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## RESUME'

**RONALD J. FEDER, B.S.C.E.**

1/2017

### ACTAR ACCREDITATION

ACTAR Accredited Reconstructionist, Registration #688. Awarded full accreditation as a Traffic Accident Reconstructionist by the Accreditation Commission for Traffic Accident Reconstruction in recognition of academic achievement, accident specific training, applied experience in the field, and successful completion of the ACTAR full accreditation written and practical examination, November 1995. The only international accrediting body for traffic collision reconstruction. Administered by a Board of Directors comprised of representatives from 24 professional and educational organizations.



### LICENSES

New Mexico Private Investigator License Number 1969.

Texas Private Investigator License Number 419216.

### EDUCATION

**Bachelor of Science in Civil Engineering**, New Mexico State University, Structures Option, with Honors, December 1989. Curriculum Included: Statics, Dynamics, Physics, Analytic Trigonometry, Calculus, Vector Analysis, Drafting, Surveying Field Work, Surveying Computations, Survey Mapping, Surveying Statutes and Standards, Engineering Fundamentals and Problem Solving, Electrical Networks, Economics, Thermodynamics, Fluid Mechanics, Structural Analysis, Materials Testing, Mechanics of Materials, Steel Structures Design, Concrete Structures Design, Hydraulic Structures and Engineering Systems, Water Supply and Pollution Control, Geology, Soil Mechanics, Foundation Design, and Construction Engineering.

Moriarty High School, Moriarty, New Mexico, 1985. Salutatorian. Endorsements in Math and Science.

### EXPERIENCE

**Evans & Associates, Inc.**, Accident Reconstruction Specialist, 1/90 - Present. Current President/Owner(1998-Present).

**Evans & Associates, Inc.**, Technical Engineering/Reconstruction Assistant, 3/89 - 12/89. Assisted with accident investigation and reconstruction analysis including accident scene examinations, vehicle inspections, photography, evidence preservation, drafting of scale diagrams, and court exhibit preparation.

**Evans & Associates, Inc./The A.E.S. Group.** Assisted with survey field work on various projects and the technical engineering design of subdivisions, including roadways, earth work and water drainage.

**New Mexico State University, Civil Engineering Department**, Lab Teaching Assistant, 1987 - 1989. Lab Instructor for Introduction and Advanced Surveying classes. Responsible for syllabus development, instruction and grading of laboratory work.

**New Mexico State University, Civil Engineering Department**, Computer Operator Aide, 1986 - 1988. Responsible for maintaining alumni database files and listings. Also assisted several CE Department professors and graduate students with various projects, including triaxial testing of fiber reinforced concrete specimens and biaxial testing of timber specimens. Assisted in developing a computer program to check the eligibility of prerequisite status of students.

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### **SPECIALIZED TRAINING AND CONTINUING EDUCATION**

Small Unmanned Aircraft System Remote Pilot Certification. Completion of FAA Part 107 Preparation Course and passing the Unmanned Aircraft General Knowledge Test.

Recognition – Closing Speed vs. Closing Threshold. September 7, 2016. 4 hours. Muttart – Crash Safety Research Center.

Specialized Forensic Photography and Diagramming, August 9, 2016. 14 hours.

WREX 2016 – World Reconstruction Exposition, May 2-6, 2016, Orlando, Florida. Topics included vehicle acceleration, video analysis, investigation of emergency vehicle crashes, crash injuries, motorcycle collision reconstruction and speed estimation methods, speedometers, air disk brakes, UAVs, NTSB crash investigation, EDR data, Jeff Muttart – driver response and human factors, pedestrian/cyclist reconstruction, Rick Ruth – EDR update, distracted driving, heavy vehicle inspections and digital forensics, heavy vehicle crash reconstruction, rollover testing applied to reconstruction, tire failure analysis, effects of alcohol and cannabis on driving, collision biomechanics. Crash testing included 15 fully instrumented crash tests of heavy trucks, cars, and motorcycles.

