

PATRICK J. DOHERTY
Accredited Reconstructionist
The Crash Lab, Inc

Post Office Box 850
Hampton, N.H. 03843-0850
(603) 926-0624 - FAX: (603) 929-0744
e-mail: pat@thecrashlab.com
www.TheCrashLab.com

EDUCATION:

Clearly Visible Presentations, LLC:

Forensic Photography 1.

November, 2009, Indianapolis, IN

Lens Optics; Camera Principals; Shutter Speed; Aperture; Sensor Speed (ASA/ISO); Lens Focal Lengths; Digital Image File Structure; Depth of Field; Image Motion Compensation; Shadows; Night Work; Digital Camera Terminology; Menu Structure; Download/Edit Photographs; How Light Interacts with the Scene; How to Select Viewpoint; When and When Not to Use Flash; and Long Time Exposures,

New York Statewide Traffic Accident Reconstruction Society, Inc. (NYSTARS)

Expert Witness - Professor John Kwasnoski

February 2009, Yorktown Heights, NY

Attended a one day seminar. Topics included being an effective expert witness; factual presentation; present a complete picture of what occurred; eyewitness perspective; anticipating defenses; unexpected defenses; human factor issues; Event Data Recorder (EDR) issues.

New York Statewide Traffic Accident Reconstruction Society, Inc., (NYSTARS)

Mortal Sins of Reconstruction

June, 2008, Latham, New York

Attended a one-day seminar. Topics included the Purpose of Collision Reconstruction; the Use of Assumptions; Being a Credible Witness; the Application of Drag Coefficients obtained via Accelerometer Outputs to ABS related Sideslip

Collision Forensic Solutions, LLC

Forensic Scene Investigators; MapScenes Evidence Recorder 4.0

December, 2007, Hampton, New Hampshire

Successfully completed a 40-hour course of instruction. Topics included Forensic Mapping Introduction; CAD Concepts; Legal Issues; Setting Up a Total Station; Introduction to the Evidence Recorder; Measuring Basic Scenes with the Evidence Recorder; Downloading a scene to MapScenes; Downloading data to a New Scene; Automated Line Work Features of the Evidence Recorder; Measuring Scenes with Automated Line Work with the Evidence Recorder; Advance Features of Evidence Recorder; Measuring Scenes with Advanced Features of the Evidence Recorder; Collecting Baseline Offset and Draw a Room Data with the Evidence Recorder; Manual Collection of Baseline Offset and Draw a Room Data; Downloading the Scene with Baseline Offset Measurements, Vertical Scene Mapping with the Evidence Recorder; Measuring a Scene using Vertical Scene Mapping Features; Moving the Total Station; Measuring a Scene Requiring a Station Change with the Evidence Recorder; Re-Occupying Using the Re-Section Feature; Measuring a Scene Requiring a Station Change Using the Re-Section; Measuring a Scene Requiring Station Changes, Lines, Descriptions, Remote Elevations, VSM, Resection; and the Measuring of Vehicle Crush;

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EDUCATION:

New York Statewide Traffic Accident Reconstruction Society, Inc., (NYSTARS)

Annual Joint Conference-Investigating Eccentric Collisions

October, 2007, Binghamton, New York

Attended a three-day conference. Topics included four (04) Dynamic Crash Tests; Occupant Kinematics in Rotational Collisions; Investigating Collisions at Signalized Intersections; Injury Patterns and Mechanics of Injury; Crash Data Retrieval Update; Crash Test Data Review and Analysis.

Institute of Police Technology and Management (IPTM)

Traffic Crash Reconstruction Update

September, 2007, Albany, New York

Successfully completed a 40-hour course of instruction. Topics included Vectors, Dynamics and Newton's Laws of Motion; Skid Analysis and Skid Testing; Correcting Drag Factors and Spin Analysis; Pole and Narrow Object Impacts, Time-Distance Analysis and Projects; Concepts in Momentum and Conservation of Linear Momentum, In-line Collision Analysis Using Conservation of Linear Momentum, Two-Dimensional Collision Analysis Using Conservation of Linear Momentum, Using Simultaneous Equations to Solve In-Line Collisions, Critical Speed Yaw Analysis; Uniform Projectile Motion and Airborne Speed Analysis; and Fundamentals of Rollover Crash Investigation.

