

# Expert Reconstruction Company LLC

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*Quality and Experience with Integrity*

## CHRISTOPHER GAYNER

### Curriculum Vitae

#### **PROFESSIONAL** **EXPERIENCE**

#### **EXPERT RECONSTRUCTION COMPANY LLC**

#### **Owner / CEO / Senior Consultant**

1999 to Present

Complete Traffic Accident Reconstruction Service for attorneys, insurance companies, prosecutors, public defenders and government agencies. ACTAR certified by the Accreditation Commission for Traffic Accident Reconstruction. Automobile, truck, tractor-trailer, bus, train, motorcycle, bicycle, and pedestrian collision specialist. Twenty-nine years of total experience as a forensic engineering expert covering an extensive range of issues and assignments, including: accident reconstruction, accident causation, accident prevention, accident avoidance, human factors, vehicle dynamics, biomechanics, occupant dynamics, safety analyses, seat belts, airbags, occupant protection systems, crashworthiness, product liability, crash data retrieval, accident scene/roadway assessments (including geometry, lighting & visibility), total station surveys of accident sites & vehicles, vehicle damage & crush analyses, delta-v, time-position-speed histories, vehicle defect investigations & testing, lamp examinations, photogrammetric studies, transportation engineering & highway design issues, computer-aided reconstructions, simulations & animations, photographic documentation, technical reports, demonstrative exhibit preparation and expert testimony.

Civil & Criminal Cases. Plaintiff or Defense.

**AUTOMOTIVE SAFETY RESEARCH Inc, Santa Barbara, CA**  
**Vice President / Collision Reconstruction Specialist**

1987 to 1999

Traffic Accident Reconstruction and Collision Safety Expert with more than 600 detailed technical case analyses performed over a twelve-year period. Accident reconstruction & causation analyses, human factors, occupant dynamics & biomechanics, occupant protection system evaluations (seat belts, airbags, and vehicle interior design), time-speed-position & Delta-V calculations, computer-aided reconstructions and simulations, product defect investigation, airbag tank testing, accident scene and vehicle damage assessments. Deposition, arbitration, and trial experience throughout the United States.

**EDUCATION**

**UNIVERSITY OF CALIFORNIA, Santa Barbara, CA**

Degree: Master of Science, Mechanical Engineering, 1988

Specific Areas of Study: Engineering Dynamics and Robotics

Master's Thesis Project: Occupant Kinematics and Dynamics in Automobile Collisions

**MONTANA STATE UNIVERSITY, Bozeman, MT**

Degree: Bachelor of Science, Mechanical Engineering, 1986

Graduated with Highest Honors and Recipient of Gold Medal Award for Outstanding Graduating Senior, College of Engineering

**FLATHEAD VALLEY COMMUNITY COLLEGE, Kalispell, MT**

Degree: Associate of Science, Engineering, 1984

Math and Chemistry Awards for Excellence

**CUESTA COLLEGE, San Luis Obispo - Paso Robles, CA**

Introduction to Psychology, 2010

Human Anatomy with Laboratory, 2011

**SPECIAL**  
**TRAINING**

**NORTHWESTERN UNIVERSITY TRAFFIC INSTITUTE**  
**(N.U. Center for Public Safety), Evanston, IL**

Traffic Accident Reconstruction I, December 1987

Traffic Accident Reconstruction II, July 1988

**ENGINEERING DYNAMICS CORPORATION, Lake Oswego, OR**

Computer Reconstructions (EDCRASH), January 1989

Computer Simulations (EDSMAC), August 1989

**SOCIETY OF AUTOMOTIVE ENGINEERS, Detroit, MI**

Product Liability and the Engineer, February 1990

Injuries, Anatomy, Biomechanics, and Federal Regulations,  
March 1990

Automobile Vehicle Dynamics, April 1992

Sensor Design for Automobile Air Bag Systems, January 1996

Air Bag Design and Performance, August 1997

Photogrammetry in Accident Reconstruction, September 1998

Accident Reconstruction: State of the Art, December 1999

**SOCIETY OF ACCIDENT RECONSTRUCTIONISTS**

Conference, Traffic Engineering Seminar and Staged Crash Tests  
College Station, TX, June 1990

