

STATEMENT OF QUALIFICATIONS

TERI L. MARTIN

- Job Title:** Assistant Section Head, Toxicology
Centre of Forensic Sciences, Toronto, Ontario
- Date of Employment:** *March 2014 – Present*
- Principal Duties:**
- Coordinate laboratory analyses, instrumentation and workflow for criminal and non-criminal investigations
 - Breath alcohol testing program coordinator for Ontario
 - Human resources manager for scientific, technical and administrative professional groups
 - Perform technical review of case reports and monitoring of expert testimony by scientific staff
- Job Title:** Forensic Toxicologist
Centre of Forensic Sciences, Toronto, Ontario
- Date of Employment:** *September 1999 – March 2014*
- Principal Duties:**
- Perform and/or direct analyses for alcohol, drugs, and poisons in items including body fluids and tissues
 - Interpretation of findings in a medico-legal context and preparation of reports
 - Provide objective and impartial expert testimony in relation to the pharmacology and toxicology of alcohol, drugs and poisons
 - Perform research and teaching in forensic toxicology
- Job Title:** Forensic Toxicologist (Visiting Scientist)
Institute of Environmental Science and Research Ltd., Wellington, NZ
- Date of Employment:** *May 2004 – September 2004 (Secondment)*
- Principal Duties:**
- Consulted on alternative approaches, procedures and methods of analysis in forensic toxicology
 - Coordinated analysis of body fluids/tissues for alcohol, drugs and poisons, interpreted analytical findings, authored reports to clients
 - Quality assurance including technical and administrative review of casework and audit and inspection of the breath alcohol laboratory

ACADEMIC QUALIFICATIONS

Master of Science
Environmental Biology
University of Guelph, Guelph, Ontario

1998

Awarded University of Guelph Graduate Scholarship (1996, 1997)

Bachelor of Science (Honours)

1996

Environmental Science (Biology)
Queen's University, Kingston, Ontario

Additional Courses

1999-2001

Systems Pharmacology, Pharmacodynamic Principles, Pharmacokinetic Principles
University of Toronto, Toronto, Ontario

TRAINING AND EXPERIENCE

Member of the Alcohol Test Committee (ATC) of the Canadian Society of Forensic Science (2007 – Present): Chair (2011 – 2014), Vice-Chair (2008 – 2010), Member of the Maintenance and Modifications Sub-Committee (2007-2011; 2014-present).

Breath Alcohol Committee of the CFS responsible for administering the breath alcohol program in the Province of Ontario (2008 – present). Coordinator of Physical Resources (2008-2009). Coordinator of Human Resources and Training (2011-present).

Absorption, distribution and elimination of drugs, including alcohol, in the human body; including the calculation of blood alcohol concentrations.

Pharmacological and toxicological effects of alcohol, drugs and poisons on the central nervous system.

Theory and methods of operation of breath-testing equipment including the Breathalyzer 900/900A, Intoxilyzer 5000C, Intoxilyzer 8000C and approved screening devices (Alcotest 7410GLC, Alco-Sensor FST, Dräger Alcotest 6810).

Designated alcohol analyst pursuant to subsection 254(1) for the purposes of section 258 of the criminal code of Canada.

Analytical techniques for the isolation, detection and quantification of drugs, alcohol, and poisons from biological samples. Principles and methods of operation of analytical instrumentation including gas chromatography (GC), gas chromatography/mass spectrometry (GC/MS), high performance liquid chromatography mass spectrometry (LC-MS/MS), ultraviolet spectrophotometry and immunoassay

Qualified as an expert witness and provided *viva voce* evidence in all levels of court in the Province of Ontario, in Coroner's inquests and Alcohol and Gaming Commission hearings with respect to the detection and quantitation, pharmacology, toxicology and behavioural effects of alcohol drugs and toxins.

Peer-reviewer: Canadian Society of Forensic Science Journal, Journal of Analytical Toxicology, Pharmacoepidemiology and Drug Safety, American Journal of Preventative Medicine.

Written, reviewed, and/or consulted on 10,000+ cases concerning the effects of alcohol, drugs and poisons in relation to concentrations achieved in biological samples with specific consideration to the forensic aspects of analytical testing, pharmacokinetics, and pharmacodynamics.

Member of CFS Analytical Process Review and Re-engineering Committee established to perform an analysis of best practices for the laboratory within the necessary accreditation framework (April 2005 – July 2007).

Guest of the OACP Breath Alcohol and DRE Sub-Committee (Intoxilyzer® 8000C Ontario Users Group, Jan 2011 – Present)).

