



## Curriculum Vitae

**KEVIN JAMES McCLAFFERTY**

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### EMPLOYMENT

Employer: SOUTHWESTERN COLLISION ANALYSIS  
Date: 2010 to Present  
Position: Research Scientist / Collision and Defect Investigator

Employer: THE UNIVERSITY OF WESTERN ONTARIO  
MULTIDISCIPLINARY ACCIDENT RESEARCH TEAM  
Date: 1999 to 2010  
Position: Research Scientist / Collision and Defect Investigator

Employer: THE UNIVERSITY OF WESTERN ONTARIO  
MULTIDISCIPLINARY ACCIDENT RESEARCH TEAM  
Date: 1993 to 1999  
Position: Research Associate / Collision and Defect Investigator

Employer: THE UNIVERSITY OF WESTERN ONTARIO  
MULTIDISCIPLINARY ACCIDENT RESEARCH TEAM  
Date: September 1990 to 1993  
Position: Research Associate / Collision and Defect Investigator

## **COLLISION INVESTIGATION AND RECONSTRUCTION EXPERIENCE**

- Over 20 years experience in collision investigation and reconstruction since 1990
- Project manager responsible for over 500 technical reports on motor vehicle collision
- Investigated and conducted technical reconstructions on over 500 motor vehicle collisions
- Extensive training related to collision investigation and reconstruction
- Numerous publications related to collision investigation and reconstruction
- Provided expert testimony on collision reconstruction on two occasions at Coroner's Inquests
- Provided expert testimony on collision reconstruction on six occasions in Ontario Courts

## **MOTOR VEHICLE DEFECT INVESTIGATION EXPERIENCE**

- Almost 20 years experience in motor vehicle defect investigation since 1990
- Project manager responsible for over 400 technical reports on motor vehicle defect investigations
- Conducted over 150 motor vehicle and vehicle component defect investigations
- Extensive training related to vehicle and vehicle component defect investigations
- Conducted analysis on over 150 event data recorder (EDR) downloads
- Mechanical engineering degree with expertise and training in material failures

## **OCCUPANT KINEMATICS AND INJURY BIOMECHANICS EXPERIENCE**

- Extensive research into occupant protection and injury biomechanics since 1990
- Publications related to occupant protection technologies and injury biomechanics
- Evaluated injury causation on over 500 motor vehicle collisions
- Provided lectures at Level IV Collision Reconstruction Course on occupant kinematics and injury causation and mitigation
- Provided workshops on the Forensic Analysis of Trauma due to Motor Vehicle Collisions at the American Academy of Forensic Science Annual Meetings held in 2001, 2002 and 2003

## **TRAFFIC SAFETY EDUCATION AND AWARENESS EXPERIENCE**

- Conducted extensive traffic safety research resulting in numerous publications
- Provided numerous traffic safety training lectures to police collision reconstructionists
- Provided extensive traffic safety education lectures to university and college students
- Member and Past President of the Canadian Association of Road Safety Professionals (CARSP)
- Editor for 24 volumes of Canadian Association of Road Safety Professionals (CARSP) Safety Network Newsletter
- Chaired and developed traffic safety workshops and conferences

## **POST-SECONDARY EDUCATION**

- Graduation: 1990
- School: UNIVERSITY OF WESTERN ONTARIO
- Degree: Bachelor of Engineering Science (BESc Mechanical Engineering)

### **CANADIAN MULTI-DISCIPLINARY ROAD SAFETY CONFERENCE ATTENDED**

- Canadian Multi-Disciplinary Road Safety Conference VII in Vancouver, British Columbia (June 1991)
- Canadian Multi-Disciplinary Road Safety Conference VIII in Saskatoon, Saskatchewan (June 1993)
- Canadian Multi-Disciplinary Road Safety Conference IX in Montreal, Quebec (June 1995)
- Canadian Multi-Disciplinary Road Safety Conference X in Toronto, ON (June 1997)
- Canadian Multi-Disciplinary Road Safety Conference XI in Halifax, Nova Scotia (May 1999)
- Canadian Multidisciplinary Road Safety Conference XII in London, ON (June 2001)
- Canadian Multi-Disciplinary Road Safety Conference XIII in Banff, Alberta (June 2003)
- Canadian Multi-Disciplinary Road Safety Conference XIV in Ottawa, ON (June 2004)
- Canadian Multi-Disciplinary Road Safety Conference XV in Fredericton, NB (June 2005)
- Canadian Multi-Disciplinary Road Safety Conference XVI in Winnipeg, MA (June 2006)
- Canadian Multi-Disciplinary Road Safety Conference XVII in Montreal, PQ (June 2007)
- Canadian Multi-Disciplinary Road Safety Conference XVIII in Whistler, BC (June 2008)
- Canadian Multi-Disciplinary Road Safety Conference XIX in Saskatoon, Saskatchewan (June 2009)
- Canadian Multi-Disciplinary Road Safety Conference XX in Niagara Falls, Ontario (June 2010)
- Canadian Multi-Disciplinary Road Safety Conference XXI in Halifax, Nova Scotia (May 2011)