Mechanical Forensics Engineering Services, LLC,

The Maine State Police & The Maine Bureau of Highway Safety:

Advanced Motorcycle Crash Reconstruction:

June, 2007, Augusta, Maine

Satisfactorily completed a forty-hour course of instruction. Topics included Motorcycle Nomenclature; Motorcycle Types; VIN Decoding; Hurt Report; Hurt Findings; Motorcycle Technology 1980s and Today; Friction and Statistics; Skidding Friction; Motorcycles Sliding on Their Side; Motorcycle Slide to Stop Tests, IPTM Data; Summary of Motorcycle Friction Tests; Steering and Braking; Motorcycle Speed Estimates; Dynamic Instabilities; High side Dynamics; Investigations-Interviews and Inspections; Motorcycle and Recreational Vehicle Safety; Motorcycle Post-Accident Inspection Techniques; Energy Considerations; Crush Energy; Airborne/Vaults; Rider Trajectories; Throw Distance; Vault Distance and Speed; Conservation of Linear Momentum and Vector Diagrams; and Drag Sleds and Vehicle Skidding.

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EDUCATION:

The ARC Network & Collision Safety Institute:

2007ARC-CSI Crash Conference

June, 2007, Las Vegas, Nevada

Attended a four-day conference. Topics included four (04) Dynamic Crash Tests; Hit and Run Evidence; Smart Drive System Crash Data; Investigating Snowmobile Crashes; Seat Belts; Mechanism of Air Bag Injuries; Traffic Reconstruction at Traffic Signal Intersections; European Reconstruction Techniques; Human Factors beyond PRT; Investigating Nighttime Pedestrian Collisions; Reprogrammed PCMs and Crash Analysis; Angular Velocity Analysis of SUV Collisions using PC Crash; The Effects of Sample Rates and Averaging Methods on Accelerometer Based Skid Tests in Accident Reconstruction; Review of Low Speed Crash Tests and the Effect of Restitution; Crash Test Data Review and Analysis.

New York Statewide Traffic Accident Reconstruction Society, Inc., NYSTARS)

Investigating Bicycle Collisions

April, 2007, Yorktown, New York

Attended a one-day seminar. Topics included Bicycle Nomenclature; Scene Documentation; Examination of Bicycle; Rules of Operation; and Velocities. Participated in bicycle acceleration and deceleration testing.

SRR Traffic Safety Consulting

Recon Refresher: Conservation of Linear Momentum

January, 2007, Natick, Massachusetts

Attended a two-day course of instruction. Topics included review of the basic concepts of linear momentum; determining approach and departure angles; determining post-impact speeds and sensitivity analysis.

SRR Traffic Safety Consulting, Easthampton, Massachusetts

ACTAR (Accreditation Commission for Traffic Accident Reconstruction)

Exam Preparatory Course

December, 2006, Natick, Massachusetts

Attended a four-day course in preparation for the Accreditation Commission for Traffic Accident Reconstruction (ACTAR) examination. Topics included review of content learned from Basic Crash Investigation through Crash Reconstruction in addition to specialized topic review.

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EDUCATION:

Texas Association of Accident Reconstruction Specialists

F3T2 Conference (Factors, Formulae, Forensics, Technology, Training)

September, 2006, Houston, Texas

Attended a three and one-half day conference. Topics included Perception-Reaction Research; Simulations in Crash Reconstruction; Applicability of Crash Analysis, Engineering Analysis of Vehicular Accidents; Human Error-but which human and whose error; Commercial Vehicle Event Data Recorder; Night Time Visibility; Highway Sight Distances; Jimmy Dean 1955 Highway Crash Reconstruction; Experimental Program to Study Frictional Drag Coefficients; Applications and Limitations of Critical Speed Formula; Dynamic Tractor Trailer Deceleration Testing Using Various Parameters: Crash Testing and Perception-Reaction Research followed by Presentation of Results.

