours)

Course - "*Advanced Commercial Vehicle Crash Investigation*," Topics: ABS Airbrake System, Quasi-Static and Dynamic Rollover, Equilibrium Equations, Axle Weight Analysis, Speed from Gear Reduction Ratios, Low Speed and High Speed Off-Tracking, Vehicle Dampening Ratios, 2-days of practical field exercises. I.P.T.M. Jacksonville, Fl., Instructors David Brill and Walter Dobbs. November 1-5, 2010 (40 hours)

Course - "*Vehicle/Pedestrian/Bicycle Accident Reconstruction*," Topics: On-Scene Investigation, Evidence, Photographing the Scene, Injury Types, Trajectories for Frontal Collisions, Vehicle Speed Calculations, Bicycle Crash Investigation and Bicycle Nomenclature. West Chester P.D., Instructors: Kevin Bryant and Mark York. Sept. 10, 2010, (3 Hours)

Course – "*Reconstruction of Commercial Vehicle Crashes*," Topics: Commercial Vehicle Operations, Hours of Service, Parts and Accessories, Air Brake System, Dynamics, Physical Evidence, Speed Calculations, Outside Testing, Hydroplane, Trailer Under-ride, Center of Mass Calculations, Rollovers. I.P.T.M. Jacksonville, Fl., Instructors James Sloan and Ward Holten. March 29 – April 2, 2010 (40 hours)

Course – "*CDR Technician Certification*," Topics: Operation of CDR System Including Evaluation of the Vehicle Being Examined for Download and Application of the Software and Hardware for GM, Ford and Chrysler Vehicles, Functions of the CDR Program, Access Considerations for the PCM, ACM and ROS. Troubleshooting and Solving Hardware and Software Issues when Using the Bosch CDR System, Hands-on in Class Downloads of Airbag Control Modules and Powertrain Control Modules. Fairfax County Justice Academy, Fairfax, VA., February 15, 2010. Instructor Bill Davies (8 hours)

Course – "*CDR Data Analyst Certification*," Topics: General Legal Considerations Related to CDR Data Admissibility, Types of Data Collected Generally for GM, Ford and Chrysler Vehicles Accessible using the Most Current Version of the Bosch CDR System, Reading-Interpreting and using the Accessible GM, Ford and Chrysler Vehicle CDR Reports with a Situationally Complete Collision Reconstruction, Understanding, Identifying and Dealing with Anomalous Data from GM, Ford and Chrysler Vehicle CDR Reports., Fairfax County Justice Academy, Fairfax, VA., February 16-19, 2010. Instructor Rusty Haight (32 hours)

Course – "*Microsoft Excel for the Traffic Crash Reconstructionist*," Topics: Use of Tables, Conditional Formatting, Writing Formulas in Excel, Writing User-Defined Functions Using Visual Basic Applications (VBA), Using Statistic Functions in Excel, Using Excel to Analyze Instrumented Skid Tests, Using What-If-Scenario Manager, Goal Seeker and Solver, Using

2-D and 3-D Excel Charts to Visual Data and Perform Sensitivity Analyses. Columbus Police Academy, January 22, 2010, Instructor: Det. Andrew Rich, BSME, ACTAR (8 hours),

Conference – “*NAPARS Combined Conference*,” Topics: Commercial Vehicle Electronic Data, DDEC Reports and Hours of Service Compliance, Newton and Collision Reconstruction, Combining Aerial Photography and Forensic Mapping Data, Newton and an Analysis of COLM restrictions on Mass Differences, ECM Test Results, Software Analysis of ECM Data, Staged Commercial Vehicle Crashes. Ocean City, Md., October 7-9, 2009. (18 hours)

Course – “*Bendix Commercial Air-Brake System*,” Charging system, Primary System, Secondary System, Parking System, Trailer System, ABS systems, Bendix Spicer Foundation Brakes. John C. Hawker, Bendix Service Engineer. Ocean City, Md., October 6, 2009 (8 hours)

Course – “*Reconstruction of Collisions Involving Airbornes*,” Physics behind Uniform Projectile Motion, Applying Rotational Mechanics to Airborne Trajectories, Calculating minimum speeds for vehicles to become airborne, Sensitivity of airborne equations to measurement uncertainties, Methodologies of determining distance and height of motor vehicles during airborne trajectories, Motor vehicle airborne testing. Instructor: Det. Andrew Rich, BSME, ACTAR. O.T.A.R.A. sponsored training, O.P.O.T.A. Tactical Center, London, Oh., July 24, 2009.

