

Professor Lorna Anne Dawson, PhD, M I Soil Sci, CSc
The James Hutton Institute
Aberdeen Scotland
Mobile: 07815178093
e-mail:lorna.dawson@hutton.ac.uk

Profile

Lorna Dawson is a Principal Soil Scientist in Soils, James Hutton Institute, with over 25 year's experience in managing and conducting research. She is Head of the Soil Forensics Group at the Hutton Institute, is honorary professor in Forensic Science at Robert Gordon University, and is seconded to manage and advise on the Environmental Change programme within the Scottish Government's (RESAS) strategic research. Lorna developed the application of soil organo - mineral markers in forensic investigations. She has published widely, and regularly presents at national and international conferences. She is affiliated to Aberdeen and Robert Gordon Universities in Aberdeen, contributing to the Archaeology, Soils, Environment and Forensic Science lecture courses, and an external examiner at Strathclyde University. She has supervised over 20 PhD projects and has published over 70 refereed journal papers, books and book chapters. She is an editor for journals *ISRN Soil Science* and *Elsevier, Materials Research Bulletin*. Lorna was Principal Investigator on a project funded by the EPSRC, developing tools for soil characterisation in forensics. This work involved collaboration with various forensic experts in the National Policing Improvement Agency, the Forensic Science Service, and various police laboratories and forces.. She is currently the Lead PI on a FW7 European grant (MiSAFE) developing and testing microbial tools for use in case work. She is treasurer of an international Geoforensics network (IUGS Initiative on Forensic Geology-IFG). She coordinated sessions at the International Crime Science Meetings, London, 2007-2009 and organised major conferences on environmental and criminal soil forensics in 2007 and 2010, and has co-organised major international conferences in 2007 (Edinburgh), 2010 (California) and in 2012 (The Hague). She has recently co-edited seminal books on Geoforensics (Springer, 2009; The Geological Society, London, 2013), is a trained Expert Witness, is Head of the Institute's Soil Forensic Group, and has worked on over 60 forensic cases in the UK and abroad, as a forensic soil expert. She regularly presents evidence in courts in Scotland, England, Wales and Australia. She is a member of the British Society of Soil Science, a Chartered Soil Scientist, was a council member of the Institute of Professional Soil Scientists (2009-2013) and was a member of the Science and Technology Facilities Council, Science in Society panel (2007-2011). She has considerable experience in knowledge exchange, has worked on sabbatical for the BBC, advising on 'Countryfile', 'Vera' and 'Silent Witness'. She organised and performed in public debating events, examining the interface between science and fiction, and was awarded best live science communication event, 2009. She was appointed to the General Committee of the British Science Association in 2013 and is Chair of the Scottish Government, RESAS Knowledge Exchange Committee (2012- present) and is a member of the Chief Scientist's Science and Engineering Community Forum (2014-present).

Education

1980-1984 Aberdeen University, PhD. Soil Science.
1976-1979 Edinburgh University, BSc 2.1 (Hons.). Geography.
2011/2012. Cardiff University, Diploma in Criminal and Civil law.

Selected Recent Refereed Publications

- Aitkenhead, M., Coull, M and Dawson, L. (In press) Neural Network models in Search. *Environmental Forensics*.
- Eley, Y., Dawson, L., Black, S., Andrews, J., Pedentchouk, N. (2014) Understanding 2H/1H systematics of leaf wax *n*-alkanes in coastal plants at Stiffkey saltmarsh, Norfolk, UK. *Geochimica et Cosmochimica Acta*. 128. pp. 13-28.
- Carvalho, A, Ribeiro, H, Mayes, R, Guedes, A, Abreu, I, Noronha, F, and Dawson, L. (2013) Organic characterisation of sediments in two river beaches from northern Portugal for forensic application. *Forensic Science International*, 233, 403-415.
- Farrugia, K.J.; Bandey, H.; Dawson, L.A.; NicDaeid, N.N. (2013) A comparison of enhancement techniques for footwear impressions on dark and patterned fabrics. *Journal of Forensic Sciences*, 58, 1472-1485.
- Mehmood, F.; Rashid, A.; Mahmood, T.; Dawson, L.A. (2013) Effect of DTPA on Cd solubility in soil - accumulation and subsequent toxicity to lettuce. *Chemosphere*, 90,1805-1810.
- von der Luhe, B.; Dawson, L.A.; Mayes, R.W.; Forbes, S.L.; Fiedler, S.(2013) Investigation of sterols as potential biomarkers for the detection of pig (*S. s. domesticus*) decomposition fluid in soils. *Forensic Science International*, 230, 68-73.

