

Curriculum Vitae

Jeffrey D. Armstrong, P.E.



Professional Profile

Mr. Armstrong is President and Founder of Armstrong Forensic Engineers, Inc. A third generation engineer, he has almost twenty years experience in forensic engineering. He is a Civil Engineer with a Bachelor's Degree from Brigham Young University and a Master's Degree from Arizona State University.

His projects have included traffic accident investigation and reconstruction, eminent domain, transportation planning, personal injury events, civil engineering site design, forensic engineering analysis of premises liability, merchandise securement, stairway design, building code compliance, and walking hazard analysis.

Mr. Armstrong is a Registered Professional Engineer in Florida, Alabama, Georgia, and Illinois, and is a Senior Member of the National Academy of Forensic Engineers. He is an Accredited Traffic Accident Reconstructionist with the Accreditation Commission for Traffic Accident Reconstruction (ACTAR), and is a certified work zone Traffic Control Supervisor. He has testified as an expert witness in numerous venues on cases involving issues such as accident reconstruction, eminent domain, site design, site access, and building code compliance.

Licensure

Professional Engineer, State of Florida, # 48167

Professional Engineer, State of Georgia, # 031314

Professional Engineer, State of Illinois, # 062-059265

Professional Engineer, State of Alabama, # 28452-E

Contact Information

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Education

Arizona State University
Tempe, Arizona
Master of Science in Civil Engineering

Brigham Young University
Provo, Utah
Bachelor of Science in Civil Engineering

Work Experience

Armstrong Forensic Engineers
President, Consulting Forensic Engineer
2003-Present

Zook, Moore & Associates, Inc.
Vice President: *2001-2002*
Office Manager, Associate: *1999-2001*
Project Manager: *1994-1999*
Engineer Intern: *1991-1994*

Arizona State University Center for Advanced
Research in Transportation
Graduate Research Assistant: *1990-1991*

Brigham Young University, Department of Civil
Engineering
Undergraduate Research Assistant: *1989-1990*
Lab Instructor, Engineering Measurements
(Mapping) Class: *1988-1989*

Barrick Goldstrike Mines, Inc.
Engineering Technician, Designer, Survey Crew:
Summer 1988 and 1989

Professional Certification

Board Certified Diplomat in Forensic Engineering
National Academy of Forensic Engineers (NAFE), Senior Member #644S, Program Accredited by the Council of Engineering and Scientific Specialty Boards

Accredited Accident Reconstructionist
Accreditation Commission for Traffic Accident Reconstruction (ACTAR), #1303

Work Zone Traffic Control Supervisor
Florida Department of Transportation

Certified Crash Data Retrieval (CDR) Technician and Analyst
Collision Safety Institute

Professional Affiliations

National Academy of Forensic Engineers (NAFE), Senior Member (Accident Reconstruction Committee, Forensic Engineering Curriculum Committee, Education Committee)

Institute of Transportation Engineers (ITE), Member (Expert Witness Council)

American Society of Civil Engineers (ASCE), Member

National Association of Professional Accident Reconstruction Specialists (NAPARS), Member

Association of Eminent Domain Professionals (AEDP), Member

Florida Engineering Society (FES), Member

National Society of Professional Engineers (NSPE), Member

ASTM International (Committee E-17: Vehicle Pavement Systems, Committee E-30: Forensic Sciences, Committee E-58: Forensic Engineering, Committee F-13: Pedestrian/Walkway Safety and Footwear)

Society of Automotive Engineers (SAE), Member

Chi-Epsilon National Civil Engineering Honor Society

Board of Directors, Civil Engineering Scholarship Society and Civil Engineering Advisory Committee, Brigham Young University Department of Civil and Environmental Engineering, 2005-Present

Professional Development

National Academy of Forensic Engineers (NAFE)