An Investigator's Guide to Forensic Photography, August 26, 2015. 4 hours.

IPTM Bosch Crash Data Retrieval Course, summer 2015. 24 hours. EDR crash data retrieval.

FARO Reality Training, April 30, 2015, 7 hours. Training program for FARO Reality program for crash reconstruction animation and analysis.

Southwestern Association of Technical Accident Investigators (SATAI) Conference and Training Course, March 14-15, 2014, Laughlin, Nevada. Course topics included reconstructing nighttime car versus pedestrian crashes, interviewing witnesses and drivers, and lighting and headlight performance.

TAARS / SOAR Combined Spring 2012 Conference, May 10-12, 2012, Fort Worth, Texas. Crash tests including 90 degree (Jeep and Pickup/trailer) and head-on (Pontiac Grand Prix and Ford Taurus). Presentations included commercial vehicle brake systems, product liability issues in vehicle accident reconstruction, Vericom accelerator system, forensic uses of Garmin GPS navigation system data, Engineering Dynamics HVE analysis and simulation results, and crash test data review.

“How to Interpret Commercial Vehicle Event Data Recorders”, November 15-19, 2010, The University of Tulsa Continuing Engineering and Science Education, Tulsa, Oklahoma. Course included how to access data in truck ECMs, downloading, preservation, troubleshooting, accuracy, reliability, testing, and evaluating the data.

CDR Data Analyst Certified. Crash Data Retrieval Data Analyst Course by Collision Safety Institute – Rusty Haight, September 22-25, 2009, El Paso, Texas. Curriculum included updated training regarding the analysis and interpretation of data from airbag control modules, rollover sensors, and powertrain control modules.

CDR Technician Certified. Crash Data Retrieval Technician Course by Collision Safety Institute – Rusty Haight, September 21, 2009, El Paso, Texas. Included updated training for securing data from airbag control modules, rollover sensor modules, and powertrain control modules.

SATAI Conference, July 11 – 12, 2008 in Glendale, Arizona. Crash tests included head-on and multiple car rearend. Comparison to airbag control module data and crush analysis. Presentations included pedestrian accident reconstruction by Jerry Eubanks.

Crash Data Retrieval System Technician's Certification Course, April 7<sup>th</sup>, 2008. Bosch and Collision Safety Institute Approved Training for Securing Crash Data from Vehicle Airbag Control Modules, Rollover Sensor Modules, and Powertrain Control Modules.



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### **SPECIALIZED TRAINING AND CONTINUING EDUCATION**

Crash Data Retrieval User's Conference, Houston Texas, January 28-30, 2008, 20 hours. Curriculum included CDR version 3.0, GM Rollover Sensor (ROS) EDR Data, Chrysler 3.0 Release, CDR Case Study, Dealing with severely damaged ACM's, PCM Data Overview, 3.0 PCM Workshop, Using the CSV Export Function with 3.0 Ford PCM Data, Accuracy of Ford PCM Speed Data During Hard ABS Braking, The Accuracy of Speed Recorded by a PCM and the Effects of Brake/Yaw and other Factors, Real World Applications of Crash Data including Ford PCM, GM CDR Case Study, Vehicle Speed Sensor Calibration and its Potential Effect on Pre-Crash Vehicle Speed Data as Recorded by an EDR. Included CDR delta-V (speed change) data and comparison with crash test data.

ARC-CSI Crash Conference, Las Vegas, Nevada, June 5-8, 2006, 28 hours. Crash tests included motorcycle-car, car-car, motorhome-van, firetruck-car, firetruck-van, bus-car-motorhome, car-car-car, SUV rollover, vehicle curb impacts. Presentations included Lower Extremity Injury and Implications for Post-Impact Speed Calculations, Rollover Testing, Motorcycle Deceleration, Curb Strikes, Decel rates of modern vehicles, Simulations, Collision Speed Analysis of Angular Collisions Involving Secondary Impacts, and Principle Direction of Force.

