Dawson, CBE, BSc, PhD, CSci, F. I. Soil Sci, FRSE, FRSA



http://www.hutton.ac.uk/staff/lorna_dawson https://www.huttonltd.com/services/soil-forensics https://www.sefari.scot/climate-and-the-environment

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Outline

I am a Principal Research Scientist at the James Hutton Institute, Aberdeen, Scotland, UK, where I am Head of the Soil Forensics Group. I hold the qualifications of BSc (Honours) Geography (Edinburgh University 1979), and PhD in Soil Science (Aberdeen University 1984). I am visiting Professor in Forensic Science at the Robert Gordon University and Professora Auxiliar, Departamento de Ciências, CESPU. I am SEFARI Gateway Advisor and the Gateway KE Lead for Environment and co-Chair of the FFCC Scotland inquiry. I am a Fellow of the British Society of Soil Science, a Chartered Scientist and hold an Expert Witness certificate in both Criminal and Civil Law (Cardiff University, 2011, 2012, updated 2017). I was awarded a CBE in the Queen's birthday honours list, June 2018, for my services to soil and forensic science and awarded a Fellow of the Royal Society of Edinburgh in 2019 and awarded Soil Forensic Expert Witness of the Year in the Corporate INTL 2021 Global Awards. I have published widely on the subject of forensic soil science with over 100 refereed publications, books and book chapters. I am an Expert Advisor with the National Crime Agency, have worked with numerous police forces in Scotland, England, Wales, Ireland, Brazil, Belize & Australia over the last 16 years and have advised and reported on over 150 cases, written over 100 Expert Witness reports, and presented evidence in 16, in the UK and overseas.

Qualifications

BSc (Hons) Geography, Edinburgh University (1979)

PhD Soil Science, Aberdeen University (1984)

Expert Witness Certificate Criminal law, Cardiff University (2011)

Expert Witness Certificate Civil law, Cardiff University (2012)

Masterclass in Expert Report Writing, Bond Solon (2017)

Chartered Scientist (2010 to present)

Science Communications Master Class, University of the West of England (2011)

Chartered Management Institute Certificate, SCQF Level 6 Diploma in First Line Management (2019)

Employment history

2011-present: Head of Soil Forensic Science Unit, James Hutton Institute 2016-present: SEFARI Advisor, SEFARI Gateway, Scottish Government 2016-present: Knowledge Exchange Lead for Environment, SEFARI Gateway

2005-2011: Advisor for the Strategic Research Programme, SEFARI

1998-2005: Principal Scientific Officer, Soils Group, MLURI

1984-1998: Senior Research Scientist, Soil Plant Microbial Interactions Group, MLURI

1984-1985: Research Scientist, Soil Plant Microbial Interactions Group, MLUR

Responsibilities

- Advisor to the Directors Executive Committee (SEFARI) within the Scottish Government's (RESAS) Strategic Research 2016-2022
- Maintain research activities through innovation and collaboration in forensic soil science
- Expert Witness in Criminal and Civil Law
- Contribute to learned societies, teaching activities, editorial and refereeing
- Visiting Professor at Robert Gordon University
- Provide independent scientific advice to policy makers and environmental managers
- Manage forensic case work and act as senior reporter
- Treasurer, IUGS-IFG
- Chair, FGG, Geological Society, London

Measures of Esteem (2008 to present)

- BSA Media Fellowship (2008)
- Communication in Science Award; Best live science communication event (2009)
- Chartered Scientist status (2009-present)
- Expert witness in Criminal Law, Cardiff University (2010)
- Member, Science and Technology Facilities Council, Science in Society Panel (2009-2012)
- Committee for Crime Science Conferences, UCL, the British Library, London (2009-2011)
- INEF Conference Organizing Committee, Cambridge (2011)
- Science Communications Master Class, University of the West of England (2011)
- Honorary Professorship, Robert Gordon University (2011-present)
- Expert Witness in Civil Law, Cardiff University (2012)
- Expert on European Commission FW7 and Horizon 2020 Panel, Brussels (2012-2016)
- External Examiner, Strathclyde University, Chemistry Department (2012-2015)
- Council Member, Institute of Professional Soil Scientists (2010-2015)
- Carbones Expert Panel, FW 7 European Commission funded project (2012-2016)
- Panel Member, Scottish Government Knowledge Exchange Group (2012-2016)
- Member of Scottish Land Use Strategy Group (2011-2016)
- External Examiner for PhD in UK, Norway, the Netherlands, Denmark, Finland and Pakistan
- Member of the National Crime Agency Expert group (2016-present)
- Advisory Member of the CBRN GIFT FW 7 expert panel (2015-2019)
- Member of the Scottish Government's Soil Engagement Group (2016- present)
- Expert Witness, court appearances in Scotland, England, Wales and Australia (2010-present)
- Fellow of the Institute of Professional Soil Scientists (2014-present)
- Fellow of the Royal Society of Arts (2016-present)
- Member of the Land Environment Agency Group, Scotland (2015-present)

