





### Vehicular Accident Reconstructionist ACTAR #1308

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#### **Professional Accreditation**

Fully Accredited Traffic Accident Reconstructionist #1308 (Sept. 2002 – Sept. 2027)

Accreditation Commission for Traffic Accident Reconstruction (ACTAR)

Member National Association of Professional Accident Reconstruction Specialists (NAPARS)

Member Illinois Association of Technical Accident Investigators (IATAI)

Member National Assoc of Traffic Accident Reconstructionists and Investigators (NATARI)

# Instructional Seminars Developed and Presented

Missouri State Highway Patrol – Division of Drug and Crime Control (DDCC) (8 hrs) "Use of Dot3D/iPad based lidar to document crime scenes in 3D" (2023)

Missouri State Highway Patrol Academy – Major Crash Investigation Team (12 hrs) "Validating analysis and interpretation of CDR pre-crash data through instrumented field testing" (2017)

Missouri State Highway Patrol Academy – Major Crash Investigation Team (8 hrs) "Creating 3D models using CAD for the Forensic Analysis of Collisions" (2016)

St. Louis County Police Academy – MoDOT Traffic Safety Training Grant (40 hrs)

"Principles of Forensic Mapping" (2006)

"Vehicle Behavior in Cornering" (2006)

"Drag Factor in Accident Reconstruction" (2006)

"Report Preparation" (2006)

"Illustrative Photography" (2006)

"Drag Tire Correlation to Accelerometer Based Skid Testing" (2006)

Law Enforcement Traffic Safety Advisory Council (LETSAC) Annual Meeting

"Accident Reconstruction Advancement" (July 2006)

St. Louis Metropolitan Police Department - Crime Lab/ETU

"Principles of Forensic Mapping using Total Station Technology" (2003)

"Use of CAD software in the preparation of Forensic Maps" (2003)

St. Louis Metropolitan Police Department – Accident Reconstruction Team

"Principles of Forensic Mapping using Total Station Technology" (2000,2008,2009,2013,2015)

"Use of CAD software in the preparation of Forensic Maps" (2001, 2008)

MAACA (Midwest Anti-Auto Crime Association) Annual Meeting

"Dealing with Uncertainty in Auto Collisions"

"Using Data from Airbag Control Modules for Collision Analysis" (2014)

Circuit Attorney, St. Louis City (Continuing Legal Education Presentation)

"Forensic Mapping Strategies"

"Dealing with Uncertainty in Auto Collisions"

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"Using Data from Airbag Control Modules for Collision Analysis" (2014)

#### Lorman Educational Services (Instructor)

"Basics of Traffic Accident Reconstruction" (2005)

## UMSL – (Guest Lecturer – Crime Scene Investigation)

"Forensic Mapping Applications to Criminal Investigations and Reconstruction" (2004,2005,2006,2007, 2008, 2009, 2010, 2011, 2012, 2013,2014,2016)

#### Rice University – (Guest Lecturer Physics 125)

"The Application of Physics to Vehicular Accident Reconstruction" (2002)

#### Valparaiso University Dept. of Physics and Astronomy

"The Application of Physics to Vehicular Accident Reconstruction" (2000, 2004, 2009)

## Safeco Indianapolis Region Claims

"Introduction to Technical Accident Investigation and Reconstruction" (2000)

#### Safeco Chicago Region Claims

"Introduction to Technical Accident Investigation and Reconstruction" (1999)

# **Professional Education**

# Northwestern University Center for Public Safety (1998)

Evanston, IL

- -Accident Investigation
- -Accident Reconstruction (80 Hours)
- -Advanced Accident Reconstruction (40 Hours)

## World Reconstruction Exposition 2000 (36 hours)

College Station, TX

- -Advanced Topics in Accident Reconstruction
- -Crash Testing

# IAARS Annual Conference (28 hours) (2003)

Olathe, KS

- -Advanced Topics in Accident Reconstruction
- -Crash Testing/Heavy Vehicle Brake Testing

