

Curriculum Vitae

Jeffrey D. Armstrong, P.E.



Professional Profile

Mr. Armstrong is president and founder of Armstrong Forensic Engineers. A third generation engineer, he has more than twenty-five years' experience in civil and forensic engineering. He is a Professional Engineer with a bachelor's degree from Brigham Young University and a master's degree from Arizona State University in civil engineering.

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

Mr. Armstrong is a registered Professional Engineer in eleven states, a Board Certified Diplomate in Forensic Engineering, and a Fellow of the National Academy of Forensic Engineers. He is an Accredited Traffic Accident Reconstructionist with the Accreditation Commission for Traffic Accident Reconstruction (ACTAR). He has testified as an expert witness in numerous venues on cases involving issues such as accident reconstruction, railroad accidents, eminent domain, site design, site access, and building code compliance.

He was elected by his engineering peers to serve as President of the National Academy of Forensic Engineers in 2015. He has lectured on Forensic Engineering topics throughout the United States, and in other locations such as South Africa, Argentina, and Guatemala.

Professional Engineering Licensure

Professional Engineer, State of Alabama, # 28452-E
Professional Engineer, State of Florida, # 48167
Professional Engineer, State of Georgia, # 031314
Professional Engineer, State of Illinois, # 062-059265
Professional Engineer, State of Indiana, #11300120
Professional Engineer, State of Massachusetts, #51884
Professional Engineer, State of Michigan, #6201058567
Professional Engineer, State of New York, #094859
Professional Engineer, State of Nevada, #22753
Professional Engineer, State of Texas, #109236
Professional Engineer, State of Utah, #180188-2202

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Lutz, Florida 33549
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Education

Arizona State University

Tempe, Arizona

Master of Science in Civil Engineering, 1991

Brigham Young University

Provo, Utah

Bachelor of Science in Civil Engineering, 1990

Work Experience

Armstrong Forensic Engineers, LLC

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
(Surveying and Mapping) Class: 1988-1989

Barrick Goldstrike Mines, Inc.

Engineering Technician, Designer, Survey Crew:
Summer 1988 and 1989

Language Skills

Spanish

Professional Certifications

Board Certified Diplomate in Forensic Engineering
National Academy of Forensic Engineers (NAFE), Fellow #644F, 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
Florida Department of Transportation

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

FARO Laser Scanner Certification

Professional Affiliations

National Academy of Forensic Engineers (NAFE), Fellow

- Board of Directors, January 2011 – Present
- President, January 2015 – January 2016

Institute of Transportation Engineers (ITE), Member

American Society of Civil Engineers (ASCE), Member

Florida Engineering Society (FES), Member

National Society of Professional Engineers (NSPE), Member

The Council of Engineering & Scientific Specialty Boards (CESB), Organizational Representative

- Board of Directors, 2016 – Present

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, 2005-2016 (Emeritus 2016 – Present)

Professional Development

National Academy of Forensic Engineers (NAFE)

- General Topics in Forensic Engineering, Forensic Engineering Business Development and Management, January 2003
- General Topics in Forensic Engineering, Computer Skills for Forensic Engineers and Surveyors, January 2004
- General Topics in Forensic Engineering, January 2005
- General Topics in Forensic Engineering, July 2005
- General Topics in Forensic Engineering, Forensic Engineering Use and Non-Use of Standards and Electronic Presentation Methods, January 2006
- General Topics in Forensic Engineering, July 2006
- General Topics in Forensic Engineering, Rights and Responsibilities of the Forensic Engineering Expert Witness, January 2007
- General Topics in Forensic Engineering, July 2007
- General Topics in Forensic Engineering, Forensic Engineering Use of Medical Information and Legal Standards for Acceptability of Engineering Evidence, January 2008
- General Topics in Forensic Engineering, July 2008
- General Topics in Forensic Engineering, Evidence Gathering, Storing, Analyzing, Documenting, and Reporting. Copyright and Patent Rights, January 2009
- General Topics in Forensic Engineering, Depositions, Neutral Evaluator, and Chinese Drywall, January 2010
- General Topics in Forensic Engineering, Advanced Vehicle Accident Reconstruction for Forensic Engineers, July 2010
- General Topics in Forensic Engineering, Reports, Harassment, Contact & Challenges, January 2011
- General Topics in Forensic Engineering, Advanced Vehicle Accident Reconstruction for Forensic Engineers, July 2011
- General Topics in Forensic Engineering, Reports, Affidavits, Depositions, Court Testimony & Ethics, January 2012
- General Topics in Forensic Engineering, Advanced Forensic Engineering Ethics and Analytical Techniques, July 2012
- General Topics in Forensic Engineering, Ethical Considerations for Forensic Engineers, January 2013
- General Topics in Forensic Engineering, Advanced Vehicle Accident Reconstruction for Forensic Engineers, July 2013
- General Topics in Forensic Engineering, Ethics, Use & Misuse of Standards for Forensic Engineers, January 2014
- General Topics in Forensic Engineering, The Forensic Engineer's Involvement in Fire Investigation – NFPA 921 and Beyond, July 2014
- General Topics in Forensic Engineering, Ethics, Rules & Laws, Unreasonably Dangerous Products, January 2015