Relevant Training Courses:

Drager Alcotest 6810 Training - Draeger Safety Canada Ltd., Toronto, ON	2012
Alco-Sensor FST Training – Intoximeters® Inc., Toronto, ON	2012
Drager Alcotest 6810 Training – Draeger Safety Canada Ltd., Mississauga, ON	2011
Intoxilyzer 8000C: Advanced Theory Training Course – CMI Inc., Toronto, ON	2011
Theory and Operation of the Intoxilyzer 8000C – CMI Inc., Toronto, ON	2008
Theory and Operation of the Intoxilyzer 8000C – CMI Inc., Kentucky USA	2005
Theory and Operation of the Intoxilyzer 5000C – CO Bick College, Scarborough, ON	2000
Theory and Operation of the Breathalyzer 900/900A – OPP GHQ, Orillia, ON	2000

PROFESSIONAL ACTIVITIES

Lecturing and Training Responsibilities:

- Extensive experience as lecturer and instructor in the theory and operation of the Breathalyzer 900/900A, Intoxilyzer 5000C/8000C, Alcotest 7410 GLC, Drager Alcotest 6810, Alco-Sensor FST to police officers in the provinces of Ontario and Québec.
- Faculty member, Indiana University Robert F. Borkenstein Course on Alcohol and Highway Safety: Testing, Research and Litigation providing instruction on breath alcohol instrumentation and the effects of alcohol on impairment related to driving (December 2012-present).
- Lecturer in the pharmacology and toxicology of alcohol, drugs, and poisons to sexual assault nurse examiners, and police officers attending sexual assault and drug investigator training courses.
- Developed curriculum and acted as sessional lecturer at the University of Toronto (Mississauga) for course FSC402H – “Topics in Forensic Science 2: Forensic Toxicology” – Winter Term (2003) and Fall Term (2003).

- Lecturer to University of Toronto undergraduate students (i) Alcohol Pharmacology and Psychomotor Impairment (Course FSC239Y “Introductory Forensic Science”) (ii) Perspectives in Forensic Toxicology (Course PHM3H “Applications of pharmaceutical analysis”).
- Lecturer on the forensic aspects of alcohol and the effects of alcohol on driving at Crown Attorney Summer School (July 2002, July 2005, July 2010) to legal counsel for the Alcohol and Gaming Commission of Ontario (February 2004) and to police officers (on-going).
- Mentor and supervisor to students of the University of Toronto undergraduate and Strathclyde University graduate programs completing research projects in the field of forensic toxicology. Training and mentoring of junior forensic toxicologists at the Centre of Forensic Sciences.

Meeting Attendance and Continuing Education (Selected):

Annual scientific meeting of the Society of Forensic Toxicologist (SOFT). Atlanta, Georgia. October 19-23, 2015. Workshops attended: (i) Pharmacology and Toxicology of Synthetic Cathinones and Phenylethylamines, (ii) Management practices in Forensic Toxicology, (iii) Managing a Forensic Toxicology Laboratory

Drug Impaired Driving Symposium 2014. Toronto, ON. A two-day training session for Toxicologists and DRE Officers.

Annual Intoxilyzer 8000 Users Meeting. Missoula, Montana. August 11-15, 2013. *Presenter: Intoxilyzer 8000C – evaluation, implementation and experiences from the field.*

Drug Impaired Driving Symposium 2012. Toronto, ON. A two-day training session for Toxicologists and DRE Officers. Sessions included: (i) Acute and Chronic Smoked and Oral Cannabis and Performance Effects, (ii) Driving under the influence of Antidepressants and Benzodiazepines, (iii) Cocaine, stimulants and driving, (iv) Inhalants and Designer Drug Use

57th Annual Conference of the Canadian Society of Forensic Science. Toronto, ON. November 29-December 2, 2010. Panelist and mentor in the Expert Witness Workshop. Chair and moderator of the “New” Approved Breath Analysis Instruments in Canada workshop. *Other workshops attended: (i) Forensic aspects of alcohol in criminal and medico-legal investigations, (ii) The role of toxicology in drug-impaired driving cases in Ontario.*

Joint meeting of the Canadian Society of Forensic Science, Canadian Identification Society and the Province of Nova Scotia Medical Examiner’s Office. Halifax, Nova Scotia. September 15-18, 2008. Assisted organizers with the Expert Witnessing Workshop and provided mentoring to attendees of the session.

60th Annual Meeting of the American Academy of Forensic Sciences. Washington, DC. February 18-23, 2008. *Workshops included: (i) Chemstation® Productivity (ii) The Healthcare Serial Killer: Prevention, Investigation and Prosecution Strategies.*

Professional Affiliations:

Canadian Society of Forensic Science (1999-Present), Fellow (2012-Present)
Society of Forensic Toxicologists (1999-Present)

PUBLICATIONS

Peer-Reviewed Publications in Forensic Toxicology

Martin, TL *et al.* 2013. A review of alcohol-impaired driving: the role of blood alcohol concentration and complexity of the driving task. *Journal of Forensic Sciences*. 58: 1238-1250

Martin, TL. 2011. An Evaluation of the Intoxilyzer® 8000C Evidential Breath Alcohol Analyzer. *Canadian Society of Forensic Science Journal*. Can. Soc. Forensic Sci. J. Vol. 44. No. 1 (2011) pp. 22–30.

Woodall, KL, **Martin** TL and McLellan, BA. Oral Abuse of Fentanyl Patches (Duragesic®): Seven Case Reports. 2007. *Journal of Forensic Sciences*. 53(1): 222-225.