ARC Network – Collision Safety Institute Crash Data Retrieval User's Conference, conducted in Dallas, Texas, February 13-14, 2006, 16 hours. Included presentations regarding review of module types and data recorded, motorcycle collinear collisions involving motor vehicles equipped with event data recorders, analysis of the GM sensing and diagnostic module in momentum analysis, Crash Data Retrieval validation, flight data recorders, investigation into the durability of Airbag Control Modules, quantifying uncertainties in Ford and General Motor's Event Data Recorders, the accuracy of speed recorded by the Sensing and Diagnostic Module and the effects of brake and yaw events, overview of new GM modules, Crash Data Retrieval resources, and human factors issues.

ARC-CSI Crash Conference, June 21-24, 2004, Las Vegas, Nevada, 28 Hours. Crash test series included vehicle to vehicle rear end and t-bone, vehicle to barrier, airbag deployments, tractor-trailer acceleration and brake tests. Conference presentations included evaluation of instrumented crash tests, Crash Data Retrieval System update, legal implications of CDR data retrieval and use, Crush measuring protocol by Nick Tumbus, evaluating and using crash test data and stiffness coefficients for crush analysis by Jim Neptune, commercial vehicle EDR systems, restraint evaluation in collision analysis, crash test simulation, momentum analysis.

SATAI Summer Conference, July 11 – 12, 2003, Tucson, Arizona. Crash testing of front of pickup into side of van. Presentations included investigation of automobile collisions with wooden utility poles and trees, pedestrian/cyclist crash investigation, using delta-V (speed change) from Crash Data Retrieval data to evaluate closing velocity and impact speed and comparison to conventional crush energy and momentum techniques.

ARC – CSI Crash Conference 2003, June 9-12, 2003, Las Vegas, Nevada, 28 Hours. Tests used to illustrate conference focus areas. Crash test series included T-Bone (front to side), truck-tractor hard brake tests, ramp tests, evaluation of Crash Data Retrieval data and air bag deployments. Conference presentations included Airborne Events - Analysis and Modeling, Commercial Vehicle Event Data Recorders (ECM Data), Crush analysis, Diagramming tools, NHTSA Crash Data, Collision Trauma Biomechanics, Low Speed Collisions – Analysis and Biomechanics, New Version CDR System 2.0 Update – GM and Ford, Airbag deployment thresholds.

SATAI Conference, July 12-13, 2002, Tucson, Arizona. Run-Off Road and Rollover Crash Testing. Lectures on Rollover Crash Investigation, Calculating Post Collision Drag Factors, Human Factors in Traffic Accident Reconstruction by Dr. Paul Olson.

Texas Association of Accident Reconstruction Specialists Conference, November 16-18, 2001, Austin, Texas. Course topics included Time and Distance Field Studies, Analysis for Alcohol and Drug Education Studies, North American Standard Truck Inspection Procedure, and Scene Mapping Technologies.

Crash Data Retrieval Training & Certification Seminar, June 28-29, 2001, Santa Barbara, California. Included presentations and training by Vetronix Corporation, General Motors, and Texas Engineering Extension Service regarding Sensing and Diagnostic Module (Airbag Control Module) overview, deployment and near deployment files, mechanics of downloading data, how to use the CDR system, data reliability, verification based on crash tests, data interpretation and analysis.



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### **SPECIALIZED TRAINING AND CONTINUING EDUCATION**

WREX 2000 – World Reconstruction Exposition 2000. September 24-29, 2000, Texas A & M Campus, College Station, Texas, 36 Hours. Testing included two van-pickup head-on crash tests, one car to car obtuse angle crash test, nineteen motorcycle barrier and motorcycle/car crash tests and evaluation of related crush damage, tire skid tests comparing various brands/size/pressure/speed, comparison of stopping capability between large truck tires and passenger car tires, dynamic testing of a semi-trailer and passenger car on their sides to determine metal/roadway coefficient. Presentations included such topics as Event Data Recorders, Crash Data Retrieval System, Critical Speed, Vehicle Restitution, crush analysis, Trailer Underride Factors that affect a drivers Detection and Response Process, and Human Factors-Perception Response Time.

