

Workshop speakers to date: (15 March 2022)

More coming soon!

CFS biology -

Gurmeet Chohan - Laboratory safety

Kirsty Atkinson – Transfer and persistence of DNA on items routinely encountered in forensic casework

Joanne Cox – DNA in Explosives cases

Clare Che – Swabbing techniques for optimal DNA load and packaging evidence and unusual items.

Diane Komonski – Towards a RAPID DNA program in Ontario

CFS Firearms -

Caitlin Gallagher – The benefits of the RIFLE pilot project at CFS. How you too can see quicker results.

David Larraguibel - The Use of Multi-Spectral Imaging in Forensic Post-Mortem Examinations

Rolanda Lam – Fingerprint Recovery from unfired/fired ammunition and detonated improvised explosive devices

Eugene Liscio - Shooting Reconstruction Methods | Accuracy and Errors

Shane Turnidge – Friction Ridge Analysis, a return to Science

Brian Dalrymple – Fingerprints transferred from tape

Wade Knapp – ‘McGyver Forensics’, Thermal paper, regular paper processing techniques

Durham Regional Police – Case study presentation “10 years between murders”

'McGyver Forensics', Thermal paper, regular paper processing techniques



Wade Knaap, Toronto Police Service Det. Cst. (Retired), is a part-time faculty member in the forensic science program at the University of Toronto Mississauga where he teaches forensic science and forensic identification related courses. Prior to this, Mr. Knaap was a detective constable with the Toronto Police Service and a forensic identification specialist in the Forensic Identification Services Unit. Mr. Knaap regularly lectures and conducts workshops at universities, colleges, and conferences throughout Canada and the United States on forensic identification techniques and other related topics. He is a past president of the Canadian Identification Society and a former chair of the Ontario Police College Forensic Advisory Board. Wade has been published numerous times in the *Journal of Forensic Identification*, *Identification Canada*, and the *RCMP Gazette* regarding forensic identification concepts. Mr. Knaap was also a contributing author in *Crime and Measurement: Methods in Forensic Investigation* (Durham, NC: Carolina Academic Press, 2011) and *The Lawyer's Guide to the Forensic Sciences – Chapter 8 "Fingerprint Analysis"* (Irwin Law 2016). Since 2012, Mr. Knaap has been the editor of *Identification Canada* (peer reviewed publication of the Canadian Identification Society). In 2002–2003, he was the recipient of the Al Waxman Award for Excellence in the Field of Forensic Identification. Additionally, in 2018–2019, Wade Knaap was the recipient of the University of Toronto Mississauga Teaching Excellence Award for Sessional Instructors.



Veronica Umerez is currently in her third year at the University of Toronto Mississauga in the Forensic Science program. She is specializing in Forensic Anthropology with a minor in Classical Civilization and is expected to graduate in June 2023. She wishes to pursue further graduate studies, specifically to become a pathologist's assistant. Veronica has assisted Wade Knaap with demonstrations for his

introductory forensic science course, The Real CSI, and his presentations for the Osgoode Hall Law School. She is also an editorial assistant of *Identification Canada*.

Adam Strong – 10 Years Between Murders

In September 2017, Durham Regional Police Service (DRPS) were called to the Oshawa Harbour for a report of human remains being recovered from Lake Ontario. Police attended and found a torso of a female that had been found by fishermen. A few months later, police responded to a call where a plumber had located what he believed to be human flesh in the pipes of a house. DRPS Forensics started an investigation that would last over four years from start to finish. The investigation led to disarticulated remains, a mountain of DNA evidence, a trial for not one, but two victims of homicide, resulting in one of only a handful of convictions in Canadian history where a body was not located and the eventual recovery of those remains!

Come listen as the lead forensic investigators walk you through this career case and how they solved murders 10 years apart!

This presentation will be limited to law enforcement personnel only and no recording devices will be allowed due to the content of the material.

Detective Constable Desiree Hamid # 3296

A member of the Durham Regional Police Service holding the rank of Detective Constable, Desiree HAMID is in her 19th year of service with 12 years dedicated to the Forensic Investigative Services Unit. She holds a Bachelor of Forensic Identification Degree from Laurentian University. She specializes in the area of forensic footwear examination.

Detective Constable HAMID is currently a Certified Footwear Examiner with the International Association for Identification and will soon be published in the Journal of Forensic Identification for recent footwear related research.

Detective Constable HAMID has been involved in several high profile forensic investigations. She was the lead forensic investigator for the double homicide and 5-year investigation of Rori HACHE and Kandis FITZPATRICK.