### **OTHER CONFERENCES ATTENDED**

- 39th Conference of the Association for Advancement of Automotive Medicine in Chicago, Illinois (October 1995)
- Conference: Enhanced Safety of Vehicles Conference XVI in Windsor, Ontario (June 1997)
- 53rd Meeting of the American Academy of Forensic Sciences in Seattle, Washington (February 2001)
- Canadian Multi-Disciplinary Road Safety Forum in Ottawa, Ontario (June 2002)
- 54th Meeting of the American Academy of Forensic Sciences in Atlanta, Georgia (February 2002)
- 6th World Conference on Injury Prevention and Control in Montreal, Quebec (May 2002)
- 55th Meeting of the American Academy of Forensic Sciences in Chicago, Illinois (February 2003)
- Ontario Injury Prevention Conference (February 2004)
- 60th Meeting of the American Academy of Forensic Sciences in Washington DC (February 2008)
- Canadian Association of Technical Accident Investigators & Reconstructionists 25th Conference (Sept. 2009)

### **TRANSPORT CANADA MEETINGS ATTENDED**

- Collision and Defect Investigation Meeting in Vancouver, British Columbia (June 1991)
- Collision and Defect Investigation Meeting in Ottawa, Ontario (June 1992)
- Collision and Defect Investigation Meeting in Saskatoon, Saskatchewan (June 1993)
- Collision and Defect Investigation Meeting in Ottawa, Ontario (June 1994)
- Collision and Defect Investigation Meeting in Montreal, Quebec (June 1995)
- Collision and Defect Investigation Meeting in Ottawa, ON (June 1996)
- Collision and Defect Investigation Meeting in Toronto, ON (June 1997)
- Collision and Defect Investigation Meeting in Ottawa, ON (June 1998)
- Collision and Defect Investigation Meeting in Halifax, NS (May 1999)
- Collision and Defect Investigation Meeting in Blainville, Quebec (June 2000)
- Collision and Defect Investigation Meeting in Ottawa, Ontario (June 2002)

- Collision and Defect Investigation Meeting in Calgary, Alberta (June 2003)
- Collision and Defect Investigation Meeting in Ottawa, ON (June 2004)
- Collision and Defect Investigation Meeting in Fredericton, NB (June 2005)
- Collision and Defect Investigation Meeting in Winnipeg, MA (June 2006)
- Collision and Defect Investigation Meeting in Montreal, PQ (June 2007)
- Collision and Defect Investigation Meeting in Vancouver, BC (June 2008)
- Collision and Defect Investigation Meeting in Saskatoon, Saskatchewan (June 2009)
- Collision and Defect Investigation Meeting in Niagara Falls, ON (June 2010)
- Collision and Defect Investigation Meeting in Halifax, NS (May 2011)

**TRAFFIC SAFETY EDUCATION PROVIDED AT UNIVERSITY AND COLLEGE LEVEL**

- Developed and provided a senior university course 2010 (FORENSIC ENGINEERING 4427 B)
- Supervised university students at undergraduate level 2006-2007 (PATHOLOGY 480)
- Supervised university students at undergraduate level 2005-2006 (PATHOLOGY 480)
- Lectured for University of Western Ontario Pathology 450B 2005
- Lectured for University of Western Ontario Pathology 450B 2006
- Lectured for University of Western Ontario Pathology 450B 2007
- Lectured for University of Western Ontario Pathology 450B 2008
- Lectured for University of Western Ontario Pathology 450B 2009
- Lectured for University of Western Ontario Pathology 450B 2010
- Lectured for UWO Senior Alumni Spring Program 2002
- Lectured for Conestoga College Police Foundations 2003
- Lectured for Conestoga College Police Foundations 2004
- Lectured for Conestoga College Police Foundations 2005
- Lectured for Conestoga College Police Foundations 2006
- Lectured for Conestoga College Police Foundations 2007
- Lectured for Conestoga College Police Foundations 2008
- Lectured for Conestoga College Police Foundations 2009
- Lectured for Fanshawe College Police Foundations 2008
- Lectured for Fanshawe College Police Foundations 2007
- Lectured for Fanshawe College Police Foundations 2006