- General Topics in Forensic Engineering, Advanced Forensic Engineering Ethics and Analytical Techniques, July 2015
- General Topics in Forensic Engineering, Advanced Forensic Engineering Ethics and Analytical Techniques, January 2016
- General Topics in Forensic Engineering, Vehicle Accident Reconstruction, Advanced Forensic Engineering Ethics and Analytical Techniques, June 2016
- General Topics in Forensic Engineering, January 2017

American Society of Civil Engineers

- Florida Rules and Laws for Professional Engineers, 2002
- Florida Rules and Laws for Professional Engineers, 2004
- Analysis and Assessment of Roundabouts, 2014
- Improving Safety at Railroad Crossings, 2014

American Traffic Safety Services Association (ATSSA)

- Florida Advanced Work Zone Traffic Control Refresher Course, 2012
- Florida Advanced Maintenance of Traffic Refresher Course, 2016

American Short Line Railroad Association (ASLRRA)

- Track Safety Standards Training Seminar, 2013

SAE International

- Applied Vehicle Dynamics, *BMW Performance Driving School*, 2011
- Applying Automotive EDR Data to Traffic Crash Reconstruction, 2013
- Accessing and Interpreting Heavy Vehicle Event Data Recorders, 2013

Collision Safety Institute

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

Engineering Dynamics Corporation

- Advanced Accident Reconstruction and Simulation Using HVE, 2010

FARO

- ARAS/FARO Reality for Crash Reconstruction, 2014
- FARO Laser Scanner Training, 2015
- How 3D Laser Scanning is Changing Forensic Investigations, 2016

Professional Development Continued

Florida Engineering Society

- Advanced Maintenance of Traffic Training (Work Zone Traffic Control), 2004
- Florida Laws and Rules for Professional Engineers, 2007
- Florida Updated Rules and Laws Online Course, 2009
- Florida Laws and Rules for Professional Engineers, 2011
- New Laws & Rules On-Line, 2013
- Florida Laws & Rules On-Line, 2015
- Florida Laws & Rules / Ethics for PE's, 2017

Institute of Police Technology and Management

- Advanced Traffic Accident Investigation, 1999
- Safety Belt Examinations in Traffic Collisions, 2017
- Vehicle Lamp Examinations in Traffic Collisions, 2017

Northwestern University Traffic Institute

- Traffic Accident Reconstruction I, 1999
- Traffic Accident Reconstruction II, 1999
- Heavy Vehicle Crash Reconstruction, 2007
- Advanced Crash Reconstruction Utilizing Human Factors, 2014

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

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

- 2^o Capacitación Centrada en la Investigación y Reconstrucción de Accidentes de Tráfico (Second Training in the Investigation and Reconstruction of Traffic Accidents), 2010
- Life-Long Learning Conference, Brigham Young University Department of Civil and Environmental Engineering, 2010
- ARC-CSI Crash Conference, 2016
- Florida Building Code, 5th Edition 2014: Highlights and Changes Advanced Course, PDH Academy, 2016
- Indiana Engineers' Laws & Rules, Red Vector, 2016

Seminar and Course Presentations

“The Role and Responsibility of the Forensic Engineer in the 21st Century” National Academy of Forensic Engineers (NAFE), New Orleans, Louisiana, 2017

“El Papel y la Responsabilidad del Ingeniero Forense en el Siglo XXI” *Seminario en Ingeniería Forense* (“The Role and Responsibility of the Forensic Engineer in the 21st Century” *Forensic Engineering Seminar*), Presentation delivered in Spanish, Guatemala City, Guatemala, 2016.

“3D Laser Scanning and Crash Data Retrieval” *Workhorse Seminar*, Florida Justice Association, Orlando, Florida, 2016.

“Beating Fraud with Accident Reconstruction and Crash Data Retrieval” Florida Insurance Fraud Education Committee (FIFEC), *Co-presenter Paul Montalbano*, Orlando, FL, 2014

“Demonstrative Exhibits in Accident Reconstruction” National Academy of Forensic Engineers (NAFE), Las Vegas, Nevada, 2011

“Accident Reconstruction Top Ten” Florida Insurance Fraud Education Committee (FIFEC), *Co-authored with Rachel E. Keller, P.E.*, Orlando, Florida, 2011

“Forensic Engineering Investigation of Kite Surfing Accident” National Academy of Forensic Engineers (NAFE), Tucson, Arizona, 2011

“Case Studies in Forensic Engineering” Life-Long Learning Conference, Brigham Young University Department of Civil and Environmental Engineering, Provo, Utah 2010.

“Técnicas para la Investigación y Reconstrucción de Accidentes de Tráfico con Vista FX/3.” *2^a Capacitación Centrada en la Investigación y Reconstrucción de Accidentes de Tráfico* (“Techniques for Traffic Accident Investigation and Reconstruction Using Vista FX/3.” *Second Training for Traffic Accident Investigation and Reconstruction*). Presentations delivered in Spanish, Resistencia, Chaco, Argentina, 2010.