**SOUTHWESTERN ASSOCIATION OF TECHNICAL ACCIDENT**  
**INVESTIGATORS, INC.**

Conferences, Human Factors Seminar and Staged Crash Tests  
Phoenix, AZ, July 1990

San Diego, CA, March 1991

**UCSD SCHOOL OF MEDICINE, La Jolla, CA**

Accidental Injury: Biomechanics and Prevention  
November 1991

**35TH STAPP CAR CRASH CONFERENCE, San Diego, CA**  
November 1991

**BH<sub>2</sub>VK CRASH TESTING PROJECT, San Bernardino, CA**  
August 1992

**CUYAHOGA VALLEY JOINT VOCATIONAL SCHOOL,  
Brecksville, OH**  
Automotive Mechanics, March 1976

**SANTA BARBARA CITY COLLEGE, Santa Barbara, CA**  
Mind/Supermind Adult Education Lecture Series. Presentations  
in Psychology and Human Consciousness. 1997-2007

**CONFLICT MANAGEMENT INSTITUTE, Santa Barbara, CA**  
Mediation Training: Transformative Style, March 2008

**FORENSIC EXPERT WITNESS ASSOCIATION, San Francisco**  
Web 2.0 Basics Seminar, March 2010

**ARC-CSI CRASH CONFERENCE, Las Vegas, NV**  
Annual four day conference sponsored by the Accident  
Reconstruction Network (ARC) and Collision Safety Institute  
(CSI). Includes: One day at Las Vegas Motor Speedway  
consisting of live staged crash tests, followed by three days of  
lectures and presentations by various experts on current topics  
pertaining to traffic accident analysis & traffic accident  
reconstruction and technical presentation/analysis of crash data  
and visual media from the first day's staged collision tests.  
May 2010, May 2011, June 2012

**CALIFORNIA ASSOCIATION OF ACCIDENT  
RECONSTRUCTION SPECIALISTS (CAARS)**  
Collision Fraud Investigation, Anaheim, CA, August 2010  
Railroad Crash Investigation, Garden Grove, CA, February 2011

Low Speed Impact Analysis Using IIHS & CDR Data, Glendora, CA, January 2015

**CUESTA COLLEGE, San Luis Obispo - Paso Robles, CA**

Introduction to Psychology, August - December 2010

Human Anatomy with Laboratory, January - May 2011

**ARAS 360 TECHNOLOGIES INC., Kamloops, B.C. Canada**

3-D Animation / Simulation Training

Santa Ana Police Department, Santa Ana, CA, April 2011

Advanced 3-D Computer Diagramming and Animation Training  
Inglewood Police Department, Inglewood, CA, January 2012

Nikon Total Station Training and Certification

Inglewood Police Department, Inglewood, CA, February 2012

ARAS 360 HD: New Functions & Features Webinar, June 2013

**COLLISION SAFETY INSTITUTE / CDR-TRAINING.COM**

Crash Data Retrieval (CDR) Technician Level I & II Training & Certification for Bosch CDR Tool

Baldwin Park Police Dept., Baldwin Park, CA, February 2012

**COLLISION SAFETY INSTITUTE / NORTHWESTERN UNIVERSITY CENTER FOR PUBLIC SAFETY**

Crash Data Retrieval (CDR) Data Analyst Training & Certification, Bosch CDR Tool, NU/CPS, Evanston, IL, May 2012

**VERICOM COMPUTERS INC.**

Vericom Data Acquisition Training for Traffic Crash Investigation, L.A. County Sheriff's Station, Calabasas, CA, August 2013

**NATIONAL HIGHWAY INSTITUTE, U.S. Department of Transportation, Federal Highway Administration**

Maintenance Training Series: Basics of Work Zone Traffic Control, August 2013

**SAFETY CENTER INCORPORATED, Claremont, CA**

Temporary Traffic Control & Flagging, November, 2013

**RESEARCH  
PROJECTS,  
LECTURES,  
ARTICLES**

**"A Computer Graphics Program for Simulating Occupant Kinematics and Dynamics in Automobile Collisions"**, Master's Project, Department of Mechanical Engineering, UCSB, 1988

**"Review of Methods for Crush Analysis of Automobile Structures,"** Research Paper, Special Topics in Finite Element Analysis, UCSB, 1988