**TRAFFIC SAFETY POLICE TRAINING LECTURES PROVIDED (SINCE 2000)**

- Orillia OPP Accident Reconstruction Level III Course 2004
- Ontario Police College Traffic Supervisors' Course 2008
- Ontario Police College Traffic Supervisors' Course 2009
- Ontario Police College Traffic Supervisors' Course 2010
- Ontario Police College Accident Reconstruction Level III Course 2004
- Ontario Police College Accident Reconstruction Level IV Course 2004
- Ontario Police College Accident Reconstruction Level IV Course 2005
- Ontario Police College Accident Reconstruction Level IV Course 2006
- Ontario Police College Accident Reconstruction Level IV Course 2007
- Ontario Police College Accident Reconstruction Level IV Course 2008

- Ontario Police College Accident Reconstruction Level IV Course 2009
- Ontario Police College Accident Reconstruction Level IV Course 2010
- Toronto Police Services Accident Reconstruction Level IV Course 2011
- London Police Services Level II Course 2000
- London Police Services Level II Course 2001
- London Police Services Level II Course 2002
- London Police Services Level II Course 2003
- London Police Services Level II Course 2004
- London Police Services Level II Course 2005
- London Police Services Level II Course 2006
- London Police Services Level II Course 2007
- London Police Services Level II Course 2008
- London Police Services Level II Course 2009
- London Police Services Level II Course 2010
- London Police Services Level II Course 2011
- Durham Police Accident Investigation Level II Course 2007
- Durham Police Accident Investigation Level II Course 2008
- Durham Police Accident Investigation Level II Course 2009
- Durham Police Accident Investigation Level II Course 2010

#### **TRAFFIC SAFETY PROFESISONAL LECTURES PROVIDED**

- MOVES Traffic Safety Workshop 2011
- Keynote speaker Critical Care Nurses Conference 2011
- UWO London Health Science Pathology Grand Rounds 2008
- 6th World Conference on Injury Prevention and Control 2002
- American Academy of Forensic Science 60th Annual Meeting 2008
- Canadian Association of Traffic Accident Investigators 2009
- Canadian Multi-disciplinary Road Safety Conference X 1997
- Canadian Multi-disciplinary Road Safety Conference XI 1999
- Canadian Multi-disciplinary Road Safety Conference XIII 2003
- Canadian Multi-disciplinary Road Safety Conference XIV 2004
- Canadian Multi-disciplinary Road Safety Conference XVII 2007
- Canadian Multi-disciplinary Road Safety Conference XVIII 2008
- Ontario Community Council on Impaired Driving 2007
- Ontario Injury Prevention Conference 2004
- Talk Trauma Meeting 2002
- Transport Canada Public Consultation 2002
- Council of Driver Trainer's Meeting 2000
- Motor Vehicle Safety Association 2000

## **TRAFFIC SAFETY WORKSHOPS AND CONFERENCES COORDINATED**

- Co-chair Workshop American Academy of Forensic Science 53rd Annual Meeting 2001
- Co-chair Workshop American Academy of Forensic Science 54th Annual Meeting 2002
- Co-chair Workshop American Academy of Forensic Science 55th Annual Meeting 2003
- Canadian Multidisciplinary Road Safety Conference XII 2001
- MDART Traffic Safety Workshop 1998
- MDART Traffic Safety Workshop 1999
- MOVES Traffic Safety Workshop 2011
- Southern Ontario Traffic Investigator's Society Workshop 2003
- Southern Ontario Traffic Investigator's Society Workshop 2005
- Workshop for Gifted Grade 7-8 Students 1996
- Workshop for Gifted Grade 7-8 Students 1998

## **TRAFFIC SAFETY EDUCATION PROVIDED TO GENERAL PUBLIC**

- Lectures to service groups in Southwestern Ontario
- Radio, television and newspaper interviews
- INQUIRY Television show on New PL 1999
- INQUIRY Television show on New PL 2002