- Member of the British Association of Science General Committee (2013- present)
- Masterclass in Expert Witness Report Writing, Bond Solon, March, 2017
- Advisor on EU Cost Action group on hyper spectral imaging techniques (2017-2019)
- Advisor to SoilTracker Project, Denmark (2017-2020)
- Pride of Britain, Special Recognition Award, November 2017
- Member of the Royal Society of Arts, Food, Farming and Countryside Commission's Research Advisory Group (December 2017 to present)
- Editorial Board of "Geosciences" (ISSN <u>2076-3263</u>, http://www.mdpi.com/journal/geosciences)
- UK Intellectual Property Office Academic Committee (2018 to present)
- CBE, Queens Birthday Honours list, 2018. For service to soil and forensic science
- Fellow of the Royal Society of Edinburgh (2019 to present)
- Editor, Geoderma Regional (2020-present)
- Expert Witness, Award for Best Expert. Lawyers Monthly (May 2019)
- Who's Who (2020 to present)
- Soil Forensic Expert Witness of the Year in Corporate INTL 2021 Global Awards (2021)

Selected Recent Main Funding

- 2006-present: Lead Forensic Reporter and Expert Witness. Case work & Operations.
 Main clients: Alecto Forensic Services, FSS, LGC Forensics, Cellmark Forensic Services,
 Various Police Forces, Police Scotland, defence agencies, lawyers.
- 2011-present: Treasurer and Co PI. IUGS- IFG. International training and development in forensic geoscience.
- 2020: Equine Grass Sickness. Moredun Research Institute & Equine grass sickness research fund.
- 2020: National Audit Office. Review of Foot & Mouth disease disposal sites.
- 2016-2022: SEFARI Gateway. Strategic Research Centre of Knowledge Exchange.
- 2019-2023: MDT. Plastic distribution in Scottish soils.
- 2019: RSA. Stakeholder round table events for the RSA FFCC.
- 2017-2021: International Atomic Energy Agency. Quantification of intake and diet selection of ruminants grazing heterogeneous pasture using compound specific stable isotope.
- 2017: Scotland's Rural College. Analysis of cattle faeces for *n*-alkanes.
- 2015-2017: Co PI. JPI Climate 70766 HUMANOR Social-Ecological Transformations: HUMan-Animal Relations Under Climate Change in NORthern Eurasia.
- 2013-2015: FW 7. Scientific Lead and Co PI. (MiSAFE). Development and testing microbial tools for use in case work.
- 2009-2011: NERC. Co Pl. Tools for characterisation of organic soil and peat.
- 2007-2009: EPSRC. Lead. Engineering and Physical Sciences Research Council. Integration of Soil Fingerprinting techniques for forensic applications (SoilFit).
- 2007-2008: ESR. Co Pl. Potential use and limitation of multiple biological analysis methods for soil in physical evidence.
- 2006-2009: EPSRC. Lead. Engineering and Physical Sciences Research Council. Geoforensics and information management for crime investigation (GIMI).
- 2016-2022: Responsible for managing and reporting the Rural and Environment Science and Analytical Services (RESAS) division, on the effective use of over £12M/pa of Scottish Government Strategic funding. Natural Assets, Productive and Viable Land Use & Food, Health & Wellbeing.
- 2011-2016: Responsible for strategic advice re the Rural and Environment Science and

- Analytical Services (RESAS) division, on the effective use of over £10M/pa of Scottish Government Strategic funding.
- 2016- 2021: RESAS interdisciplinary Strategic Research Programme on Agri-Food-Environment, SEFARI.
- 2011-2016: Strategic Research Centre of Knowledge Exchange. Directors Executive Committee.
- 2013-2014: Creative Scotland. DNR. Contribution to Environmental Arts Collaboration. Environment and Agriculture. With Crichton Carbon Centre.
- 2014: Nil by Mouth. Contributions to a Science Arts Collaboration. Wide Open. Creative Scotland.
- 2009-2014: Office of the Chief Scientist. Murder, Mystery & Microscopes series of events, based on case histories from my forensic case work. Co-Lead.
- 2014-2015. Office of the Chief Scientist. Livestock Keepers. Contribution to events on animals in Scottish agriculture.