Course – “*Momentum and Energy*,” Topics: Vector diagramming, Conservation of Linear Momentum, Coefficient of Restitution, Occupant Kinematics, Energy in crashes. Instructor: Dr. Jeremy Daily PHD, O.T.A.R.A. Training Course, West Chester, Ohio, June 17, 2009

Conference – “*2nd Annual Crashtams Conference*,” Topics: Crafting excellent reconstruction reports and demonstrating various examples, Case reviews by partners, Biomechanics, Time/Distance case presentation, Photogrammetry, Spin Analysis presentation, Advanced FX diagramming, Creating positive business meetings. Puerto Villarta, Mexico, March 23-27, 2009.

Course – “*Methodology and Techniques of Crash Data Retrieval*,” Topics: Background of event data recorders (EDRs), Event data collected in passenger vehicles, proper use of EDR imaging tools, Hands-on EDR imaging techniques, practical application of EDR data to a complete traffic crash reconstruction, Delta V, Principal direction of force, momentum. Cincinnati Regional Emergency Operations Center, December 8-12, 2008, I.P.T.M., Instructors: Rick Ruth, Bill Wright, Bruce Gadzick (40 hour)

Conference – “*1<sup>st</sup> Annual Crashtams Conference*,” Topics: Leica Laser Mapping, Crashtams rail, Crashtams Air, Crashtams Pacific Northwest (Engineer), Crashtams Global Presentation, Meeting Clients for the 1<sup>st</sup> Time, Record Keeping and Reporting. Kamloops, British Columbia, Canada, August 11-15, 2008.

Course – “ *Visual Statement Advanced Crash Training with Total Station,*” Topics: diagramming, 3d animation, simulation, 2d animation, damage modeler, hawkeye, photofx adding/merging measurement logs, surface fx, smart roads and smart rooms. Springdale, Ohio, Sept. 29 – Oct. 3, 2008, Instructor Bryce Adams (40 hour)

Course – “*Data Analysis for Accident Reconstruction,*” Topics: Standard Deviation, Quantifying Uncertainty, Central Tendency, Uniform Distribution, Monte Carlo, Linear Regression, Pole Crashes. West Chester Police Department, Ohio, September 4, 2008, Instructor: Andy Rich (New Jersey) (8 hour)

Course –“*Motorcycle Crash Investigation,*” Topics: Motorcycle Identification and Orientation, Motorcycle Dynamics, Evidence from the Roadway, Evidence from the Vehicle, Motorcycle Tires, Motorcycle Practicum, Practicum Review and Calculations, Motorcycle Formulas, Helmets, Class Project, Test and Review. Staged Motorcycle drag factor testing, Motorcycle Braking using different surfaces, Motorcycle acceleration and deceleration testing. Ohio State Highway Patrol Academy, Columbus, Ohio, July 18-22, 2007, Instructors P.S.P. Cpl. Sullenberger, O.S.P. Sgt. Horvath (40 hour)

Conference – “*Special Problems in Traffic Crash Reconstruction,*” Topics: Digital Photography for the Crash Investigator; Interviewing Techniques for the Crash Investigator, Spin Analysis Case Study; Balancing Collision Forces in Crush/Energy Analyses; Forensic Animation: Visual Statement; Crash Investigation Overview (NHTSA); Proper Application of Drag Coefficients to ABS Affected Yaw and Skid; A Fresh Approach into the Reconstruction of Pedestrian/Bicycle Collisions; Staged Bus/Vehicle Crash, Staged Wooden Pole Crashes. University of North Florida, I.P.T.M., Jacksonville, Fl., April 2007 (28 Hour)