## **PUBLICATIONS**

- McClafferty, K.J., German, A. "High-Tech Vehicle Safety Systems", Proc. of Canadian Multidisciplinary Road Safety Conference XVIII, Whistler, British Columbia, June 2008
- McClafferty, K.J., Shkrum M.J., Tiessen P.F., German, A., Comeau, J.L. "Event Data Recorders in the Analysis of Frontal Impacts", Proc. 51st AAAM Conference, Melbourne Australia, October, 2007
- McClafferty, K.J., Green R.N., Tiessen P.F., Brown J., German, A., Comeau, J.L. "A Comparison of Real World Frontal Impacts and Staged Crash Tests", Proc. of Canadian Multidisciplinary Road Safety Conference XVII, Montreal, Quebec, June 2007
- Foster, M., McClafferty, K.J., Shkrum, M.J., Tiessen, P.F. Hibbert, W., Carter, D. "Event Data Recorders: An Impartial Witness", Proc. of Canadian Multidisciplinary Road Safety Conference XVII, Montreal, Quebec, June 2007
- Green, R.N., Shkrum, M.J., McClafferty, K.J. "Guidance for Research Teams: Injury Data Collection for Crash Reconstruction Studies", Proc. of Canadian Multidisciplinary Road Safety Conference XVII, Montreal, Quebec, June 2007
- George, A., McClafferty, K.J., Shkrum, M.J., Tiessen, "To Deploy or Not to Deploy: Frontal Impact Case Studies", Proc. of Canadian Multidisciplinary Road Safety Conference XVII, Montreal, Quebec, June 2007
- German, A., Comeau, J.L., Monk, B., White, J., McClafferty, K. "Momentum and Event Data Recorders", Proc. of Canadian Multidisciplinary Road Safety Conference XVII, Montreal, Quebec, June 2007

- German A, Comeau J-L, McClafferty KJ and Green RN; Event Data Recorders and Traffic Safety Research; Proc. 20th ITMA World Congress; 16-18 October, 2006; Melbourne, Australia (Published abstract)
- A Comparison of Real World Frontal Impacts and Staged Crash Tests; McClafferty K, Tiessen P, Green R, Brown J, German A and Comeau J-L; Proc. CMRSC-XVI; Winnipeg, Manitoba; June 11-14 2006 (Published abstract)
- Green R.N., McClafferty, K.J. “A Review of Jurisprudence Regarding Event Data Recorders: Implications for the Access and Use of Data for Transport Canada Collision Investigation, Reconstruction, Road Safety Research and Regulation”, Transport Canada website
- McClafferty, K.J., Tiessen, P.F., German A., “The Use of Event Data Recorders in the Analysis of Real World Collisions: Tales from the Silent Witness”, In: Contemporary Issues in Road User Behavior ... ISBN 1-59454-268-6, Eds.: D.A. Hennessy and D.L. Wiesenthal pp. 249-260 © 2004 Nova Science Publishers, Inc.
- McClafferty, K.J., Tiessen, P.F., German, A. “Comparisons of EDR-Recorded Delta-V to Delta-V Calculated by Crush Analysis”, Proc. of Canadian Multidisciplinary Road Safety Conference XIV, Ottawa, Ontario, June 2004
- McClafferty, K.J., Tiessen, P.F., German, A., Chan, J., “A Study of Pre-Crash Events Using Information Retrieved from Event Data Recorders”, Proc. of Canadian Multidisciplinary Road Safety Conference XIII, Banff, Alberta, June 2003
- Shkrum, M., McClafferty, K., Nowak, E., German, A., “Driver and Front Seat Passenger Fatalities Associated with Airbag Deployment. Part 1: A Canadian Study,” Journal of Forensic Science
- Shkrum, M., McClafferty, K., Nowak, E., German, A., “Driver and Front Seat Passenger Fatalities Associated with Airbag Deployment. Part 2: A Review of Injury Patterns and Investigative Issues,” Journal of Forensic Science
- McClafferty, K.J., Tiessen, P.F., Shkrum, M.J., German, A., “Fatalities Involving Tilt-Bed Trucks: Underride and Poor Conspicuity”, Proc. of Canadian Multidisciplinary Road Safety Conference XII, London, Ontario, June 10-13, 2001
- German, A., Comeau, J.L., Monk, B., McClafferty, K.J., Tiessen, P.F., Chan, J., “The Use of Event Data Recorders in the Analysis of Real-World Crashes”, Proc. of Canadian Multidisciplinary Road Safety Conference XII, London, Ontario, June 10-13, 2001
- Shkrum, M.J., McClafferty, K.J., Green, R.N., Leslie, K., “Delayed Splenic Rupture Due to Motor Vehicle Collisions”, Proc. of Canadian Multidisciplinary Road Safety Conference XII, London, Ontario, June 10-13, 2001
- White, J., Guérette, C., Bruneau, J.F., Chan, J., McClafferty, K., Pepper, C., “School Bus Pre-Stop Warning Lights Study Status Report”, Proc. of Canadian Multidisciplinary Road Safety Conference XII, London, Ontario, June 10-13, 2001
- Shkrum, M.J., McClafferty, K.J., German, A., Dalmotas, D.J., Nowak, E.S., "Canadian Case Studies of Driver and Front Passenger Fatality Associated with Airbag Deployment", Presented at the 49th Meeting of the American Academy of Forensic Sciences, Orlando, Florida, February 15-20, 1998