University of North Florida, Institute of Police Technology and Management

Applied Physics for the Traffic Crash Investigator

May, 2006, Jacksonville, Florida

Satisfactorily completed a forty-hour course of instruction. Topics included Vectors, Newton's Laws of Motion and Concepts of Weight and Friction; Work, Energy, and Power; Rectilinear Motion; Torque; Rotational Mechanics; Conservation of Linear Momentum; Conservation of Linear Momentum Vector Analysis; Crash Dynamics and Occupant Kinematics; Uniform Circular Motion; Uniform Projectile Motion; and Tire Forces.

New York State Accident Reconstruction Society (NYSTARS)

Spring Conference

March, 2006, Ossining, New York

Attended a one-day conference. Topics included Friction on Contaminated Roads; Critical Speed Yaw Analysis and Calculations; Tire Marks and Electronic Stability Program (ESP); Different Analyses of the Same Collision.

Vetronix Crash Data Retrieval (CDR) System

Crash Data Retrieval Technician Course

March, 2006, Somersworth, New Hampshire

Satisfactorily completed a one-day course of instruction. Topics included Obtaining Crash Data; Secure the Appropriate Evidence of a Download; and Effectively Support a CDR Collision Analyst.

SRR Traffic Safety Consulting

Recon Refresher: Time/Distance and Avoidance

November, 2005, Natick, Massachusetts

Attended a two-day course of instruction. Topics included review and application of Time/Distance Equations and Avoidance Equations necessary for the reconstruction of a collision.

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Fraudulent Accident Investigation

November, 2005, Latham, New York

Attended an eight-hour course of instruction. Topics included Anatomy of a Caused Accident Ring; Fraudulent Claim Schemes; Fraud Indicators; Physical Damage Fraud; Current Trends in Medical Fraud and Abuse; and How to Kill Off an Organized Crime Controlled Insurance Fraud Enterprise.

National Association of Traffic Accident Reconstructionists and Investigators (NATARI)

2005 Combined Annual Conference for Traffic Accident Investigation

October, 2005, Wilmington, Delaware

Attended a three-day conference. Topics included Manual on Uniform Traffic Control Devices; Asphalt Pavement Design; Determining Proper Use of Child Restraints; Curve Collisions; Nighttime Photography; Recommended Procedures for Safety Performance Evaluation of Highway Features; Pavement Drainage Issues; Highway-Railroad Crossings; Highway Sight Distance; Friction; Highway Perception of the Intoxicated Driver; Design Immunity.

Institute of Police Technology and Management (IPTM)

Traffic Crash Reconstruction Update

August, 2005, Jacksonville, Florida

Successfully completed a 40-hour course of instruction. Topics included Newton's Laws of Motion; Skid Analysis and Skid Testing; Correcting Drag Factors and Spin Analysis; Time-Distance Analysis; Energy Methods and Simple Rotational Mechanics; Pole and Narrow Object Impacts; Review of Conservation of Linear Momentum; Collision Analysis using Conservation of Linear Momentum and Energy Methods; Critical Speed Yaw Analysis; Uniform Projectile Motion and Airborne Speed Analysis; and Fundamentals of Rollover Crash Investigation.

South Carolina Association of Reconstruction Specialists (SCARS)

2005 Southeastern Collision Reconstruction Conference

July, 2005, Charleston, South Carolina

Attended a five-day conference. Topics included Crash Testing (examination of Event Data Recorder (EDR) crash data with specific characteristics; Investigating Pedestrian Collisions; Strategies for Evaluating Human Factors in Night-time Collisions (including research study participation and data review); Critical Vehicle Systems and Future Trends in Automotive Systems; Inspecting Altered Suspension Systems; Energy Methods for Pole and Narrow Object Impacts.

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EDUCATION:

Jackson Hole Scientific Investigations and Traffic Safety Group

Damage Analysis and Energy Methods in Traffic Crash Reconstruction

June, 2005, Biddeford, Maine

Successfully completed a 40-hour course of instruction. Topics included Energy Concepts and Analysis; Determining Appropriate Post-Impact Drag Factors; Understanding Equivalent Barrier Speeds and Delta V; Conservation of Linear Momentum and Delta V Vectors; Introduction to Crush and Hooke's Law; Collision Analysis using Damage Momentum; Understanding and Determining Stiffness Coefficients; Damage (Crush) Collision Analysis; Using Simultaneous Equations to Solve In-line Collisions; Crush Measuring Protocol and Measuring Techniques; Pole Impacts and Fracture Energy.