Martin, TL, Chiasson, DA and Kish, SJ. 2007. Does Hyperthyroidism Increase Risk Of Death Due To The Ingestion Of Ecstasy? *Journal of Forensic Sciences*. 52(4):951-953.

Martin, TL, Woodall, KL and McLellan, BA 2006. Fentanyl-related deaths in Ontario, Canada: toxicological findings and circumstances of death in 112 cases (2002-2004). *Journal of Analytical Toxicology*. 30: 603-610.

Martin, TL, Wigmore, JG and Woodall, KL 2004. A Comparison of Blood Alcohol Concentrations Estimated From Drinking Histories of Drivers Charged with “Over 80” and Their Intoxilyzer® 5000C Results. *Canadian Society of Forensic Sciences Journal*. 37(4): 187-195.

Buczek, Y. and **Martin**, TL 2002. Carboxyhemoglobin (COHb) saturations in sudden unexpected deaths of children under two years of age in Ontario. *Canadian Society of Forensic Sciences Journal*. 35(2): 91-95.

Martin, TL. 2001. Three cases of fatal paramethoxyamphetamine overdose. *Journal of Analytical Toxicology*. 24(7): 649-651.

Minor Publications in Forensic Toxicology

Martin, TL. 2011. Transdermal fentanyl delivery may be accelerated by application of heat: case report and review of the literature. *ToxiLogic*. Vol. 34(1): p. 2.

Martin, TL. 2007. An introduction to the Intoxilyzer® 8000C. *ToxiLogic*. Vol. 32(1): p. 12.

Martin, TL. 2005. Evaluation of the Intoxilyzer® 8000C. A report for the Alcohol Test Committee of the Canadian Society of Forensic Sciences. 29 pp.

Martin, TL. 2004. “Club Drugs”: From Rave Scene to Mainstream. In: For the Defence. *Newsletter of the Criminal Lawyer’s Association*. 25(1): 32-34.

Martin, T.L. 2003. Evaluation of the Intoxilyzer® 8000. A report for the Alcohol Test Committee of the Canadian Society of Forensic Sciences. 25 pp.

Martin, T.L. 2002. The Agony of “Ecstasy”. *In*: The Mortem Post. Newsletter of the Office of the Chief Coroner. 39th Ed. pp. 9-10.

Presentations

Hinman, J. and T.L. **Martin**. 2010. A case report of radio frequency interference (RFI) during an evidential breath test on the Intoxilyzer® 5000C. Presented at the 57th Annual Meeting of the Canadian Society of Forensic Science. November 29-December 1, 2010. Toronto, ON.

Woodall, K.L., **Martin**, T.L. and B.A. McLellan. 2006. Postmortem blood concentrations following the oral ingestion of transdermal fentanyl patches (Duragesic®). Presented at the 58th Annual Meeting of the American Academy of Forensic Sciences. February 20-24, 2006. Seattle, Washington, USA.

Martin, T.L. and B.L.C. Chow. 2004. Methylenedioxymethamphetamine (MDMA)-Related Deaths in Ontario, Canada (1999-2004). Presented at the 57th Annual Meeting of the American Academy of Forensic Sciences. February 21-26, 2005. New Orleans, Louisiana, USA.

Martin, T.L. and B.L.C. Chow. 2003. Rave-Drug Deaths: The Ontario Experience. August 27, 2003. Presented at the CFS Rave Drugs Forensic Education Conference, Toronto, ON.

Martin, T.L. 2003. Beyond Rohypnol®: club drugs and sexual assault”. An invited presentation for the Halton Regional Sexual/Domestic Violence Care Centre. May 22, 2003. Burlington, ON, Canada.

Martin, T.L. 2003. The behavioural and toxicological aspects of “club drugs”. Presented to the Golden Horseshoe Forensic Identification Meeting, May 15, 2003. Aylmer, ON, Canada; and at the CFS Forensic Education Conference. January 16, 2003. Toronto, ON, Canada.

Martin, T. L. and Lalonde, B.R. 2002. Isopropanol: A putrefactive product in deaths due to drowning. Presented at the 33rd Annual Meeting of The Society of Forensic Toxicologists. October 13-17, 2002. Dearborn, Michigan, USA.

Buczek, Y. and **Martin**, T. L. 2001. Carboxyhemoglobin saturations in sudden unexpected deaths of children under two years of age in Ontario. A poster presented at the 48th Annual Meeting of The Canadian Society of Forensic Science. November 6-10, 2001. Toronto, ON, Canada.

Martin, T.L. Forensic Toxicology: An Overview. Presented at the Toronto Police Service – Forensic Identification Services 15th Annual Forensic Identification Seminar. March 19-23, 2001. Toronto, ON, Canada.

Martin, T.L. Chow, B.L.C. and Lalonde, B.R. 2001. Peace, love, dancing and drugs: An examination of the drugs typically associated with rave parties. CFS Forensic Education Conference. January 25, 2001. Toronto, ON, Canada.