#### IATAI Annual Conference (21 Hours) (2004)

Peoria, IL

-Rollover Crash Testing

## IATAI Annual Conference (21 Hours) (2005)

Springfield, IL

-Pedestrian Crash Testing

# IATAI Annual Conference (21 Hours) (2006)

Bloomington, IL

-SDM Crash Testing

## IATAI Annual Conference (19 Hours) (2007)

Bloomington, IL



#### -SDM Crash Testing

#### IATAI Annual Conference (16 Hours) (2008)

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Bloomington, IL

-Energy Methods/Human Factors

## IATAI Annual Conference (22 Hours) (2009)

Bloomington, IL

-Scene Processing/Night Photography/Yaw Validation

#### IATAI Annual Conference (18 Hours) (2010)

Bloomington, IL

-Vehicle Rollover Testing

# IATAI Annual Conference (36 Hours) (2011)

Bloomington, IL

-Advanced Vehicle Technology

-Size mismatch head-on collisions

# IATAI Annual Conference (21 Hours) (2012)

East Peoria, IL

-Motorcycle Collisions

-Energy balance methods for crush stiffness

# IATAI Annual Conference (21 Hours) (2013)

East Peoria, IL

-Vehicle/Truck underride collisions

-Forensic Tire Examination

# IATAI Annual Conference (21 Hours) (2014)

East Peoria, IL

-Collisions with secondary impacts

-Airbag Control Module updates

#### IATAI Annual Conference (21 Hours) (2015)

East Peoria, IL

-Oblique impacts

-Using ACM data to reconstruct collisions

# Leica Geosystems P40 Scanstation (32 Hours) (2016)

St. Louis, MO

-Use of the P40 Scanstation in the documentation of crime scenes

# IATAI Annual Conference (21 Hours) (2016)

East Peoria, IL

-ABS braking

-Tire failure analysis

## IATAI Annual Conference (21 Hours) (2017)

Springfield, IL

-Occupant Kinematics

-Aerial photogrammetry

# IATAI Annual Conference (21 Hours) (2018)

Springfield, IL

-Trailer Stability

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# Curriculum Vitae

#### -Autonomous vehicles

# IATAI Annual Conference (21 Hours) (2019)

Springfield, IL

- -Motorcycle Crash Testing
- -Autonomous vehicles

## NAPARS Annual Conference (14 Hours) (2020)

#### Virtual

- -Motorcycle Turning
- -Rollover Crashes
- -Human Factors
- -CDR Chip retrieval and analysis
- -Tires
- -Freightliner ECM Data
- -Using GoPRO for GPS analysis

# IATAI Annual Conference (24 Hours) (2021)

Springfield, IL

-Electronic Data Recovery and Analysis

## IATAI Annual Conference (24 Hours) (2022)

Collinsville, IL

- -Electronic Data Recovery Update
- -Identifying vehicles from surveillance
- -Forensic Tire Examination
- -Terrestrial Photogrammetry
- -Drone based mapping

## NAPARS Continuing Education (10 Hours) (2022)

#### Virtual

- -Resources and Research (Oct)
- -Conservation of Linear Momentum (Oct)
- -Bendix Pro (Nov)
- -Spin Analysis (Nov)
- -Vehicle Dynamics (Nov)

## NAPARS Continuing Education (22 Hours) (2023)

# Virtual

- -EDR Update (Feb)
- -Aerial Photogrammetry (Mar)
- -Human Factors in Crash Reconstruction (Apr)
- -Ignition Cycology (May)
- -Digital Video Analysis for Crash Reconstruction (Jun)
- -Heavy vehicle EDR Update (Jul)
- -ADAS (Automated Driver Assistance Systems) (Aug)
- -ADAS (Commercial Vehicle) (Sep)
- -Traffic Signals (Oct)
- -Statistics and Probability for Crash Recons (Nov)
- -Monte Carlo Analysis (Dec)

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Nikon AIMS (Accident Investigation Measurement System) (1999) St. Louis, MO -Forensic Mapping (12 hours)

# **Professional Experience**

- On-Call Contract Consultant, St. Louis Metropolitan Police Dept Accident Reconstruction Team
  providing technical assistance in forensic mapping and analytic techniques for collected evidence
  on criminal cases.
- Provides analysis and creates 3D models in support of the Force Investigation Unit for police involved shootings.
- Provides training for the SLMPD Accident Reconstruction Team in Reconstruction Analysis and Forensic Mapping
- Reviewed criminal case materials at the request of the St. Louis City Circuit Attorney's Office.
- Conducted supplemental investigation and analysis at the request of the St. Louis City Circuit Attorney's Office resulting in a successful criminal prosecution.
- Endorsed as an expert witness and provided testimony for the defense in a civil suit against the St. Louis Metropolitan Police Dept.

#### Safeco Insurance

- Conducted technical investigations and reconstructed accidents in support of adjuster liability investigations.
- Successfully presented collected evidence to Arbitration panels.
- Supported legal counsel in trial preparation resulting in St. Louis City defense verdict.
- Reviewed expert reports for legal counsel to identify potential weaknesses.
- Worked in conjunction with independent experts in support of their field investigations.
- Created forensic maps and computer simulations of accidents.
- Vehicle damage photography and analysis
- Accident scene photography
- Witness Statements

# **Education**

Washington University (1986-1990) St. Louis, MO

B.A., Liberal Arts, Economics

# **Professional Experience**

St. Louis Metropolitan Police Department

- Public Safety Specialist Traffic Safety (2017-present)
  - Provide technical assistance in the investigation and reconstruction of fatal collisions
  - Develop 3D scanning protocols and workflows for the documentation of crash and crime scenes using the Leica P40

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# Liberty Mutual Agency Markets (Safeco Insurance)

- Arbitration Specialist Recovery Management (2003-2011)
  - Case preparation and presentation to the inter-company arbitration panel
- Business Analyst Commercial Claims/Salvage (2002-2003)
  - Database design
  - Production support
  - Staffing Analysis
- Operations Technical Support (1998-2002)
  - Database design and production support
  - Hardware/Software/Networking troubleshooting
- Casualty Adjuster (1997 -1998)
  - Investigated losses and negotiated settlements for auto collision personal injury claims.

## Boatmen's Bank

- Electronic Data Interchange Analyst (1994 1996)
  - Worked as liaison to define customer file requirements for programming resources

#### **United Van Lines**

- Household Goods Cargo Claims Adjuster (1991 1994)
  - Investigated and negotiated settlement for Household Goods damage claims.