“Forensic Engineering Analysis of Loading Dock Traffic Patterns” *General Topics in Forensic Engineering Seminar*, National Academy of Forensic Engineers (NAFE), Orlando, Florida, 2010

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

“Forensic Engineering Analysis of Who Was Driving” National Academy of Forensic Engineers (NAFE), New Orleans, Louisiana, 2010

“Careers in Forensic Engineering” Brigham Young University Department of Civil and Environmental Engineering, ASCE Student Chapter, Provo, Utah 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, Cape Town, South Africa, 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, Cape Town, South Africa, 2009

“Commercial Vehicle Dynamics for Collision Reconstruction” *International Accident Investigation and Reconstruction Conference*, Road Traffic Management Corporation, Cape Town, South Africa, 2008

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

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

“Advanced Technologies in Vehicle Collision Reconstruction” *Presentation to GEICO Insurance*, Ft. Lauderdale, Florida, 2008

“Identifying Common Errors in Vehicular Accident Reconstruction” *Essentials of Personal Injury Seminar*, Hillsborough County Bar Association, Tampa, Florida, 2007

“Forensic Engineering Data Collection for Stairway Incidents” National Academy of Forensic Engineers (NAFE), Denver, Colorado, 2007

“Advanced Diagramming, Animation and Analysis Using Vista FX/3, Visual Statement” Course Instructor, Tampa, Florida, 2007

“The Use of ‘Black Box’ Technology in Accident Reconstruction and in Medical-Legal Analysis” *Haas-Dutton Medical-Legal Seminar*, Tampa, Florida, 2006

“Careers in Forensic Engineering” Brigham Young University Department of Electrical and Computer Engineering, IEEE Student Chapter, Provo, Utah, 2006

“Careers in Forensic Engineering” University of South Florida, Department of Mechanical Engineering, ASME Student Chapter, Tampa, Florida, 2006

“Forensic Engineering Analysis of A Car versus Car versus Pedestrian Accident” National Academy of Forensic Engineers (NAFE), Boston, Massachusetts, 2006

“Forensic Engineering Analysis of Falling Merchandise in Retail Warehouse” National Academy of Forensic Engineers (NAFE), Washington, DC, 2006

Seminar and Course Presentations Continued

“Careers in Forensic Engineering” Brigham Young University, Department of Civil Engineering, ASCE Student Chapter, Provo, Utah, 2005

“Engineering Ethics” Brigham Young University, Department of Civil Engineering, Provo, Utah, 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, Tampa, Florida, 2004

“Unique Engineering Problems and Innovative Solutions in Eminent Domain” *2004 Annual Conference*, Association of Eminent Domain Professionals (AEDP), Ft. Lauderdale, Florida, 2004

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

“Forensic Survey Mapping and Engineering in Eminent Domain Cases” National Academy of Forensic Engineers (NAFE), Washington, DC, 2004

“Crash Science—A Crash Course, Engineering Accident Reconstruction” *Understanding the Medical-Legal Battle Seminar*, Tampa, Florida, 2003

“The Engineer as Part of the Eminent Domain Team, The Use of Courtroom Exhibits” *Eminent Domain Continuing Legal Education National Seminar*, Las Vegas, Nevada, 2000

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

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

Technical Reports and Publications

“Forensic Engineering Determination of Who Was Driving” *Journal of the National Academy of Forensic Engineers*, Volume XXVIII, No. 2, National Academy of Forensic Engineers, December 2011

“Forensic Engineering Analysis of Loading Dock Traffic Patterns” co-authored with Daniel J. Melcher, *Journal of the National Academy of Forensic Engineers*, Volume XXVIII, No. 1, National Academy of Forensic Engineers, June 2011

“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

“The Use of Variable Message Signs in Advanced Traffic Management Systems: An Example of Human Factors Considerations in IVHS” co-authored with Jonathan E. Upchurch, M.Hadi Baaj, and Gary B. Thomas, SAE International, Technical Paper No. 931925, 1993

“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 Engineering Experience

Vehicular Accident Investigation and Reconstruction

- Automobiles
- Tractor-Trailers / Commercial Vehicles
- Bus and Transit Accidents
- 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
- 3D Laser Scanning of Accident Locations and Vehicles
- Expert Testimony

Railroad Accident Investigation and Reconstruction

- Time Distance Calculations and Analysis
- Railroad-Pedestrian Accidents
- Grade Crossing Accidents
- Traffic Control at Grade Crossings
- Data Recorder Analysis
- Sight Distance Analysis
- 3D Laser Scanning of Accident Locations and Vehicles

Civil Engineering and Transportation Engineering

- Parking Lot Layout and Design
- Stormwater Design
- Traffic Counts
- Construction Supervision
- Bus Stop and Bus Shelter Location Analysis
- 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
- Roadway Drainage and Hydroplaning
- Roadside Hazards and Barriers

Forensic Engineering

- 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