

aperture

S. LANCE PHY, ACTAR

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Managing Expert
Accident Reconstruction / Motorcycle Operation

EDUCATION

Northwestern University: Evanston, Illinois
- Advanced Police Motorcycle Operator, 1999
- Traffic Accident Reconstruction, 2004
- Advanced Crash Reconstruction Utilizing Human Factors Research, 2012
- Heavy Vehicle Event Data Recorders, 2017
- Motorcycle Traffic Crash Reconstruction, 2022

Society of Automotive Engineers
- Analyzing and Interpreting Heavy Vehicle Event Data Recorders, 2021

IPTM, University of North Florida: Jacksonville, Florida
- Commercial Motor Vehicle Collision Reconstruction, 2005
- Motorcycle Accident Reconstruction, 2010

Texas A&M Engineering Extension (TEEX)
- Standardized Field Sobriety Testing (SFST) and DWI Detection, 1995
- Intermediate Accident Investigation, 2000
- Advanced Accident Investigation, 2000
- Vehicle Accident Scene Photography, 2002
- Auto-Pedestrian/Bicyclist Collision Reconstruction, 2002
- Work, Energy and Speed from Damage, 2003

Texas Department of Public Safety, Austin, Texas
- Advanced Collision Investigation, 2001
- Collision Reconstruction, 2001
- Motorcycle Safety Foundation Rider Coach, 2015

Collision Safety Institute, Inc.
- Crash Data Retrieval System Operator's Certification Course, 2008

Engineering Dynamics Company, LLC
- HVE 2020 Forum, 2020

Other Training
- Child Passenger Safety, National Highway Traffic Safety Administration, Houston, Texas, 2002
- Acceleration and Vericom Familiarization Course, McKinney, TX, 2002
- Manual on Uniform Traffic Control Devices (MUTCD) Supervisor's Course, UTTI, 2006
- Crash Reconstruction at Traffic Signal Intersections, Forensic Traffic Specialists, Houston, Texas, 2010
- Berla iVe – Vehicle Infotainment Systems Data Acquisition and Analysis, Annapolis, MD, 2018
- Microsoft Excel for Traffic Accident Reconstruction, Rich Consulting, 2024

Brazosport College: Lake Jackson, Texas
- Law Enforcement Academy 1992 – 1993

Conferences / Seminars
- CDR 2008 Summit, Houston, Texas, 2008
- CDR 2010 Summit, Houston, Texas, 2010
- ARC/CSI Crash Conference 2012, Las Vegas, NV, 2012
- ARC/CSI Crash Conference Crash Test Team, Las Vegas, NV, 2013
- World Reconstruction Exposition (WREX 2016), Orlando, FL, 2016
- EDR 2019 Summit, Houston, Texas, 2019

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Conferences / Seminars cont.

SATAI Conference, Glendale, AZ, January 2024
EDR 2024 Summit, Houston, Texas, 2024
SATAI Conference, Glendale, AZ, March 2026

PROFESSIONAL CERTIFICATIONS

ACTAR #1522, Accreditation Commission for Traffic Accident Reconstruction (2004)
Berla iVe Vehicle Infotainment System Data Acquisition Examiner and Analyst
FAA Part 107 Small Unmanned Aircraft System Remote Pilot
Motorcycle Safety Foundation (USA) Certified Instructor Texas
Private Investigator, License No. A11774
Crash Data Retrieval Specialist, Bosch Corporation

PROFESSIONAL MEMBERSHIPS

Accreditation Commission for Traffic Accident Reconstruction (ACTAR) Texas
Association of Accident Reconstruction Specialists (TAARS)
Southwestern Association of Technical Accident Investigators (SATAI)
National Association of Professional Accident Reconstruction Specialists (NAPARS)

QUALIFICATIONS

Motorcycle Operation and Handling
Extensive training and 25 years' experience in motorcycle operation, motorcycle dynamics, performance capabilities, operator training, handling, challenges, and responsibilities. More than five years of everyday riding experience as a police motorcycle officer. Investigated and reconstructed over 200 motorcycle crashes in 22 states. Provide expert testimony in state and federal courts.

