



**Jamie Catania, B.E.Sc., M.Eng., P.Eng.** *(he/him)*

(416) 368-1700 | [jcatania@30fe.com](mailto:jcatania@30fe.com)

902 – 40 University Ave., Toronto ON M5J 1T1

## EXPERT SUMMARY

Mr. Catania is Chief Executive Officer at 30 Forensic Engineering, and Technical Director of the Collision Reconstruction Group. He has specialized in the study of collisions and mechanical failures for over 20 years, been the principal engineer of thousands of investigations and is qualified to perform all aspects of collision reconstruction. Jamie is frequently invited by the legal and insurance communities to provide his perspective on matters within his field and takes an active role in guiding the practice of forensic engineering in his professional community. He has been qualified as an expert on numerous occasions at various levels of the Ontario and British Columbia court systems.

---

## SPECIALIZED PROFESSIONAL COMPETENCIES

- Motor Vehicle Collision Reconstruction
- Management of Multi-Disciplinary Forensic Investigations
- Computer-Aided Simulation and Visualization
- Vehicle Dynamics and Stability Analyses
- Assessment of Occupant Kinematics
- Assessment of Restraint System Use and Effectiveness
- Supplemental Restraint System Performance Analyses
- Vehicle Data Module ('Black Box') Interrogation and Analysis
- Avoidability Analyses
- Vehicle Mechanical Fitness Assessments
- Vehicle Collision Testing and Research
- Investigation of Incidents, Defects and Failures involving Mechanical Factors

## ACADEMIC BACKGROUND

Master of Engineering (thesis option, Mechanical Engineering), Ottawa Carleton Institute for Mechanical and Aerospace Engineering, Carleton University, 1994

Bachelor of Engineering Science (Mechanical, Dean's Scholar), University of Western Ontario, 1992

**ADDITIONAL COURSES**

- World Reconstruction Exposition, WREX, Orlando, Florida, May 2016, April 2023
- Society of Automotive Engineers (SAE) World Congress, Detroit, 2001 through 2015, 2020 (Online)
- Reconstruction and Analysis of Motorcycle Crashes, Society of Automotive Engineers (SAE), Detroit, 2015
- CDR (Black Box) Users Conference, Collision Safety Institute, Houston, 2008, 2011, 2013, 2015
- CATAIR 30th Anniversary National Conference and Annual General Meeting, Aylmer, 2014
- 21st Annual TIDA Industry Seminar, Trucking Industry Defense Association, Orlando, 2013
- Collision Data Retrieval (CDR, Black Box Interrogation) Certification Courses, Newmarket, 2003, Toronto, 2006, 2010, 2012, 2013
- PC Crash 8.1 Training, Vancouver, 1996, Toronto, 2009
- BMW Advanced Driver Training Level II, 2007
- Total Station Training, Cansel, Toronto, 2006
- Failure Analysis - EPIC, Mississauga, 2004
- CATAIR AGM and Conference: Collision Reconstruction: Technology and Application, Burlington, 2003
- Estimating Driver Perception and Response Times, CATAIR, Oshawa, 2002
- Accident Reconstruction: State-of-the-Art TOPTEC, Society of Automotive Engineers, Costa Mesa, 1999
- High Speed/Low Speed Impact Conference, Vancouver, 1997
- Low Speed Collision TOPTEC, Society of Automotive Engineers, Vancouver, 1996

**PROFESSIONAL EXPERIENCE**

Jamie has been the lead engineer in thousands of technical investigations and is qualified to perform all aspects of collision reconstruction. Investigations have involved passenger and commercial vehicles, trailers, motorcycles, snowmobiles, trains, all-terrain vehicles, recreational vehicles, watercraft, bicycles, and pedestrians. Jamie has extensive experience in the examinations of vehicles, their components, roadways, restraint systems, and child seats. Clients have comprised general insurance companies, the legal community, Police forces, government, and private parties. Jamie has particular experience with the following engineering work:

- Assessment of collision severity
- Vehicle speed and dynamics determination
- Determination of location of point of impact
- Determination of collision sequence
- Vehicle damage matching
- Assessment of visibility
- Evaluation of operator performance



- Determination of avoidance potential
- Assessment of occupant kinematics
- Assessment of seat belt and child seat use and effectiveness
- Air bag system performance analysis
- Interrogation of vehicle sensing and diagnostic equipment ('black boxes')
- Mechanical fitness evaluation
- Tire failure investigation
- Determination of lamp status
- Driver identification
- Photogrammetric analysis

In addition, Jamie has contributed to research projects involving:

- Vehicle dynamic response and component behaviour in staged collisions
- Human subject behaviour in rear-end collisions
- Vehicle dynamic behaviour in high speed collisions
- Road vehicle controllability

Jamie has also investigated the physical circumstances of a wide variety of incidents and failures involving mechanical factors. These have included the examination of machinery, industrial equipment, cranes, piping, furniture, consumer products, and vehicle components. He has additionally consulted on the causes of workplace incidents.