New York Statewide Traffic Accident Reconstruction Society (NYSTARS)

Driver Response in Various Environments

March, 2005, Yorktown Heights, New York

Attended a two-day seminar. Topics included Perception/Reaction Basics; Driver Decision Making; Driver Response Time Research; Estimating Driver Response at Night; Documenting Lighting; and Response to Traffic Signals.

Maryland Association of Traffic Accident Investigators

2004 Combined Conference on Motor Vehicle Collision Reconstruction

October, 2004, Ocean City, Maryland

Attended a three-day conference. Topics included Criminal Litigation in Accident Reconstruction, Field Crash Testing, DNA in Accident Reconstruction, Excel and Spreadsheets for Accident Reconstruction, Electronic Crash Data Recorders, Internet Resources for Accident Reconstruction, NHTSA Early Warning Reporting Regulations.

University of North Florida, Institute of Police Technology and Management

Pedestrian/Bicycle Crash Investigation

June, 2001, Concord, New Hampshire

Successfully completed 40-hour course of instruction. Topics included Pedestrian Injury Analysis, Investigation and Reconstruction of the Pedestrian Crash Scene, Pedestrian Velocity Studies, Hit and Run Investigations, Human Factors and Night Visibility, Bicycle Crash Investigation and Reconstruction, Vehicle Damage Analysis, Practical Application of material/formulas through field-testing and projects.

New Hampshire Attorney General's Office

Jay McDuffie DWI Motor Vehicle Homicide Seminar

November, 1996, Manchester, New Hampshire

Attended a three-day seminar. Topics included Team Approach to Crash Investigation and Reconstruction, Evidence Collection, Vehicle Inspection, Toxicology, Witness Preparation, Victim's Issues, Occupant Kinematics, Forensic Pathology, and Media Relations.

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EDUCATION:

New Hampshire Attorney General's Office

Jay McDuffie DWI Motor Vehicle Homicide Seminar

November, 1995, Manchester, New Hampshire

Attended a three-day seminar. Topics included Team Approach to Crash Investigation and Reconstruction, Legal Issues, Evidence Collection, Physical Evidence Examination, Vehicle Inspections, Testifying as an Expert, Implied Consent, Toxicology, and Autopsy and the Culpable, Motor Vehicle Crash.

University of North Florida, Institute of Police Technology and Management

Investigation of Motorcycle Accidents

May, 1995, Concord, New Hampshire

Successfully completed 40-hour course of instruction. Topics included Motorcycle Identification and Orientation, Braking and Turning Accidents, Modes of Stability, Roadway Evidence, Vehicle Evidence, Acceleration, Braking, and Sliding Motorcycle tests, Applied Formulas, Motorcycle Tires, Time/Distance, Single Vehicle Accidents, Motorcycle vs. Vehicle Crashes, and Helmets.

New Hampshire Police Standards & Training Council

Homicide Investigation

November, 1992, Concord, New Hampshire

Successfully completed seven-day course of instruction regarding death investigation. Topics included Medical Examiner Classification; Cause and Manner of Death; Investigation Management; Forensics, Evidence, and Crime Scenes; and Crime Scene Profiling.

New Hampshire Attorney General's Office

Motor Vehicle Fatality Seminar

September, 1992, Manchester, New Hampshire

Attended three-day seminar. Topics included Team Approach to Vehicular Homicides; On-Scene Investigation, Technical Accident Reconstruction, Legal Issues and Investigation Coordination; Autopsy, Toxicology, and Crime Lab role.

New Hampshire Police Standards & Training Council

Basic Physics, Richard Brockway, P.E.

February, 1987, Amherst, New Hampshire

Attended a seven-week (fourteen hour) course covering the basic principles of physical science as they apply to the momentum of moving vehicles relative to the investigation of traffic accidents.

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EDUCATION:

University of North Florida, Institute of Police Technology and Management

Traffic Accident Reconstruction

June, 1985, Concord, New Hampshire (NHPSTC)

Successfully completed 96-hour course of instruction. Topics included Derivation of: Minimum, Fall, Vault, Radius, Tangent Offset, Kinetic Energy, Combined Speed and Critical Speed Equations; Motorcycle Speed Estimates; Conservation of Linear Momentum Speed Estimates; Weight Shift in Cars, Trucks, and Buses; Behavior in Collisions using Newton's Laws of Motion; Evaluation and Interpretation of all Evidence located at an Accident Scene; and Evaluation and Interpretation of Information from the Initial Investigations, Reports, and Diagrams.