A/Detective Bryce MacLean # 653

Bryce MacLean is in his twenty-third year as a member of Durham Regional Police and has been a member of Forensic Investigative Services for the last sixteen years where he is currently a supervisor of a team of investigators. Since starting his career in forensics he has participated in numerous educational and training opportunities including at the Universities of Tennessee and Mercyhurst. He holds a Bachelor of Forensic Identification Degree from Laurentian University. He specializes in the area of forensic

anthropology focusing on the recovery of human remains and human osteology and is an Assistant Coordinator for the Recovery of Human Remains course taught annually at the Ontario Police College. He has a vast amount of experience in the forensic investigation of major cases and has used his experience to teach and guest lecture within the law enforcement community as well as at university and college level.

Detective Drew Groves # 3326

Drew started policing in 2001 with the Toronto Police Service and transferred to the Durham Regional Police Service in 2004. He entered Forensic Investigative Services in 2006. Drew has had the opportunity to attend a number of learning opportunities relating to human remains recovery which included visiting the Body Farm at the University of Tennessee, The Ranch at Texas State University and numerous trips to Mercyhurst University in Erie, Pennsylvania. While a member of FIS, Drew has completed his Bachelor of Forensic Identification Degree at Laurentian University and has just completed his Master's in Public Safety with Wilfrid Laurier University. Drew is the team leader for the Human Remains Recovery Course which is run annually at the Ontario Police College. Drew was promoted in 2020 and after a 15-month stint in the Central Cellblock and Court Services, has made his return to FIS. Drew is currently a member of the Ontario Firearm Investigators and Experts Group and a Director-at-Large with the executive committee of OFIA.

Fingermark Recovery from Unfired/Fired Ammunition and Detonated Improvised Explosive Devices

Recovering sufficient friction ridge details for comparison and identification purposes from difficult substrates like fired ammunition and detonated improvised explosive devices continues to be challenging. This 3-hour presentation will provide updates from the Royal Canadian Mounted Police (RCMP) regarding its various proof-of-concept, optimization, comparison, and pseudo-operational studies with such substrates since 2019. The RCMP has been investigating different fingerprint detection methods, including disulfur dinitride (Foster+Freeman RECOVER® Latent Fingerprint Technology), vacuum metal deposition (West Technology Forensics VMD360), cyanoacrylate/dyestain, and electrodeposition of gun blue, to develop fingerprints. Benefits and limitations associated with the different detection methods will also be discussed.



Dr. Rolanda Lam

Royal Canadian Mounted Police

Dr. Rolanda Lam earned her Honours B.Sc. at the University of Toronto Mississauga (Canada) and her Ph.D. at the University of Technology Sydney (Australia). She has been with the Royal Canadian Mounted Police for 13 years, processing casework in both forensic identification and forensic toxicology, and conducting research. Dr. Lam is currently the Forensic Laboratory Advisor within Integrated Forensic Identification Services – Scientific Technical Support, where she focuses on improving the forensic identification discipline through research and standards development, and sharing new information to the fingerprint community nationally and internationally.

Fingerprints Transferred From Tape

Brian Dalrymple began a career in forensic identification almost half a century ago. He initiated the research project that resulted in the detection of fingerprints by laser, which has evolved into the current widespread use of forensic light sources. He established the first police computer image enhancement system in Canada. He retired from the Ontario Provincial Police as Manager, Forensic Identification Services, and began a second career as a consultant and teacher. He has taught fingerprint detection and photography in many countries, including the United States, Israel, India, China, Tai Wan and New Zealand. He is currently an Adjunct Professor at Laurentian University, whose courses are featured in the Bachelor of Forensic Identification program.

Adhesive surfaces, in the writer's case experience, are infrequently encountered as exhibits for fingerprint examination, relative to other substrates like paper and plastic, but they do offer unique advantages and evidential weight when successful, and routinely reveal the need for sequential processing. Unlike passively transferred fingerprints that often lack time frame or context, impressions recovered from the adhesive side of tape strongly suggest active participation in the incident at the time it was executed.

The composition of fingerprints is known to be open-ended, with each of our techniques targeting a different specific ingredient. It is apparent that a fingerprint will only be revealed if it contains enough of the ingredient targeted by the method used.

In an eloquent display of Locard's Principle, finger deposit often transfers from the adhesive side of tape or labels to the substrate on which it lies. This second-generation transfer can frequently result in clearer and more comprehensive fingerprint detail than seen on the adhesive side. The impression will be a mirror image of the original.

