Drug Analysis in Forensic Science

Dr Calum Morrison
Forensic Medicine and Science
School of Medicine
University of Glasgow

The use of drugs of abuse and pharmaceutical drugs is an important issue in forensic science and indeed relevant to society in general. A large proportion of work carried out in general forensic science laboratories consists of the chemical analysis of drugs, either in the body or from seized materials. This course will cover the analysis of various drug and related substances within the remit of forensic toxicology and chemistry.

Important aspects of forensic toxicology such as an introduction to the various biological matrices used for analysis such as blood, urine, liver and an appreciation of other less common specimens including bile, hair and oral fluid. Coverage of drug substances will include amphetamines, ring substituted amphetamines, cocaine, opiates/opioids, cannabinoids, benzodiazepines and other forensically important pharmaceuticals, along with some of the common metabolites and conjugates formed from phase 1 and 2 metabolic processes. Throughout methods of analysis will be discussed including extraction procedures such as solid phase extraction, instrumental analysis using chromatographic and mass spectrometric techniques, as well as the importance of chain of custody. In addition alcohol in a forensic science context will be discussed with reference to methods of analysis, interpretation of results and casework examples including driving under the influence and post-mortem situations.

Drug analysis in forensic chemistry is focused on drug materials seized by law enforcements organisations such as the police or customs. In terms of drugs of abuse the various forms of cannabis are important along with heroin, amphetamines, cocaine and some pharmaceuticals. This course will include a description of typical analytical procedures for the analysis and identification of drugs such as colour tests, spectroscopy, chromatography and mass spectrometry. In addition microscopic identification of cannabis and some NPS substances will be discussed.

Biography

Dr Calum Morrison completed a B.Sc. in Chemistry (1992) and a Ph.D. in Forensic Toxicology (1996) from the University of Glasgow. He carried out casework in the Department of Forensic Medicine and Science while completing his Ph.D. until 2000 when he moved to the Police Forensic Science laboratory in Dundee and carried out case work in the Forensic Chemistry section, in particular drugs, alcohol and fire investigation. Between 2004-2014 he was employed at the University of the West of Scotland (formerly the University of Paisley) a as Lecturer in Forensic Science. In 2014 Dr Morrison moved to the University of Glasgow as Senior Lecturer in Forensic Toxicology and currently supervises 4 Ph.D. students in the area of forensic science.

Termin	Dzień tygodnia	Godzina	Miejsce
04.05.2015	poniedziałek	9.15 – 12.00	LUWR
05.05.2015	wtorek	9.15 – 12.00	LUWR
06.05.2015	środa	9.15 – 12.00	LUWR
07.05.2015	czwartek	9.15 – 12.00	LUWR
08.05.2015	piątek	9.15 – 12.00	LUWR