Selected Recent Refereed Publications (2013-present)

Donnelly, L.J.; Pirrie, D.; Harrison; Ruffell, A.; Dawson, L.A. (eds.) (2021) A guide to forensic geology. Geological Society, London, Special Publication 2021.

Dawson, L.A.; Auchie, D.; Parratt, D. (2021) The judicial system, reporting and giving evidence in court. In: Donnelly, L., Pirrie, D., Harrison, M., Ruffell, A. & Dawson, L. (eds.). A Guide to Forensic Geology. Geological Society, London.

Pirrie, D.; Ruffell, A.; Dawson, L.A. (2021) Geological evidence recovery from exhibits. In: Donnelly, L., Pirrie, D., Harrison, M., Ruffell, A. & Dawson, L. (eds.). A Guide to Forensic Geology. Geological Society, London.

Pirrie, D.; Ruffell, A.; Dawson, L.A.; McKinley, J. (2021) Crime scenes: Geoforensic assessment sampling and examination. In: Donnelly, L., Pirrie, D., Harrison, M., Ruffell, A. & Dawson, L. (eds.). A Guide to Forensic Geology. Geological Society, London.

Ruffell, A.; Pirrie, D.; Dawson, L.A. (2021) Geological evidence analysis. In: Donnelly, L., Pirrie, D., Harrison, M., Ruffell, A. & Dawson, L. (eds.). A Guide to Forensic Geology. Geological Society, London.

Dawson, L.A.; Di Maggio, R.M.; McKinley, J.; Di Capua, G.; Peppoloni, S., Pringle J., (2021) A proposal for a White Paper on geoethics in forensic geology. Forensic Geology, Geological Society of London Special Publications, 508, 1-10. 5 February 2021.

Rattan L.; Brevik, E.C.; Dawson, L.A.; Field, D.; Glaser, B.; Hartemink, A.; Hatano, R.; Monger, C.; Schjolten, T.; Singh, B.R.; Spiegel, A.; Terribile, F.; Basile, A.; Zhang, Y.; Horn, R.; Kosaki, T.; Sánchez, L.B.R. (2020) Managing soils for recovering from the COVID-19 pandemic. Nature Managing Soils for Recovering from the COVID-19 Pandemic. Soil Syst. 2020, 4(3), 46; https://doi.org/10.3390/soilsystems4030046 - 28 July 2020

Reay, D.S.; Warnatzsch, E.A.; Craig, E.; Dawson, L.A.; George, S.; Normal, R.; Ritchie, P. (2020) From farm to fork: growing a Scottish food system that doesn't cost the planet. Frontiers in Sustainable Food Systems. Front. Sustain. Food Syst., 22 May 2020 | https://doi.org/10.3389/fsufs.2020.00072

