Forensic Incident Investigation, Reconstruction and Prevention

Wednesday 23rd - Friday 25th October 2019

Course Description

Forensic Incident Investigation, Reconstruction & Prevention is the latest workshop being offered by the Department of Forensic Medicine; a partnership between the Victorian Institute of Forensic Medicine and Monash University. The course is focused on vehicle and mobile plant related collisions and serious injury incidents of any nature and is designed for workplace and transport regulators, industry OH&S managers, safety personnel, Police investigators, workplace incident investigators, legal profession, military and safety researchers.

Developed by a multi-disciplinary team of experts covering all aspects of forensic investigations, incident reconstruction, safety science, medico-legal death investigation process and engineering, biomechanics, epidemiology and injury prevention, this course will offer particular insight linking such investigations with the court and legal processes that may confront all parties involved.

The course aims to equip attendees with the tools for how to investigate, analyse, reconstruct and manage and respond appropriately to incidents involving moving vehicles, from transport and vehicle crashes to workplace mobile plant incidents.

This course aims to provide attendees with the high level expert knowledge and experience needed to rigourously investigate, analyse, reconstruct, manage and respond appropriately to incidents involving moving vehicles, from transport and vehicle crashes to workplace mobile plant incidents and serious injury incidents of any nature.

Utilising a ‘Vision Zero’ safety mindset as the guiding principle, focusing on prevention through an understanding how and why incidents occur, attendees will explore the latest research on and most advanced techniques for; conducting robust incident investigations and root cause analysis, crash/collision/impact reconstruction and incident risk management.

The course will be delivered by Prof. (Em.) Raphael Grzebieta, A/Prof. George Rechnitzer and Ms Tia Gaffney together with VIFM world leading experts A/Prof. Richard Bassed, Prof. David Ranson, Dr Dimitri Gerostamoulos, A/Prof. Morris Odell, Prof. (Em.) Joan Ozanne-Smith, A/Prof. Lyndal Bugeja, Prof. Stephen Cordner, Deborah Winters and The Honourable John Coldrey (Ret. Vic. Supreme Court Justice).

Who This Course Is For

This course is for all organisations and personnel involved and committed to advancing their knowledge and capability in incident investigation, analysis and risk management with the goal of preventing serious injury incidents, utilising a Vision Zero philosophy. This high level workshop would be suitable for workplace and transport regulators, industry OH&S managers, safety personnel, Police investigators, workplace incident investigators, legal profession, military and safety researchers.

Course Objectives

After participating in this course, attendees will learn:

- The demands and process of robust incident investigation, analysis and reporting
- How to identify and understand incident root causes through carefully designed forensic investigation and reconstruction
- How to manage the legal risks and damages of an incident to organisations
- How to leverage forensic tools and technologies to enhance incident investigations and analysis
- How to collect and map crucial evidence including retaining and maintaining chain of evidence
- How to manage incident including media, clients and public exposure
- About regulatory ‘duty of care’ obligations, and improve your safety culture to reduce incident risk
- Understand how forensic medicine and science intersect with forensic engineering incident investigation and injury and death prevention
Wednesday 23rd October

High Level Incident Investigations: Why Is It Needed?
Introduction to the Medico-Legal Death Investigation Process and Injury Prevention
Extracting the Key Cause of An Incident through Forensic Investigation
Forensic Toxicology and the Effects of Drugs and Alcohol
Optimising Your Incident Investigation Plan for the Best Outcome
Media Overview – What to Do and What Not to Do
Containing and Resolving Incident in the Critical Response Phase
Expert Evidence / Expert Witness Testimony

Thursday 24th October

The Investigation Phase: Putting the Pieces Together – Part One
Clinical Forensic Medicine – Fitness to Drive and Operate Plant
The Investigation Phase: Putting the Pieces Together – Part Two
Court Phase: Understanding the Litigation Process
Predicting and Preventing Safety Incidents

Friday 25th October

Analysing Real-World Case Studies

Presenters

Dr. Raphael Grzebieta Adjunct Professor in Forensic Engineering at Monash University’s Victorian Institute of Forensic Medicine (VIFM) and Professor Emeritus at the Transport and Road Safety (TARS) Research Centre within the School of Aviation at UNSW, Sydney. Over his 25 years at Monash and 11 years at UNSW, he supervised numerous PhD graduates, co-authored over 350 research papers and led major Australian Research Council, government and industry funded research projects on vehicle and road infrastructure crashworthiness, structures subjected to impact loading, motorcycle safety, cyclist safety, injury biomechanics, heavy vehicle safety, naturalistic driving studies and lately quad bike safety. He regularly provides expert evidence for Coroners, Police, Public Prosecutors, Work Regulators, CTP Insurers and legal firms. Among his awards, he was recently presented the annual 2019 Kenneth Stonnex Award for improving road safety by the US National Academies of Sciences, Engineering and Medicine’s Transportation Research Board’s (TRB’s) Roadside Safety Design Committee AFB20.