Jamie has attended numerous technical conferences and seminars, prepared published papers, delivered lectures, written magazine articles, orchestrated and observed dozens of staged vehicle collisions, undertaken a variety of tests and trials, and has studied various publications on an ongoing basis to maintain a current knowledge relating to his field. He also has considerable experience in the use of PC Crash collision simulation software. Jamie is responsible for building the award-winning multidisciplinary Collision Reconstruction & Personal Injury Group at 30 Forensic Engineering (Canadian Lawyer Magazine, Readers' Choice award for 'Best Expert Witnesses - Accident Investigations & Reconstruction').

Jamie has been qualified as an expert witness in the Supreme Court of British Columbia, the Ontario Court of Justice, and the Ontario Superior Court of Justice. He has also provided technical expertise at Arbitrations, Mediations and Pre-Trials in the Province of Ontario.



## EMPLOYMENT HISTORY

### **30 Forensic Engineering**

Chief Executive Officer & Technical Director, Collision Reconstruction  
2018 – Present, Toronto, ON

- Oversight of all aspects of the consulting practice of the firm, and member of the leadership team responsible for management, mentorship, innovation, planning, and governance
- Conducting and managing multidisciplinary technical investigations primarily involving collision reconstruction, biomechanics, human factors, roadway issues, defects in vehicle components and mechanical equipment, and failures involving engineering factors

Vice President, Forensic Consulting  
2016 – 2018, Toronto, ON

- Member of the executive leadership team responsible for management, strategic planning, governance, and consulting
- Conducting and managing multidisciplinary technical investigations primarily involving collision reconstruction, biomechanics, human factors, roadway issues, defects in vehicle components and mechanical equipment, and failures involving engineering factors

Senior Principal, Collision Reconstruction & Personal Injury Assessment  
2003 – 2016, Toronto, ON

- Conducting and managing multidisciplinary technical investigations primarily involving collision reconstruction, biomechanics, human factors, roadway issues, defects in vehicle components and mechanical equipment, and failures involving engineering factors

### **University of Toronto, Department of Mechanical and Industrial Engineering**

Sessional Instructor, Collision Reconstruction  
2012 – Present, Toronto, ON

- Developer and Instructor of undergraduate and graduate courses examining techniques of vehicular collision reconstruction based on engineering principles

### **Arcon Engineering Consultants Ltd.**

Project Engineer  
2000 – 2003, Willowdale, ON

- Conducted technical investigations primarily involving collision reconstruction, defects in mechanical equipment, and failures involving mechanical factors



**MacInnis Engineering Associates, Ltd. ('MEA Forensic')**

Project Engineer

1995 – 2000, Vancouver, BC

- Conducted technical investigations primarily involving vehicle collision reconstruction and failures involving mechanical factors

**Carleton University, Department of Mechanical & Aerospace Engineering**

Graduate Researcher

1992 – 1994, Ottawa, ON

- Completed work in vehicle suspension research, design, analysis, testing and evaluation
- Conducted investigations into the effect of suspension design and performance on vehicle controllability

**PROFESSIONAL ASSOCIATIONS AND CERTIFICATIONS**

- Association of Professional Engineers and Geoscientists of Alberta
  - Professional Engineer Designation, 2015
- Professional Engineers Ontario
  - Chair, Forensic Engineering Subcommittee
  - Member, Professional Standards Committee
  - Professional Engineer Designation, 2001
- Engineers and Geoscientists British Columbia
  - Professional Engineer Designation, 1999
- National Association of Professional Accident Reconstruction Specialists
  - Member of Association, 2011
- Canadian Association of Road Safety Professionals
  - Member of Association, 2003
- Canadian Association of Technical Accident Investigators and Reconstructionists
  - Member of Association, 2003
- Society of Automotive Engineers
  - Member of Association, 1999
- Marine Pleasure Craft Operator Proof of Competency