- General Topics in Forensic Engineering, 2003
- Forensic Engineering Business Development and Management, 2003
- General Topics in Forensic Engineering, 2004
- Computer Skills for Forensic Engineers and Surveyors, 2004
- General Topics in Forensic Engineering, January 2005
- Daubert Challenges to Forensic Engineers and Scientific Methodologies, 2005
- General Topics in Forensic Engineering, July 2005
- General Topics in Forensic Engineering, January 2006
- Forensic Engineering Use and Non-Use of Standards and Electronic Presentation Methods, 2006
- General Topics in Forensic Engineering, July 2006
- General Topics in Forensic Engineering, January 2007
- Rights and Responsibilities of the Forensic Engineering Expert Witness, 2007
- General Topics in Forensic Engineering, July 2007
- Forensic Engineering Use of Medical Information and Legal Standards for Acceptability of Engineering Evidence, 2008
- General Topics in Forensic Engineering, January 2008
- General Topics in Forensic Engineering, July 2008
- Evidence Gathering, Storing, Analyzing, Documenting, and Reporting. Copyright and Patent Rights, 2009
- General Topics in Forensic Engineering, January 2009
- Depositions, Neutral Evaluator, and Chinese Drywall, 2010
- General Topics in Forensic Engineering, January 2010
- Advanced Accident Reconstruction Seminar, 2010
- General Topics in Forensic Engineering, July 2010

Northwestern University Traffic Institute

- Traffic Accident Reconstruction I, 1999
- Traffic Accident Reconstruction II, 1999
- Heavy Vehicle Crash Reconstruction, 2007

Institute of Police Technology and Management

- Advanced Traffic Accident Investigation, 1999

Engineering Dynamics Corporation

- Advanced Accident Reconstruction and Simulation Using HVE, 2010

VS Visual Statement, Inc.

- Advanced Collision Diagramming and 3-D Animation, 2005
- Advanced Collision Reconstruction and Simulation Using Vista FX/2, 2006
- Advanced Complex Animation Using Vista FX/3, 2007
- Vista FX/3, "Train the Trainer" Course, 2008

Florida Engineering Society

- Advanced Maintenance of Traffic Training (Work Zone Traffic Control), 2004
- Florida Laws and Rules for Professional Engineers, 2007

Collision Safety Institute

- Crash Data Retrieval (CDR) System Data Analyst's Certification Course, 2006
- Crash Data Retrieval (CDR) System Technician Course, 2006

American Society of Civil Engineers

- Florida Rules and Laws for Professional Engineers, 2002
- Florida Rules and Laws for Professional Engineers, 2004

Other

- Travel Demand Forecasting Using TRANPLAN, 1995
- Highway Capacity Analysis Workshop, 1996
- Basic Motorcycle Rider Training Course, Motorcycle Riders Association, 2003
- Florida Building Code Administrative Core, Florida State University Center for Professional Development, 2004
- Second Annual International Accident Investigation and Reconstruction Conference, Republic of South Africa Road and Traffic Management Agency, 2008
- Life-Long Learning Conference, Brigham Young University Department of Civil and Environmental Engineering, 2008
- Advanced Work Zone Refresher Course, Florida Institute of Consulting Engineers, FDOT Provider No. 12, 2008
- International Road Traffic Safety Management Conference, Republic of South Africa Road Traffic Management Corporation, 2009
- Florida Updated Rules and Laws Online Course, Florida Engineering Society, 2009

Seminar and Course Presentations

"Forensic Engineering Analysis of Loading Dock Traffic Patterns" *General Topics in Forensic Engineering Seminar*, National Academy of Forensic Engineers, 2010

"When Are We Ever Going to Use This Stuff?" *Presentation to Teacher Mark Rulison's Advanced Math Classes*, Land O' Lakes High School, 2010

"Engineering Risk Management, Liability, and Mitigation" *Guest Lecturer in Graduate Course on Engineering Management*, Brigham Young University Department of Civil and Environmental Engineering, 2010

"Forensic Engineering Analysis of Who Was Driving" National Academy of Forensic Engineers (NAFE), 2010

"Careers in Forensic Engineering" Brigham Young University Department of Civil and Environmental Engineering, ASCE Student Chapter, 2009

"Identifying and Avoiding Common Errors in Vehicular Accident Reconstruction" *Proceedings of the International Road Traffic Safety Management Conference*, Republic of South Africa Road Traffic Management Corporation, 2009

"Determinations of 'Who Was Driving' in Vehicular Accident Reconstruction" *Proceedings of the International Road Traffic Safety Management Conference*, Republic of South Africa Road Traffic Management Corporation, 2009

"Commercial Vehicle Dynamics for Collision Reconstruction" *International Accident Investigation and Reconstruction Conference*, Road Traffic Management Corporation, 2008