Dr George Rechnitzer is one of the most experienced and respected Safety and Forensic Engineers in Australia, and since 1989 has run his own independent consultancy, preparing over 1000 investigations and expert reports. Expert evidence is often presented in Court from the Supreme Court, the County Court to the Magistrates Court. Dr Rechnitzer specialises in the application of the engineering sciences to safety in many areas including road safety, crashworthiness of all vehicle types, occupational health and safety, incident investigation, analysis, reconstruction, and countermeasure development for injury prevention, and has published widely in this area. His work in workplace, vehicle and road safety has featured in over 150 publications, along with Dr Rechnitzer presenting at over 70 conferences and seminars, worldwide. He is an Adjunct Associate Professor in Forensic Engineering (Monash University) at the Victorian Institute of Forensic Medicine and also Adjunct Associate Professor in the Transport and Road Safety Research Centre (University of NSW).

Ms Tia Gaffney is a Mechanical Engineer and is the Principal Professional Leader for Transport Safety at AARB (the Australian Road Research Board). Her focus is on delivering high quality applied research to improving transport safety. With the help of clients and through successful projects, Tia’s primary aim is to improve the safety of vehicles and transport infrastructure in accordance with the Safe System Approach. She is a recognised transport industry safety leader with more than 17 years of engineering and leadership experience in both the private and public sector through Mechanical and Forensic Engineering, Compliance, and Litigation-related roles. Tia has a solid track record of hands-on experience in strategic planning, innovation, project management and delivery while maintaining strong technical engineering skill and scientific focus. Her work has been published extensively in respected, peer-reviewed forums. She has also co-authored Expert Evidence chapters on Collision Reconstruction and Industrial (Workplace) Incident Investigation.
**Associate Professor Richard Bassed** is the Deputy Director and Head of Academic Programs, as well as Senior Forensic Odontologist and coordinator of Identification Services, at the Victorian Institute of Forensic Medicine, Melbourne, Australia. Richard’s research interests include; forensic aspects of post-mortem dual energy CT interpretation, personal identification using advanced imaging techniques, improving the evidence base in Forensic Medicine and Science – especially in relation to intentionally inflicted trauma and elder abuse, craniofacial trauma in the setting of family violence, and evidential aspects of bite-mark analysis. Richard is also Head of the Department of Forensic Medicine at Monash University. He has a Bachelors degree in Dental Surgery from the University of Sydney, a Graduate Diploma in Forensic Odontology from the University of Melbourne and a PhD from the department of Forensic Medicine, Monash University. Richard is a Fellow of the Faculty of Oral and Maxillofacial Pathology within the RCPA, and is the course coordinator for the Monash University Masters of Forensic Medicine.

**Professor David Ranson** is the Deputy Director of Forensic Services responsible for the core forensic investigation services at the VIFM, he provides leadership to forensic pathology, clinical forensic medicine and forensic sciences, ensuring the work of the specialists in these forensic disciplines are of the highest quality and delivered efficiently and effectively. David sets the strategic direction for Forensic Services, in consultation with the VIFM Director. He implements initiatives which improve performance and pursues opportunities (including business enterprise) which contribute to the further development of the Division and the Institute more generally. Professor Ranson works in collaboration with the Deputy Director Academic Services, firstly to develop new technologies and research programs that are used to improve the forensic services that the Institute can provide and secondly to the assist with delivery of undergraduate and postgraduate teaching that helps with the recruitment of new practitioners and so ensures continuity of forensic service provision in Victoria.