**PUBLICATIONS AND SPEAKING ENGAGEMENTS**

## Speaking Engagements

- “Examining and Cross-Examining Experts Program”, Advocates Society, April 2018
- “Future of MVAs in Light of New Technology”, Advocates Society, Tricks of the Trade Conference, January 2018
- “Examining Experts Program”, Advocates Society, April 2017
- "Collision Reconstruction: Application of Principles," Course MSE 1031, University of Toronto, March 2017
- "The Future of Accident Reconstruction", Insurance Institute of Ontario, CIP Society Spring Luncheon, June 2016
- “Technological Advancements in the Automobile”, Spring Conference, Ontario Trial Lawyers Association, May 2015 (Paper only)
- “Forensic Engineering & Failure Analysis”, Advanced Design and Manufacturing Institute, University of Toronto, February 2015
- “Practical Strategies for Experts: The Shifting Landscape”, Personal Injury Alliance, October 2014
- “Examining and Cross-examining Experts Program”, Advocates Society, May 2014
- “Tackling Fraud and Staged Accidents – The Aggressive Approach”, Transportation Law Seminar, Hosted by McCague Borlack LLP, May 2014
- “The Experts on Expert Evidence: Building a Winning Case at Trial”, Ontario Bar Association, June 2013
- “National Expert Witness Academy”, Advocates Society, May 2013
- “Transportation Law: Cyclist vs Large Truck”, Mock Trial, Hosted by McCague Borlack LLP, April 2013
- “Examining and Cross-examining Experts Program”, Advocates Society, May 2012
- "National Expert Witness Academy", Faculty Member, Advocates Society, April 2012
- "Forensic Engineering / Accident Reconstruction", Course MSE 431, University of Toronto, March 2012, 2013, 2014
- Member, Expert Panel, Pedestrian Death Review, Office of the Chief Coroner for Ontario, February 2012
- Member, Expert Panel, Cycling Death Review, Office of the Chief Coroner for Ontario, January 2012
- "Forensic Accident Reconstruction", Advanced Design and Manufacturing Institute, University of Toronto, Graduate Studies, June 2011
- “Going on a (Fender) Bender: Technical Defense of Fraudulent MVA Claims”, ISB 'Combat Auto Fraud' Training Session, May 2010
- "The New Reality of Forensic Investigations" Ontario Insurance Adjusters Association, February 2009
- "Litigating Catastrophic Injury Claim Course", Federated Press, April 2008
- "The Future of Accident Reconstruction", Canadian Defence Lawyers AGM, June 2008
- "Winning Personal Injury Cases", The Canadian Institute, February 2008

- "Forensic Engineering/Accident Reconstruction", Advanced Design and Manufacturing Institute, University of Toronto Graduate Studies, October 2007
- "Collision Reconstruction: An Insurance Investigators Overview", The Insurance Institute, February 2007
- "Heavy Truck Accident Reconstruction", CGI Teleseminar, June 2007
- "Litigating Personal Injury Damages" The Canadian Institute, February 2007
- "Tough Cases, Hard Questions, Motor Vehicle Litigation Today", Ontario Trial Lawyers Association, April 2001

#### Papers

- Siegmund G.P., Wheeler J.W., Catania J.J., Brault, J.R. "A Linked Data Set of Clinical and Kinematic Responses to Whiplash.", In: Yoganandan N, Pintar FA (Eds), *Frontiers in Whiplash Trauma: Clinical and Biomechanical*. IOS Press, The Netherlands
- MacInnis, D.D., Catania, J.J., "Slush, Asymmetrical Drag, and Vehicle Controllability.", *Proceedings of Canadian Multi-Disciplinary Road Safety Conference X*, pp 190-201. Toronto, ON: Vehicle Safety Research Centre, Civil Engineering Department, Ryerson Polytechnic University, 1997
- Catania, J.J., "The Electrorheological Effect and its Application to Controllable Damper Design." Master's Thesis, Department of Mechanical and Aerospace Engineering, Ottawa-Carleton Institute for Mechanical and Aerospace Engineering, 1994
- Catania, J.J., "Alternate Power Transmission System for Bicycles", Bachelor's thesis, Department of Mechanical Engineering, The University of Western Ontario, 1992

#### Additional Publications

- Guideline, Assuming Responsibility and Supervising Engineering Work, Professional Engineers Ontario, February 2018
- Guideline, Forensic Engineering Investigations, Professional Engineers Ontario, January 2016