This two-step procedure has proven invaluable in the examination of anonymous and/or threatening letters.

Shooting Reconstruction Methods | Accuracy and Errors

As shootings become more prevalent in our society, the need to accurately document bullet trajectories under different circumstances is vital. Different surfaces produce different types of impact damage and the analyst must consider methods that cover a wide range of damage that can be encountered at a crime scene. Examples such as single bullet impacts, multiple bullet impacts, ricochet, shotgun pellet patterns, and cartridge case ejection patterns must all be considered as to their value and influence on a reconstruction. Documentation methods range from very simple tools such as a tape measure, string and digital camera to using more modern techniques of photogrammetry and laser scanning. A strong emphasis on accuracy and errors is necessary in order to properly assess the weight of a shooting reconstruction and thus, this workshop will break down different types of bullet impact damage and consider the different methods which can be used for each scenario. Current research will be presented and attendees will be asked to perform measurements on previously prepared panels using manual methods and online software whereby the accuracy and errors can be immediately presented.

Eugene Liscio is a registered Professional Engineer in the Province of Ontario, Canada and is the owner of ai2-3D, a consulting company that specializes in 3D forensic documentation, analysis and visualizations. Eugene has testified in court in both US and Canada utilizing 3D technologies such as photogrammetry and laser scanning and has also provided interactive 3D crime scene reconstructions to aid the jury. Eugene has been called to aid police agencies in Canada and the US and was retained to assist the Ontario Provincial Police in the shooting at the Canadian House of Commons in 2013. He is the Past-President of the International Association of Forensic and Security Metrology (IAFSM) and is an Adjunct Professor at the University of Toronto, where he teaches a 3D Forensic Reconstruction and Mapping course as part of the Forensic Sciences Program. Eugene is actively engaged in research and mentoring students focusing on 3D documentation and analysis techniques.



The Use of Multi-Spectral Imaging in Forensic Post-Mortem Examinations

Mr. Larraguibel's area of expertise is focused primarily on the documentation of human remains in medico-legal investigations to determine cause of death, secure decedent identification, and gather evidence. Drawing on a decade of experience with the Ontario Forensic Pathology Service and the Centre for Forensic Science, David has developed a modernized methodology for photographic documentation of forensic post-mortem examinations with a co-requisite information technology infrastructure to manage large imaging datasets, and is now expanding this to include a multispectral photographic imaging protocol for use by front line forensic death investigators in the field. His current areas of research include the study of spectral characteristics of tattoo inks and firearm discharge residue, and their interaction with decomposing tissues; Computational photography and related fields of scientific visualization such as Reflectance Transformation Imaging; Establishing open frameworks for documenting large sets of unidentified remains for the purpose of Mass Casualty and DVI incidents.

David Larraguibel is a Forensic Support Technician with the Ontario Provincial Police where he provides instruction to front line and forensic identification officers in the use of advanced photographic techniques, as well as training and support to Forensic Pathology teams, Sexual Assault Nurse Examiners, SIU, Police, and Military investigators.

[Friction Ridge Analysis, a Return to Science](#)

Shane Turnage, Fingerprint Analyst, has been part of the forensic identification landscape in Canada for more than thirty-one years. Since retiring from public service in 2017, he has owned and operated an independent expert fingerprint and palm print consultancy, "SSTForensics". His business has helped several advocates understand the true extent of the evidence faced by their clients in both civil and criminal matters.

His public service career in friction ridge examination spanned more than twenty-six years. He worked for both the Peel Regional Police and the Toronto Police Service in their respective Automated Fingerprint Identification System (AFIS) sections. He worked on many high-profile cases and has testified in various Court proceedings.

As an author, he has been jointly published in the International Association for Identification's publication, the Journal of Forensic Identification and in Evidence Technology Magazine. He has also been published in the newsletters of the Canadian Identification Society, the Michigan-Ontario Identification Association, and the New York State division of the International Association for Identification.

Shane has taught palm print analysis courses and advanced friction ridge analysis courses to students enrolled in various forensic identification courses at the Ontario Police College in Aylmer, Ontario. He has also taught his palm analysis workshop and palm crease identification workshop to participants at the Kent Police College in the United Kingdom.

Over the course of the pandemic, he has presented zoom lectures on palm analysis and processing images of hands in photographs. Shane's most recent endeavor was to create a three-day friction ridge examination workshop entitled, "Friction Ridge Analysis, a Return to Science".

In addition to his teaching, he has lectured throughout Ontario and the United States on various friction ridge analysis related topics at several conferences.