

Curriculum Vitae

Steven W. Mitchell, Ph.D., P.E.



Dr. Mitchell has extensive experience in the areas of traffic engineering, electrical engineering, traffic accident reconstruction, and product failure analysis. He has designed signalized intersections; developed, implemented, and evaluated traffic signal timing plans and traffic signal system installations; and evaluated highway-rail grade crossings and systems. He has also designed and specified electrical power systems for intelligent transportation systems (ITS), and has authored testing and troubleshooting procedures for the Space Shuttle electrical power distribution system. As a research engineer, Dr. Mitchell has developed an emergency evacuation model of an urbanized coastal area, incorporating human behavior during emergency events. As an engineering consultant, Dr. Mitchell applies his engineering education and experience to the forensic evaluation of losses involving electrical failures of industrial and consumer products, traffic accident investigation and reconstruction, and traffic signal operation.

Licensure and Certification

- Licensed Professional Engineer in Florida, #49737
- ACTAR Accredited Traffic Accident Reconstructionist, #1934
- Certified Fire and Explosion Investigator, National Association of Fire Investigators #12679-6281
- Certified Forensic Mapping Specialist

Formal Education

- Doctor of Philosophy in Transportation Engineering, University of Central Florida, 2006
- Master of Engineering in Transportation Engineering, University of Florida, 1995
- Bachelor of Science in Electrical Engineering, University of Central Florida, 1988

Professional Development

- PC Crash 11.1, Orlando, Florida, 2019
- Forensic Engineering and Analytical Techniques, NAFE Winter Annual Meeting, 2019
- EDR Summit, Collision Publishing, Houston, TX, 2017
- World Reconstruction Exposition, Orlando, FL, 2016
- Applying Automotive EDR Data to Traffic Crash Reconstruction, SAE International, 2014
- Accessing and Interpreting Heavy Vehicle Event Data Recorders Seminar, SAE, Oxnard, CA, 2012
- Traffic Crash Reconstruction Conference, IATAI, Peoria, IL, 2012
- Human Factors for Traffic Crash Reconstruction, IATAI, Peoria, IL, 2012
- National Fire, Arson, & Explosion Investigation Training Program, NAFI, Sarasota, FL, 2012
- ARC-CSI Crash Conference, Las Vegas, NV, 2011
- Bicycle Safety Training, Florida Bicycle Association, Orlando, FL, 2011
- Human Factors for Accident Reconstruction, Lake Mary, FL, 2010
- CDR Summit, ARC Network, Houston, TX, 2010
- Essentials of PC-Crash Accident Reconstruction Simulation, MEA Forensic Engineers, 2008
- Basic/Advanced Diagramming and Animation, Visual Statement, Orlando, FL, 2007
- Forensic Mapping 2-day Course, MJC & Associates, Orlando, FL, 2007
- Vehicle Accident Reconstruction Methods, Society of Automotive Engineers (SAE), Troy, MI, 2007
- National Fire, Arson, & Explosion Investigation Training Program, NAFI, Sarasota, FL, 2007

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- Dynasmart-P Training Workshop, FHWA, Orlando, FL, 2007
- Institute of Transportation Engineers (ITE) Transpo 2006, Palm Harbor, FL, 2006
- Governor's Hurricane Task Force, West Palm Beach, FL, 2006
- Institute of Electrical and Electronic Engineers (IEEE) ITS Conference, Toronto, Canada, 2006; Boston, MA, 2000
- TRB, 2006, 2004, 1999, 1998, 1995
- Driving Simulator Conference, Orlando, FL, 2005
- APTA Conference, Orlando, FL, 2000
- NTCIP Standards Development Workshops, 2000, 1999, 1998
- ITS America, 1999, 1998, 1994
- Highway-Rail Crossing Safety Workshop, College Station, TX, 1999
- APTA/UITP International Conference, Toronto, Canada, 1999
- Smart Growth Workshop, Dallas, TX, 1999
- Railroad Communications Workshop, Washington, DC, 1999

Professional Affiliations

- Institute of Traffic Engineers (ITE) (1994 – present)
- Institute of Electrical and Electronic Engineers (IEEE) (1998 – present)
- Society of Automotive Engineers (SAE) (2007 – present)
- American Society of Civil Engineers (ASCE) (2007 – present)
- Illuminating Engineering Society (IES) (2009)
- Accident Reconstruction Network (ARC Network)

Professional Experience

- Project Manager, Forensic Engineering Technologies, Orlando, FL, 2009– present
- Civil Engineer/Traffic Accident Reconstructionist/Forensic Engineer, Kimley-Horn and Associates, Inc., Orlando, FL, 2003 – 2009
- Graduate Assistant, University of Central Florida, Orlando, FL, 2002 – 2007
- Project Manager, TEI Engineers & Planners, Lake Mary, FL, 2000 – 2002
- ITS Specialist, Mitretek Systems, Washington, DC, 1997 – 2000
- Associate Engineer, Barton-Aschman Associates, Dallas, TX, 1995 – 1997
- Graduate Assistant, University of Florida, Gainesville, FL, 1994 – 1995
- Traffic Engineer, Florida Department of Transportation, DeLand, FL, 1993 – 1994
- Systems Engineer, Lockheed Space Operations, Titusville, FL, 1988 – 1993

Awards

- Trustees Doctoral Fellowship, University of Central Florida, 2002-2004
- University Transportation Center Student of the Year, 2003
- CATSS Transportation Scholarship, University of Central Florida, 2002

Teaching and Curriculum Development

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- CGN 4300, Civil Engineering Systems Analysis (Developed and Taught): Probability distribution analysis, Monte Carlo simulation, and linear programming, University of Central Florida, Orlando, FL.

Publications

- "Effects of Driver Lane Choice on Toll Plaza Performance Using SHAKER," Zarillo, M., Radwan, E., and Mitchell, S., presented at the TRB Annual Meeting, Washington, DC, 2007.
- "Heuristic Prioritization of Emergency Evacuation Staging to Reduce Clearance Time," Mitchell, S. and Radwan, E., TRB Annual Meeting, Washington, DC, 2006.
- "Using a Generic Network Model to Represent a Case Network for Evacuation Simulation," Mitchell, S. and Radwan, E., presented at IEEE ITS Conference, Toronto, Canada, 2006.
- "TDM Solutions for Developing Countries," Road and Transport, (article), 1999.
- "Corridor Impacts of an Existing ATMIS System: Detroit Case Study," Shah, V. and Mitchell, S., presented at SAE Future Transportation Technology Conference, Costa Mesa, CA, August 1998.
- "Detroit Case Study Status," Shah, V. and Mitchell, S., presented at ITS American Annual Meeting, Detroit, MI, May 1998.