"Forensic Engineering for Civil Engineers" *Life-Long Learning Conference*, Brigham Young University Department of Civil and Environmental Engineering, 2008

"Engineering Technologies in Vehicle Collision Reconstruction" *The Essentials of Personal Injury Litigation Seminar*, Hillsborough County Bar Association, 2008

"Advanced Technologies in Vehicle Collision Reconstruction" *Presentation to GEICO Insurance*, 2008

"When Are We Ever Going to Use This Stuff?" *Presentation to Teacher Mark Rulison's Advanced Math Classes*, Land O' Lakes High School, 2008

"Identifying Common Errors in Vehicular Accident Reconstruction" *Essentials of Personal Injury Seminar*, Hillsborough County Bar Association, 2007

"Forensic Engineering Data Collection for Stairway Incidents" National Academy of Forensic Engineers (NAFE), 2007

"Advanced Diagramming, Animation and Analysis Using Vista FX/3, Visual Statement" Course Instructor, 2007

"The Use of 'Black Box' Technology in Accident Reconstruction and in Medical-Legal Analysis" *Haas-Dutton Medical-Legal Seminar*, 2006

"Careers in Forensic Engineering" Brigham Young University Department of Electrical and Computer Engineering, IEEE Student Chapter, 2006

"Careers in Forensic Engineering" University of South Florida, Department of Mechanical Engineering, ASME Student Chapter, 2006

"Forensic Engineering Analysis of A Car versus Car versus Pedestrian Accident" National Academy of Forensic Engineers (NAFE), 2006

"Forensic Engineering Analysis of Falling Merchandise in Retail Warehouse" National Academy of Forensic Engineers (NAFE), 2006

"Careers in Forensic Engineering" Brigham Young University, Department of Civil Engineering, ASCE Student Chapter, 2005

"Engineering Ethics" Brigham Young University, Department of Civil Engineering, 2005

"Recognizing Common Errors in Accident Reconstruction and Proper Data Collection Techniques for Evidence Preservation" *Recognizing Medical and Legal Defenses: Techniques for Closing the Claim Seminar*, 2004

"Unique Engineering Problems and Innovative Solutions in Eminent Domain" *2004 Annual Conference*, Association of Eminent Domain Professionals (AEDP), 2004

"An Expert on the Hot Seat" *Mock Trial Presentation, Annual Meeting*, Institute of Transportation Engineers (ITE), 2004

"Forensic Survey Mapping and Engineering in Eminent Domain Cases" National Academy of Forensic Engineers (NAFE), 2004

"Crash Science—A Crash Course, Engineering Accident Reconstruction" *Understanding the Medical-Legal Battle Seminar*, 2003

"The Engineer as Part of the Eminent Domain Team, The Use of Courtroom Exhibits" *Eminent Domain Continuing Legal Education National Seminar*, 2000

"Masters in Trial Seminar, Accident Reconstruction" *Mock Trial Presentation*, Florida Board of Trial Advocates (FLABOTA) and American Board of Trial Advocates (ABOTA), 1999

"Variable Message Signs as Part of Smart Streets" *District 6 Annual Meeting*, Institute of Transportation Engineers (ITE), 1991

Technical Reports and Publications

“Commercial Vehicle Dynamics for Collision Reconstruction” co-authored with Daniel J. Melcher, Jason D. Jupe, and Michael F. Bosworth. *Collision, The International Compendium for Crash Research*, Volume 4, Issue 2, Fall 2009

“Identifying and Avoiding Common Errors in Vehicular Accident Reconstruction” *Proceedings of the International Road Traffic Safety Management Conference*, Republic of South Africa Road Traffic Management Corporation, 2009, Selected as Outstanding Paper in the Accident Investigation Sessions

“Determinations of ‘Who Was Driving’ in Vehicular Accident Reconstruction” *Proceedings of the International Road Traffic Safety Management Conference*, Republic of South Africa Road Traffic Management Corporation, 2009

“Commercial Vehicle Dynamics for Collision Reconstruction” co-authored with Daniel J. Melcher and Jason Jupe. *Proceedings of the Second Annual International Accident Investigation and Reconstruction Conference*, Republic of South Africa Road and Traffic Management Agency, 2008

“Forensic Engineering Data Collection for Stairway Incidents” co-authored with Wilbur T. Yaxley, *Journal of the National Academy of Forensic Engineers*, Volume XXIV, No. 2, National Academy of Forensic Engineers, December 2007