Accident Reconstruction
More than 30 years investigating and 26 years reconstructing single and multi-vehicle crashes involving motorcycles, passenger vehicles, and commercial motor vehicles. More than 1000 hours of technical training in vehicle dynamics analysis, speed determination, vehicle-pedestrian dynamics analysis, computer aided reconstruction and simulation, three-dimensional photogrammetry, and three-dimensional visualization. Investigated and analyzed more than 4,000 vehicle crashes.

RESEARCH AND TESTING

May 2026 Performed and participated in a series of low-speed crash tests involving a truck tractor–semi-trailer combination and both a Ford F-150 pickup truck and a GMC Acadia SUV. A total of seven crash tests were performed using various impact configurations, including sideswipe collisions between the right side of the tractor–trailer and the left side of the Ford F-150 and GMC Acadia, as well as rear-end collisions involving the front of the tractor and the rear of the Ford F-150. The tractor–trailer was operated by a human volunteer, while the Ford F-150 and GMC Acadia were occupied by a combination of instrumented human volunteers and anthropomorphic test devices (ATDs). Instrumentation was used to measure and record regional body forces and/or accelerations of human volunteers and ATDs throughout the testing program. The tests were recorded using a combination of stationary, aerial, and onboard camera equipment.

February 2026 Designed, performed and participated in a series of 42 instrumented maximum braking performance tests on a Harley Davidson Dyna Low Rider motorcycle with a 140-lb Rescue Randy rear occupant. Performed and participated in three official SATAI conference crash tests: a remote-driven Mitsubishi Mirage moderate speed rear-end impact into a stationary Tesla Model 3 equipped with a driver Rescue Randy dummy, an instrumented Hybrid III male ATD in the right front seat, and a rear-seated instrumented BioRID II ATD; a 3-vehicle chain-reaction rear-end collision with a human-driven Jaguar XE striking a stationary motorcycle equipped with a Rescue Randy rider, and the motorcycle getting pushed into a stationary Toyota Camry; a high speed frontal collision between a remote-driven Toyota Camry and remote-driven Hyundai Sonata. All tests were performed in Glendale, AZ. Results presented at SATAI Conference, February 26-28, 2026, Glendale, AZ

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January 2024 Designed, performed and participated in a series of ten instrumented deceleration tests on a BMW R1250RT motorcycle. Performed and participated in official SATAI tests: four high-speed motorcycle-to-sedan impacts utilizing instrumented vehicles, and ATDs, which included a broadside impact between a Suzuki GSX-R750 and a moving Honda Civic target, a broadside impact between a Yamaha YZF-R1 and a moving Honda Civic target, a broadside impact between a Kawasaki Versys 650 and a moving Honda Civic target, and an angled frontal impact between a Kawasaki Versys 650 and a stationary Honda Civic target. Vehicle dynamics, vehicle damage, EDR data, and dummy occupants motions/loading were documented and analyzed. Performed and participated in a series of eight low speed rear-end impacts between an instrumented bullet Toyota Corolla and target Kia Rio, with a male human volunteer and Hybrid III 50th percentile male ATD in the bullet Corolla and instrumented humans and BioRID II ATD in the target Rio. Results presented at SATAI Conference, January 3-6, 2024, Glendale, AZ

PUBLICATIONS

Burgess, S., Phy, L., and Levan, M., "An Introduction and Evaluation of Apple iOS Device Data for Use in Crash Reconstruction," SAE Technical Paper 2025-01-8706, 2025, doi:10.4271/2025-01-8706.

WORK EXPERIENCE

Current	Aperture, LLC Managing Expert – Accident Reconstruction / Motorcycle Operation
2005 – 2016	Rimkus Consulting Group, Inc. District Manager / Senior Consultant
1999 – 2005	Sugar Land Police Department Motorcycle Police Officer / Accident Reconstructionist
1993 – 1999	Brazoria County Sheriff's Department Patrol Deputy

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