**"Anatomy, Dynamic Behavior, and Injury Mechanisms of the Neck and Cervical Spine (With an Emphasis on Motor Vehicle Accidents),"** Seminar Presentation, Physiological Basis in Biomedical Engineering, UCSB, 1988

**"Accident Analysis Overview,"** Lecture Presentation, California Association of Licensed Investigators (CALI), Goleta, CA, 1989

**"Safety 101: Laws That Save Lives"**, Article, San Luis Obispo County Bar Association, Bar Bulletin, July-August 2008

**"Expert Traffic Accident Reconstruction"**. Lecture Presentation, Case Studies and 3-D Computer Animation Demonstrations, Santa Barbara Trial Lawyers, Santa Barbara, CA, May 2011

**OTHER  
EMPLOYMENT**

**UNIVERSITY OF CALIFORNIA, Santa Barbara, CA**

**Graduate Teaching Assistant / Lecturer**

Teaching assistant and tutor for undergraduate university level mechanical engineering courses: Engineering Mechanics (Statics), Engineering Mechanics (Dynamics), Computer-Aided Design and Manufacturing.

**PACIFIC DESIGN ENGINEERING, Camarillo, CA**

**Engineering Consultant**

Designed components and accessories for wheelchairs and other devices for disabled persons. Provided vendor liaison, initiated prototype development, performed engineering analyses, standards compliance review and technical engineering drafting.

**FLATHEAD VALLEY COMMUNITY COLLEGE, Kalispell, MT**

**Math Lab Director, Math, Physics, and Chemistry Tutor,  
Geology Lab Assistant, Bus Driver.**

Managed College Tutorial Learning Center. Assisted students with learning disabilities and learning disadvantages through individual and group tutoring programs. Maintained and assisted Geology Department Laboratory operations. School bus driver and teaching assistant for Geology field trips.

**COMINCO AMERICAN, INC., Gabbs, NV**

**Geologic Engineering Technician**

Precious Metals Exploration, Engineering Land and Topographic Surveys, Geo-Physical Surveys, Atomic Spectroscopic Sampling and Analysis. Vehicle and Technical Equipment Operator.

**U.S. FOREST SERVICE, Flathead National Forest, MT**

**Surveyor / Civil Engineering Technician**

Preliminary Logging Road Surveys, Preliminary Road Design, Bridge Analyses and Surveys, Traffic Control, Truck & Equipment Operator.

**NATIONAL PARK SERVICE, Glacier National Park, MT**

**Civil Engineering Technician / Laborer**

Highway Construction and Maintenance Crew, Truck and Heavy Equipment Operator, Traffic Control, Pilot Car Operations, Flagman, Sign Installation.

**AWARDS**

**and**

**SCHOLARSHIPS**

Outstanding Engineering Senior Award, Montana State University  
(aka Gold Medal Award - Montana Society of Engineers)  
Graduation with Highest Honors  
National Dean's List  
College Honor Roll, Twenty-Two Consecutive Quarters  
Who's Who Among Students in American Junior Colleges  
Mott Souders Scholarship  
Owen E. Sowerine Scholarship  
American Gas Association Scholarship  
Society for the Advancement of Materials and Process  
Engineering Scholarship  
Engineering and Academic Scholarships  
Montana Board of Regents Scholarship  
California Regents/University Fellowship

**PROFESSIONAL**

**and**

**HONOR**

**SOCIETIES**

ACTAR: Full Accreditation as a Traffic Accident Reconstructionist  
Society of Accident Reconstructionists (SOAR)  
California Association of Accident Reconstruction Specialists  
(CAARS)  
National Association of Professional Accident Reconstruction  
Specialists, Inc. (NAPARS)  
Accident Reconstruction Network (ARC Network)  
Society of Automotive Engineers (SAE)  
Association for the Advancement of Automotive Medicine (AAAM)  
American Society of Civil Engineers (ASCE)  
American Public Works Association (APWA)  
Engineer in Training (EIT)  
Pi Tau Sigma, Mechanical Engineering Honor Society  
Tau Beta Pi, Engineering Honor Society  
Phi Kappa Phi, University-wide Honor Society