- **Testoni, S.A.; Melo, V.; Dawson, L.A.; Malakoski, J.; Cunico, E.; Neto, J.A.J.** (2020) The use of a sequential extraction technique to characterise soil trace evidence recovered from a spade in a murder case in Brazil Journal of Forensic Sciences 65(6) DOI: 10.1111/1556-4029.14491
- **Melo, V.F.; Testoni, S.A.; Dawson, L.A.; Salvador, F.A.D.** (2020) Sand fraction is not suitable for forensic investigations in subtropical soils. Revista Brasileira de Ciência do Solo, 44, No. e0190174.
- Prandel, L.V.; Melo, V.F.; Testoni, S.A.; Brinatti, A.M.; da Costa Saab, S.; Dawson, L.A. (2020) Spectroscopic techniques applied to discriminate soils for forensic purposes. Soil Research, 58, 151-160.
- **Dawson, L.A.; Macdonald, L.M.; Ritz, K.** (2019) Plant wax compounds and soil microbial DNA profiles to ascertain urban land use type. Geological Society, London, Special Publications, No. 492, 14 November 2019.
- Melo, V.F.; Testoni, S.A.; Dawson, L.A.; de Lara, A.G.; da Silvia Salvador, F. (2019) Can analysis of a small clod of soil help to solve a murder case? *Science and Justice*, *59*, *667-677*.
- Pasternak, Z.; Luchibia, A.O.; Matan, O.; Dawson, L.A.; Gafny, R.; Shpitzen, M.; Avraham, S.; Jurkevitch, E. (2019) Mitigating temporal mismatches in forensic soil microbial profiles. *Australian Journal of Forensic Sciences*, *51*, *685-694*.
- **Testoni, S.A.; Melo, V.F.; Dawson, L.A.; Salvador, F.A.D.; Kunii, P.A.** (2019) Validation of a Standard Operating Procedure (SOP) for forensic soils investigation in Brazil. *Revista Brasileira Ciencia Do Solo, 43, Article No. e0190010*
- Von der Luhe, B.; Mayes, R.W.; Thiel, V.; Dawson, L.A.; Graw, M.; Rowland, S.J.; Fiedler, S. (2019) First evidence of terrestrial ambrein formation in human adipocere. *Scientific Reports*, *9, Article No. 18370*.
- Carvalho, A.; Riberio, H.; Newman, G.; Brewer, M.J.; Guedes, A.; Abreu, I.; Noronha, F.; Dawson, L.A. (2018) Geochemical analysis of sediment samples for forensic purposes: characterisation of two river beaches from the Douro River, Portugal. *Australian Journal of Forensic Sciences*. *Published online*.
- Eley, Y., White, J., Dawson, L., Hren, M., and Pedentchouk, H. (2018) Variation in Hydrogen Isotope Composition Among Salt Marsh Plant Organic Compounds Highlights Biochemical Mechanisms Controlling Biosynthetic Fractionation. Journal of Geophysical Research. https://doi.org/10.1029/2018JG004403
- Von der Luhe, B.; Birk, J.J., Dawson, L.A., Mayes, R.W, and Fiedler, S. (2018) Steroid fingerprints: efficient biomarkers of human decomposition fluids in soil. Organic Geochemistry. doi: https://doi.org/ 10.1016/j.orggeochem.2018.07.016
- **McCulloch, G.; Dawson, L.A.; Ross, M.J.; Morgan, R.,** (2018) The discrimination of geoforensic trace material from close proximity locations by organic profiling using HPLC and plant wax marker analysis by GC. Forensic Science International 16 May 2018. https://doi.org/10.1016/j.forsciint.2018.02.009
- Ahmad, Z.; Imran, M.; Qadeer, S.; Hussain, S.; Kausar, R.; Dawson, L.A.; Khalid, A. ,(2018) Biosurfactants for sustainable soil management. *Advances in Agronomy*, 150, 81-130.

- Cal, J.; Dawson, L.A.; Javan, G.T.; Ozsoy, S.; Quaak, C.A.; Senior, T.K., (2018) From experimental work to real crime scenes and the courts. In: Ralebitso, T.K. (ed.) Forensic EcoGenomics: the Application of Microbial Ecology Analyses in Forensic Contexts. Academic Press, Chapter 8.
- Yu H.A., Nic Daeid N., Dawson, L.A., DeTata D.A., and Lewis S.W., (2017) Explosive detonation causes an increase in soil porosity leading to increased TNT transformation. PLOS One, December 27, 2017. https://doi.org/10.1371/journal.pone.0189177
- **Dawson, L.A. and Gunnicliffe, C.,** (2017) Managing the myths- the CSI effect. November. https://www.microbiologysociety.org/publication/current-issue/microbiology-in-popular-culture/article/managing-the-myths-the-csi-effect-in-forensic-science.html
- Von der Luhe, B.; Fiedler, S.; Mayes, R.W.; Dawson, L.A., (2017) Temporal fatty acid profiles of human decomposition fluid in soil. *Organic Geochemistry*, 111, 26-33.
- **Pirrie, D., Dawson, L.A., and Graham, G.,** (2017) Predictive geolocation: forensic soil analysis for provenance determination. Episodes Journal. Volume 40, Number 2, 141-147. June 2017.
- **Dawson, L.A** (2017) Soil organic characterisation in forensic case work. Episodes journal. Volume 40, No2, 157-165. June 2017.
- McCulloch, G.; Dawson, L.A.; Brewer, M.J.; Morgan, R., (2017) The identification of markers for Geoforensic HPLC profiling at close proximity sites. Forensic Science International, 272, 127-141.
- **Shand, C.A.; Wendler, R.; Dawson, L.A.; Yates, K.; Stephenson, H.,** (2017) Multivariate analysis of Scotch whisky by total reflection x-ray fluorescence and chemometric methods: a potential tool in the identification of counterfeits., Analytica Chimica Acta, 976, 14-24.
- **Demaneche, S.; Schauser L., Dawson L.A., Franqueville L., Simonet P.** (2017) Microbial soil community analyses for forensic science: Application to a blind test. Forensic Science International, 270: 153–158.
- **Eley, Y.; Dawson, L.A.; Pedentchouk, N.,** (2016) Investigating the carbon isotope composition and leaf wax n-alkane concentration of C-3 and C-4 plants in Stiffkey saltmarsh, Norfolk, UK. Organic Geochemistry, 96, 28-42.
- Habtom, H.; Demaneche, S.; Dawson, L.A.; Azulay, C.; Matan, O.; Robe, P.; Gafny, R.; Simonet, P.; Jurkevitch, E.; Pasternak, Z., (2016) Soil characterisation by bacterial community analysis for forensic applications: a quantitative comparison of environmental technologies. Forensic Science International, 26, 21-29.
- Waqar-un-Nisa, N.B.; Rukya Saleem, A.; Rashid, A.; Dawson, L.A., (2016) Effect of diesel contamination on the physico-chemical characteristics of soil and growth of vetiver grass. Soil and Environment, 35, 91-98.
- Harrison, K.; Dawson, L.A.; Mackinnon G., (2016) Interdisciplinary approaches to the search and location of buried bodies: a United Kingdom context. *In: Kars, H. (ed.) Soil Forensics. Springer.*
- Dawson, L.A., and Morgan, R. (2015) Forensic Geoscience. In: Walport, M. Annual Report.