- McClafferty, K.J., Tiessen, P.F., Glazduri, V., Shkrum, M.J., German, A., Nowak, E.S., "Driver Fatalities in Frontal Impacts", Proc. of Canadian Multidisciplinary Road Safety Conference XI, Halifax, Nova Scotia, Ontario, May 9-12, 1999
- McClafferty, K.J., Shkrum, M.J., Chan, J., German, A., "A Multidisciplinary Study of a Canadian Airbag Fatality", Proc. Canadian Multidisciplinary Road Safety Conference X, Toronto, Ontario, June 9-11, 1997
- McClafferty, K.J., Chan, J., German, A., Nowak, E.S., "The Fundamentals of Damage Analysis", Proc. Canadian Multidisciplinary Road Safety Conference X, Toronto, Ontario, June 9-11, 1997
- Shkrum, M.J., Green, R.N., McClafferty, K.J., Nowak, E.S., "Aortic Injury in Fatal Motor Vehicle Collisions", Presented at the 48th Meeting of the American Academy of Forensic Sciences, Nashville, Tennessee, February 19-24, 1996
- German, A., McClafferty, K.J., Dalmotas, D.J., Nowak, E.S., "Real-World Collision Experience for Airbag Technology", Proc. of the 1996 Canadian Society for Mechanical Forum, May 7-9, 1996
- White, J., McClafferty, K.J., Nowak, E.S., Orton R.B., Tokarewicz. A.C., "Ocular Alkaline Burn Associated with Automobile Air Bag Activation", Canadian Medical Association Journal
- McClafferty, K.J., Nowak, E.S., Lane, P.L., "High-Severity Collisions Involving Ambulances," Poster Presentation, Proc. 39th AAAM Conf., Chicago, Illinois, October, 1995
- White, J., McClafferty, K.J., Nowak, E.S., Orton R.B., Tokarewicz. A.C., "Case Study - Alkali Eye Injury Secondary to Air Bag Deployment," Proc. Canadian Multidisciplinary Road Safety Conference IX, Montreal, Quebec
- Shkrum, M.J., Green, R.N., McClafferty, K.J., Nowak, E.S., "Skull Fractures in Fatalities Due to Motor Vehicle Collisions," Journal of Forensic Sciences, February 1994, pp. 107-122.
- Lane, P.L., McClafferty, K.J., Nowak, E.S., "Pedestrians in Real World Collisions," Journal of Trauma, January 1994, pp. 231-236.
- Lane, P. L., McClafferty, K. J., Nowak, E. S.; Pedestrians in Real World Collisions; Proc. of the Annual Meeting of the Royal College of Physicians and Surgeons, Toronto, Ontario, October, 1992.
- Lane, P.L., McClafferty, K.J., Green, R.N., Nowak, E.S.; "A Study of Injury Producing Crashes on Median Divided Highways in Southwestern Ontario," Proc. 36th AAAM Conf., Portland, Oregon, October, 1992
- German, A., Green, R.N., McClafferty, K.J., Nowak, E.S., Tiessen, P.F.; "The Occurrence of Fatality to Restrained Occupants of Passenger Cars in Southwestern Ontario," Proc. Canadian Multidisciplinary Road Safety Conference VII, Vancouver, British Columbia, June 17-19, 1991
- Editor of newsletter for Canadian Association of Road Safety Professionals for 24 volumes