Recent Books and Book Chapters

Dawson LA and Mayes R (*in press*) Soil in Environmental and Criminal Forensics. In: Introduction to Environmental Forensics, Third Edition. (Eds) Brian L. Murphy and Robert D. Morrison.

Pirrie, D.; Ruffell A.; Dawson, L.A. (2013) Environmental and Criminal Geoforensics. Geological Society, London, Special Publications, p 384.

Ritz, K.; Dawson, L.A.; Miller, D.R. (2009) Criminal and Environmental Forensics. Springer, p 519.

Recent Invited Lectures and Public Talks

Dawson L.A. et al, (2014) Provenancing Tools: Animal, vegetable or mineral. The Anti- Illicit Summit, Murrayfield Stadium, Edinburgh, 6 March 2013.

Dawson, LA, (2013) Soil in case work. Forensic Science Society Annual meeting. Forensic Horizons. Manchester, 5 November 2013.

Dawson, LA, Soil forensic science. Invited keynote. Seminary Análisis Criminalístico de Suelos II. Servicio de Criminalística of Guardia Civil, Madrid, Spain, 26-27, November 2013.

Dawson, L.A.; Fitzpatrick, R.; Donnelly, L.; Harrison, M.; Rolph, A. (2013) The use of soil provenance in ground searches for burials. Moscow State Law Academy, Moscow, Russia. 123308, Russia, Moscow, 23 October, 2013.

Dawson, L.A. (2013) Geomatics and other novel earth related approaches for intelligence and evidence. 17th Interpol International Forensic Managers Symposium. Lyon, France, 8 -10 October 2013.

Dawson, L.A.; Bestwick, C.; Hotchkiss, E.; Innes, L.; Avery, L.; Elliott, G.; Stutter, M.; Skuce, P.; Katzer, F.; Zadoks, R.; Mayes, R.; Wells, B. (2013) INEF Penn State CA conference, Environmental Forensics. The Pennsylvania State University, PA. 10-12 June 2013.

Dawson, L.A. (2013) Scottish soils research. Global Soil Partnership Plenary Assembly, Rome, 10-13 June 2013.

Dawson, L.A.; Fitzpatrick, R. (2013) The use of soil in criminal investigations. European Geosciences Union General Assembly, 7-12 Vienna, Austria, 2013.

De Groot, P.; Bojar, A.V.; Kerstel, E.; Bol, R.; Meier-Augenstein, W.; Hoogewerff, J.; Dawson, L.A. (2013) Stable isotopes in geosciences. European Geosciences Union, General Assembly, 7-12 Vienna, Austria, 2013.

Dawson, L.A. (2013) Novel earth related approaches for intelligence and evidence. The Forensic Science Society and California Association of Criminalistics Joint Autumn Conference, Forensic Horizons 2013, Piccadilly, Manchester, 6-8 November 2013.

Recent Popular Press Articles

Dawson, L.A. (2014). Dirty. Secrets of Soil. AWE International. 27 May,, 2014.

NicDaeid, N.; Dawson, L.A. (2013) Comprehensive analysis of the chemical enhancement of footwear marks on fabrics. Forensic Magazine, Published online, 12 February 2013.

Pirrie, D.; Donnelly, L.; Rollinson, G.K.; Butcher, A.R.; Dawson, L.A.; Pirrie, H.A. (2013) Forensic geology.. Geology Today Magazine; 29: 222–22.

Confidential Reports

Over 70 highly confidential statements to various police forces and forensic agencies in the UK and abroad. She works with UK police, forensic practitioners, Government and Security Agencies, with security clearance at the highest level.