Course – “*Technology in Accident Reconstruction,*” hosted by Centerville Police Department by Northcoast Polytechnic Institute, Instructor Henry Lipian, ACTAR #83. November 13, 2006 (8 hour)

Course – “*Expert Testimony in Accident Reconstruction,*” hosted by Centerville Police Department by Northcoast Polytechnic Institute, Instructor Henry Lipian, ACTAR #83. October 25, 2006 (8 hour)

Conference – “*Pennsylvania State Police Collision Reconstruction Seminar,*” Topics: Biomechanics in Collision Reconstruction by Dr. Richard Nelson; Railroad Collision Investigation by Bob Halsted, Today’s Reconstruction Formulas by John Daily & Nate Shigemura; Calculating Heavy Truck Braking by Wade Bartlett. (State College, PA.). September 26-28, 2006 (24 hour)

Course – “*Total Station Forensic Mapping Certification,*” Boone County Sheriff’s Office by Officer John Smoot (Lexington, Ky. PD). June 2005 (32 hour)

Conference – *Crash Investigation & Reconstruction Update,*” Topics: CDR System Overview; Commercial Vehicle EDR’s; Commercial Airbrake Systems; DNA Evidence in Fatal Crashes; Rotational Mechanics; Criminal Prosecution in Fatal Crash Cases; Drag Sled Comparisons with test skids, VC3000 & Escort G-Timer, Staged Airbag Equipped

Vehicle Crashes. Ohio State Highway Patrol Academy, Columbus, Oh., June 2005 (16 Hour)

Conference – *“Special Problems in Traffic Crash Reconstruction,”* Topics: Drag Sled Analysis/Validation; Airborne Validation; Automobile Glass Strengths and Weaknesses; Uniform Circular Motion; Effective Use of Published Motorcycle Data; Staged Under-ride Collision. University of North Florida, I.P.T.M., Jacksonville, Fl., April 2005 (28 Hour)

Course – *“Vehicle Crush Dynamics and Determination of Speed from Vehicle Crush,”* Ohio Peace Officer Training Academy, Richfield, OH., October 2004. (40 Hour)

Conference – *“Special Problems in Traffic Crash Reconstruction,”* Topics: Testing & Review of Uniform Circular Motion – Lateral Lane Changes & Critical Speed; Commercial Vehicle Data Recorders; Travel Speed Calculations with Skids and Impact; Vehicle Autopsy and Hydroplane. University of North Florida, I.P.T.M., Jacksonville, FL., April 2004. (28 Hour)

Course – *“Auto Sketch C.A.D. Drawing,”* Raymond Walters College, Blue Ash, OH., October 2003. (40 Hour)

Course – *“Vehicle Crush Dynamics and Determination of Speed from Vehicle Crush,”* Westchester Police Department, Westchester, OH., July 2003. (24 Hour)

Course – *“Auto Accident Reconstruction,”* I.P.T.M. Montgomery, OH., July 2003. (80 Hour)

Course – *“Commercial Motor Vehicle Enforcement,”* Butler County Sheriff, Hamilton, OH., June 1993. (24 Hour)

Course – *“Technical Auto Accident Investigation,”* Ohio State Highway Patrol, Columbus, OH., September 1981. (154 Hour)

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#### **P R O F E S S I O N A L M E M B E R S H I P S**

A.C.T.A.R. (Accreditation Commission for Traffic Accident Reconstruction, ACTAR # 1474)

N.A.P.A.R.S. (National Association of Professional Accident Reconstructionist Society)

O.T.A.R.A. (Ohio Traffic Accident Reconstruction Association) – Founder and President

ARC Network ([www.accidentreconstruction.com](http://www.accidentreconstruction.com))

I.A.T.A.I. (Illinois Association of Technical Accident Investigation)

H.C.P.A. (Hamilton County Police Association)

F.O.P. (Hamilton County, Lodge 74)

Criminal Justice Advisory Board, Southwestern College, Cincinnati, Ohio

# GWRRRA (Goldwing Road Rider Association) Rider Education Program