“Night-Time Pedestrian Safety Factors in South Africa” co-authored with Daniel J. Melcher. *Proceedings of the First Annual Crash Conference*, Republic of South Africa Road Traffic Management Agency, 2007

“Night-time Pedestrian Collision Reconstruction Factors” co-authored with Daniel J. Melcher. *Collision Magazine*, Volume 2, Issue 2, Fall 2007

“Forensic Engineering Analysis of a Car versus Car versus Pedestrian Accident” *Journal of the National Academy of Forensic Engineers*, Volume XXIII, No. 2, National Academy of Forensic Engineers, December 2006

“Forensic Engineering Analysis of Falling Merchandise in Retail Warehouse” co-authored with Wilbur T. Yaxley, *Journal of the National Academy of Forensic Engineers*, Volume XXIII, No. 1, National Academy of Forensic Engineers, July 2006

“Human Factors Design Considerations for Variable Message Freeway Signs” co-authored with J.E. Upchurch, *Journal of Transportation Engineering*, Volume 120, No. 2, American Society of Civil Engineers, March/April 1994

“Evaluation of Variable Message Signs: Target Value, Legibility and Viewing Comfort” co-authored with J.E. Upchurch, M.H. Baaj, and G.B. Thomas, *Transportation Research Record 1376*, Transportation Research Board, National Research Council, 1992

“A Human Factors Evaluation of Alternative Variable Message Sign Technologies” co-authored with J.E. Upchurch, M.H. Baaj, and G.B. Thomas, *Conference Record of Papers Presented at the Third Vehicle and Information Systems Conference*, 1992

“Variable Message Signs as Part of Smart Streets” co-authored with J.E. Upchurch, *Compendium of Technical Papers*, Institute of Transportation Engineers (ITE), District 6, 1991

“An Evaluation of Human Factors Aspects of Variable Message Signs on Freeways” *M.S. Thesis*, Arizona State University, 1991

Select Project Experience

Vehicular Accident Investigation and Reconstruction

Mr. Armstrong first received training in Vehicular Accident Reconstruction during his undergraduate and graduate university engineering courses. He began performing accident reconstruction professionally in 1991. He has attended numerous continuing education courses, and regularly reviews technical journals and papers to expand his knowledge of the subject. His accident investigations and reconstructions have included the following:

- Automobiles
- Tractor-Trailers / Commercial Vehicles
- Bicycles
- Pedestrians
- Motorcycles
- Headlamp Analysis
- Traffic Control Devices
- Work Zone Traffic Control
- Principal Direction of Force
- Crash Data Retrieval (Black Box)
- Crash Data Analysis (Black Box)
- Scene Mapping
- Quick Response Investigations
- Rollover and Overturning
- Vehicle Crush Analysis
- Speed Calculations
- Delta-V Calculations
- Sight Distance
- Time-Distance Calculations
- Crash Avoidance Analysis
- Computer Analysis
- Occupant Kinematics
- Expert Testimony

Forensic Engineering

Mr. Armstrong investigates accidents in areas related to transportation and engineering design. He uses his training in civil engineering and physics and a large codes and standards library to evaluate the accident environment. His forensic engineering experience includes the following:

- Code Compliance
- Lighting
- Workplace Accidents
- Premises Liability
- Falling Merchandise
- Trip and Fall Investigations
- Stairway Design and Construction
- Ramp Design
- Handicap Parking and Access
- Reconstruction of Unusual Accidents

Civil Engineering and Transportation Engineering

Mr. Armstrong has a background in Civil and Transportation Engineering on projects for property owners and private developers, including the following:

- Parking Lot Layout and Design
- Stormwater Design
- Traffic Counts
- Construction Supervision
- Mining Pit Design
- Traffic Signal Timing
- Roadway Capacity Studies
- Transportation Safety Analysis
- Intersection Sight Distance
- Highway Work-Zone Safety and Temporary Traffic Control
- Traffic Control Devices
- Traffic Impact Studies
- Signalization Studies
- Signalization Studies
- Traffic Signals and Pedestrian Signals
- Travel Time Studies
- Access Permitting and Design
- Pedestrian Facilities Analysis and Design
- Engineering Measurements and Mapping
- Roadway Design
- Roadside Hazards and Barriers