SATAI Conference, July 14-15, 2000, Phoenix, Arizona. Vehicle-Pole test crash at Exponent Failure Analysis and crush analysis of pole type impact profile. Critical speed test results and analysis techniques. NHTSA Crash testing by Brian Parks – Office of Crashworthiness. Vetronics Crash Data Retrieval System.

Vehicle v. Pedestrian/Bike Crash Tests, July 13, 2000, El Paso, Texas.

CRASH '98 - Conference on Reconstruction and Safety on the Highway, October 26-30, 1998, 36 hours. Texas A&M University, Texas Engineering Extension Service. Course included crash testing and topics including Vehicle Damage and Crush Energy, EDCRASH, PC-Crash, Measuring Protocol, Vehicle Damage Documentation, Vehicle Stiffness Coefficients, Speed and Crush Relationship, Data Acquisition Systems, Pedestrian Collisions, Crash Test Data and Stiffness Coefficients

SATAI Conference, July 17-18, 1998, Phoenix, Arizona. Included motorcycle crash testing and inspection procedures, and applied aerodynamics.

SATAI Conference, March 20-21, 1998, Laughlin, Nevada. Included presentations on low speed collision analysis and fraud, crush measurements and analysis (Nick Tumbus measurement protocol was presented), and biomechanical analysis.

Expert Witnessess and Trial Conference, October 3, 1997. Included presentations regarding low impact collisions.

SATAI Conference, July 18 – 19, 1997, Phoenix Arizona. Topics included attorney-expert relationship, photogrammetry, barrier crash tests and crush-damage analysis to determine delta-V and impact speed.

CRASH '97 - Conference on Reconstruction and Safety on the Highway, March 24-28, 1997, 36 hours. Texas A&M University, Texas Engineering Extension Service. Course topics included commercial vehicle involved underride collisions, commercial vehicle collision investigations, commercial motor vehicle driver fatigue and alertness study, system based energy (including damage analysis) and momentum, human subject testing and response to low level accelerations, nighttime vision and reaction time, coefficient of restitution, rollover accidents, and demonstrative evidence. Seven actual crash tests were performed and data collected in support of the course topics.

"Practical Application of Biomechanics, Low Speed Crash Tests and Analysis, Hazardous Materials at Crash Scenes, and Air Bag Injury Causation", March 20-22, 1997, 20 hours. Texas Association of Accident Reconstruction Specialists, Texas A&M University, Texas Engineering Extension Training Center.

40th STAPP Car Crash Conference, November 4-6, 1996, Albuquerque, New Mexico. Several SAE papers were presented including low speed impact testing and human subject response.

Low Speed Impact Testing - as a participant and an observer, and collected and reviewed associated data.

Analysis of Low Speed Collisions, May 1996, 40 hours. Texas A&M University, Texas Engineering Extension Service. Course topics included bumper types and characteristics in low speed impacts, isolator compression, damage analysis and Delta-V considerations, test data, anatomy and biomechanics of frequently claimed injury areas, occupant motions and tolerances, evaluating acceleration - force - torque, low speed test methods, review of human volunteer test data and results, assessing injury causation and likelihood. Performed low speed crash testing and analysis of resulting data and comparison with real world analysis.





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### **SPECIALIZED TRAINING AND CONTINUING EDUCATION**

Pedestrian & Bicyclist Accident Reconstruction course, Texas Engineering Extension Service, Texas A&M University, March 20-24, 1995, 40 hours. Curriculum included methods for analyzing physical evidence from the bicycle, pedestrian and the vehicle to determine the vehicle's speed and the pedestrian or bicyclist's movement prior to and after the collision, pedestrian conspicuity, pedestrian and bicyclist to car accident case studies. Conducted field crash tests involving pedestrian-vehicle and bicyclist-vehicle, body movement and trajectories, perception and reaction, and bicycle and pedestrian reconstruction methodology.