**Dr Dimitri Gerostamoulos** is Head of Forensic Science & Chief Toxicologist at the VIFM. He is a Toxicologist and Pharmacologist. Dimitri is an approved analyst in the Road Safety Act of Victoria and is a member of The International Association of Forensic Toxicologists (TIAFT). He is also a member the Society of Forensic Toxicologists (SOFT), Society of Hair Testing (SOHT) and the Forensic and Clinical Toxicology Association of Australasia (FACTA Inc). Dimitri has given evidence in more than 130 judicial cases in the field of forensic toxicology and pharmacology and has provided opinions on a number of other cases around Australia in relation to the pharmacology of drugs, effects of drugs in drivers, and analytical and toxicological issues in relation to drugs in hair, blood, urine and other matrices. His expertise includes alcohol fuelled violence and synthetic drugs.

**Associate Professor Morris Odell** is the Head of Clinical Forensic Medicine at the VIFM and has been a full-time Forensic Physician at the Institute since 1996. Morris is a Fellow of the Faculty of Forensic and Legal medicine of the Royal College of Physicians, and an elected member of the International Council on Alcohol Drugs and Traffic Safety (ICADTS) and a member of the International Traffic Medicine Association. Morris has considerable experience in the assessment of alcohol and drug affected individuals including drivers. He has participated in supervised experiments on the effect of alcohol on volunteers, and has presented papers on aspects of alcohol drugs and driving at international conferences. Morris is a contributing author for a textbook on the subject of Forensic Pharmacology.
Professor Emeritus Joan Ozanne-Smith heads the Injury Prevention Research Unit at the Monash University Department of Forensic Medicine. She has qualifications in medicine, public health and sociology a research Doctorate in injury epidemiology and a Fellowship of the Australasian Faculty of Public Health Medicine. Her injury prevention research is multi-disciplinary, interfacing the methods of epidemiology and public health with those of other disciplines and includes injury prevention in low- and middle-income countries, drowning, safe design, and child injury prevention and injury data systems. She has spent more than a decade as Director of major data systems: initially the Victorian Injury Surveillance System and more recently the National Coronial Information System. Joan's other interests include public health policy development, translation of research to prevention and building intellectual capacity in injury prevention. She is currently principal supervisor of 3 PhD students. Joan’s research is recognized widely through publications, awards and international invitations for consultancies and keynote presentations.

Associate Professor Lyndal Bugeja has a joint appointment as an Associate Professor at Monash Nursing and Midwifery and the Department of Forensic Medicine. She has qualifications in criminology and a research doctorate in public health. Her experience in the conduct of medico-legal death investigations and the utility of information generated for these investigations has been applied to the prevention of injury and violence. In collaboration with research colleagues she has been awarded competitive grants from both international and national funding bodies, including the National Health and Medical Research Council and Department of Social Services. Lyndal has designed and led a number of collaborative research studies that have culminated in the development of evidence-based recommendations to mitigate the risk of injury and violence. Her research has contributed to legislative and policy changes that subsequently reduced fatal injury. Lyndal is an accredited higher degrees supervisor and has supervised students during internships and in Honours, Masters and PhD programs.

Professor Stephen Cordner is particularly committed to teaching and has undertaken or organised specialist forensic medical training in Indonesia, Sri Lanka, Botswana, Uganda, Namibia, Palestine and Afghanistan. He has worked for the International Committee of the Red Cross in Geneva and has undertaken forensic medical investigative work in Kosovo; East Timor; Fiji; and Bali as well as extensive case work in Australia. Member of the Order of Australia (AM) for services to forensic medicine and pathology nationally and internationally. Medal of the Royal College of Pathologists of Australasia – for service in Bali following the bombings. Medal of the World Association of Societies of Pathology – for service to forensic pathology internationally.

The Honourable John Coldrey became a barrister in 1966 and contributed to many different areas of the legal profession throughout Australia. Following his appointment as the Director of Public Prosecutions for Victoria in 1984 he became a Justice of the Victorian Supreme Court in 1991 where he served until 2008. He was also active in the Northern Territory where in his role as the Director of Legal Services for the Central Land Council he was involved in the grant of Aboriginal title to Uluru as well conducting Aboriginal land claims and negotiating major industry agreements with the Northern Territory Government and mining companies. John Coldrey has written numerous major conference papers and legal publications relating to the operation of the criminal law. He has been a member of various committees and councils including chairing the Consultative Committee on Police Powers of Investigation. In 2004, John Coldrey was awarded the Gold Medal of the International Society for Reform of Criminal Law (of which he is a Board member) in recognition of his contribution towards criminal law reform. He is an Honorary Life Member of the Criminal Bar Association of Victoria and has served as a judicial member of the Forensic Leave Panel and the Adult Parole Board of Victoria.