New Hampshire Police Standards & Training Council

Radar Instructor Course

November, 1983, Concord, New Hampshire

Successfully completed 24-hour course of instruction. Topics included Instructional Techniques in Radar Speed Measurement, Lesson Plan Familiarization, and Hands-on Training

New Hampshire Police Standards & Training Council

On-Scene Accident Investigation

February, 1983, Nashua, New Hampshire

Successfully completed 40-hour course of instruction. Topics included Traffic Accident Process; Cause and Factors; Use of the Traffic Template; Lamp Examination; Measurements and Diagrams; Scale Diagrams; Time-Distance and Speed calculations; Road and Vehicle Evidence.

New Hampshire Police Standards & Training Council

Radar Speed Measurement Operator

March, 1981, Concord, New Hampshire

Successfully completed 16-hour course of instruction. Topics included Speed Offenses and Speed Enforcement, Basic Principles of RADAR Speed Measurement, Legal and Operational Considerations, and Operation of Specific Radar Devices.

Division of Public Health Services, State of New Hampshire

Breath Examiner Specialist

September, 1980, Concord, New Hampshire

Successfully completed 40-hour course of instruction. Determined to be competent and qualified to perform breath tests for the determination of the quantitative concentration of alcohol in an individual's blood. First certified to operate Breathalyzer 900A. Subsequently certified to operate Intoximeter 3000 and Intoxilyzer 5000.

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EDUCATION:

New Hampshire Police Standards & Training Council

New Hampshire Police Officer Training Academy

March-April 1976, Pease Air Force Base, New Hampshire

Successfully completed the 29th session of the New Hampshire Police Academy with certification as a New Hampshire law enforcement officer upon full-time employment.

New Hampshire Police Standards & Training Council

Special-Part Time Officer Training Course

March-June 1975, Nashua, New Hampshire

Successfully completed a 14-week (two hours per week) course of instruction for certification as a part-time New Hampshire law enforcement officer.

New Hampshire Governor's Commission on Crime and Delinquency, Chiefs of Police Association, and Exploring Division, Daniel Webster Council, Boy Scouts of America

New Hampshire Police Cadet Training Academy

June, 1974, Gilmanton Iron Works, New Hampshire

Successfully completed a 40-hour General Course of Instruction in Law Enforcement in preparation for summer employment as a police cadet.

ADDITIONAL EDUCATION:

Keene State College, Keene, New Hampshire

Driver Education Courses, **2002 to 2004**

Undergraduate level courses required for certification as a driver education instructor. Introduction to Traffic Safety; Methods of Teaching Driver Education and Traffic Safety; Alcohol, Drugs, and Driving; Adolescent Growth & Development; Learning Styles-Teaching Styles; Special Education in the Schools.

Saint Anselm College, Manchester, New Hampshire

Bachelor of Science, Criminal Justice, **1980**

New Hampshire Vocational Technical College, Nashua, New Hampshire

Advanced Police Training Program, **1975 to 1976**

Associates of Science degree track that was interrupted to attend the full-time police officer's academy and subsequent enrollment at Saint Anselm College.

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EDUCATION:

ACHIEVEMENTS:

Letter of Congratulations

Amherst, New Hampshire Police Department, **November, 1988**

Recognized, along with all department members, for the professionalism displayed during the appropriate investigation of a stabbing, a felony assault, and a reported fatal automobile crash that was determined to be a homicide, all occurring within a one-week period.

Letter of Commendation

Amherst, New Hampshire Police Department, **June, 1989**

Recognized, in a department letter, for performance of duties associated with a double homicide and a suicide; a stabbing; two fatal automobile crashes; and an assisted suicide, all occurring within a two-week period.

Letter of Commendation

Mont Vernon, New Hampshire Police Department, **October, 1998**

Recognized for providing assistance to the Mont Vernon Police Department during the reconstruction of a fatal automobile vs. bicycle collision.