Traffic Accident Reconstruction I, Northwestern University Traffic Institute, 1992, 80 hours. Curriculum included vehicle dynamics and Newton's laws, basic statics, heavy truck accident reconstruction, conservation of momentum, energy, crush analysis and speed estimates from damage, marks on the road, driver strategy and tactics, derivation of equations, case presentation, testimony, report writing, exhibits. Case studies included cars, trucks, trains, and pedestrians.

Traffic Accident Investigation, Northwestern University Traffic Institute, 1992. Curriculum covered topics found in The Traffic Accident Investigation Manual including traffic accident investigation functions and preparation, traffic accident information from and about people and roads and vehicles, estimates of vehicle stopping distances and speed from skid marks, lamp examination for on or off, tire examination, measuring at the scene, photogrammetry, drawing after-accident situation maps, photography in accident investigation.

Measuring at the Scenes of Traffic Accidents, Northwestern University Traffic Institute, 1991. Curriculum included what to locate, methods of locating, coordinate method, triangulation, reference lines and points, recording measurements, field sketches, equipment and its use, special situations in measuring, field experience.

Motorcycle Rider Course - Riding and Street Skills, State of New Mexico Highway and Transportation Department, Traffic Safety Bureau, 1990. Curriculum included motorcycle controls, basic riding skills, riding safely in traffic, advanced riding skills, braking procedures and emergency maneuvers, roadway conditions, alcohol and the motorcycle rider, and avoiding hazards and accidents.

Advanced Accident Reconstruction Course, New Mexico State University, Department of Criminal Justice, Santa Fe, 1989. One-week course. Curriculum included math and trigonometry review, statics, dynamics, energy, vehicle crush-damage analysis and speed determination, momentum, accident investigation, scene conditions, tire marks, physical evidence from vehicles, photography, human factors - perception and reaction.

### **PROFESSIONAL ORGANIZATIONS AND HONORS**

National Association of Professional Accident Reconstructionists (NAPARS)

Accident Reconstruction Communications Network (ARC Network)

International Network of Collision Reconstructionists (INCR)

Texas Association of Accident Reconstruction Specialists (TAARS).

Society of Accident Reconstructionists (SOAR).

Southwestern Association of Technical Accident Investigators (SATAI).

American Society of Civil Engineers, State and National (ASCE).

ASCE, NM Section Younger Member Committee Chairman, 1992-1994.

ASCE, NMSU Student Chapter President, 1989.

ASCE, NMSU Student Chapter Treasurer, 1988.

Chi Epsilon, CE Honor Society, NMSU Student Chapter VP, 1988.

Engineers' Council Representative, 1988.

Civil Engineering Department Student Task Force Committee.

Civil Engineering Department Outstanding Junior, 1988.

Crimson Scholar, 1985-1989.

NMSU Alumni Full Tuition Scholarship, 1985-1989.

Dollar Rent-A-Car Scholarship, 1988-1989.

Doc Harrington Scholarship, 1988.



## OTHER

Guest lecturer, "Accident Reconstruction", State Bar CLE, The Trial Variety: Juries, Experts and Litigation, 12/4/15.

"Accident Reconstruction" presentation to New Mexico Claims Association, 11/04.

Presentation to New Mexico Claims Association, "Low Speed Collisions", including low speed impact tests, 4/98.

Claims Association of El Paso seminar, "Low Speed Rear-End Vehicle Collisions", 9/95.

NMSU Highway Design class, "Computer Applications in the Engineering Workplace", 1994.

NMSU Student Chapter, American Society of Civil Engineering, "Accident Reconstruction", 1990.

Enrolled as an Engineering Intern by the New Mexico State Board of Registration for Professional Engineers and Surveyors; passed the Fundamentals of Engineering Exam, 1990.

Licensed private pilot (not current).