- Forensic Science and Beyond. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/506462/gs-15-37b-forensic-science-beyond-evidence.pdf
- Navarro, E.; Feabreque, O.; Dawson, L.A.; Demaneche, S., (2015) RisaAligner software to align fluorescent data between Agilent 2100 Bioanalyser chips; application to soil microbial community analysis. BioTechniques. 59, 347-358.
- Reavy, B.; Swanson, M.M.; Cock, P.J.A.; Dawson, L.A.; Freitag, T.E.; Singh, B.K.; Torrance, L.; Mushegain, A.R.; Taliansky, M., (2015) Distinct circular single-stranded DNA viruses exist in different soil types. *Applied and Environmental Microbiology*, 81, 3934-3945.
- Robertson, A.H.J.; Main, A.M.; Robinson, L.J.; Dawson, L.A., (2015) In situ FTIR analysis of soils for forensic applications. *FT-IR Technology for Today's Spectroscopists, August 2015.*
- **Britton, A.J.; Helliwell, R.C.; Lilly, A.; Dawson, L.A.** (2015) Carbon stocks in oceanic alpine landscapes. *In: Romeo, R., Vita, A., Manuelli, S., Zanini, E., Freppaz, M. & Stanchi, S. (eds.). Understanding Mountain Soils: A Contribution from Mountain Areas to the International Year of Soils 2015. FAO, Rome, Italy, pp 110-112.*
- **Aitkenhead, M.; Coull, M.C.; Dawson, L.A.**, (2014) Predicting sample source location from soil analysis using neural networks. *Environmental Forensics*, *15*, *281-292*.
- Eley, Y.; Dawson, L.A.; Black, S.; Andrews, J.; Pedentchouk, N., (2014) Understanding H-2/H-1 systematics of leaf wax n-alkanes in coastal plants at Stiffkey saltmarsh, Norfolk, UK. *Geochimica et Cosmochimica Acta, 128, 13-28.*
- **Dawson, L.A.; Mayes, R.W.** (2014) Criminal and environmental soil forensics: soil as physical evidence in forensic investigations. *In: Murphy, B.L. & Morrison, R.D. (eds.). Introduction to Environmental Forensics. 3rd edition, Academic Press, Oxford, Chapter 12, pp457-486.*
- Khan, M.A.; Qureshi, M.Z.; Dawson, L.A.; Rehman, M.; Hayat, A.; Maqbool, F.; Andleeb, F.; Haleem, K., (2014) Efficient desizing of fabrio using partially purified thermophillic amylase produced by T.sacchari by the utilization of agro-industrial wastes. *In: Cong, H., Yu, B. & Lu, X. (eds.). Frontiers in Micro-Nano Science and Technology. Advanced Materials Research, Trans Tech Publications, Switzerland, 924, 349-353.* http://www.e-clicproject.eu/en/learning-resources/%E2%80%B4-library-of-ict-resources/
- Carvalho, A.; Ribeiro, H.; Mayes, R.; Guedes, A.; Abreu, I.; Noronha, F.; Dawson, L.A., (2013) Organic matter characterization of sediments in two river beaches from Northern Portugal for forensic application. *Forensic Science International*, 233, 403-415.
- Farruga, K.; Brandey, K.; Dawson, L.A.; NicDaeid, N., (2013) A comparison of enhancement techniques for footwear impressions on dark and patterned fabrics. *Journal of Forensic Sciences*, *58*, *1472-148*.

Selected Reports, Presentations, Popular Press Articles, & Interviews (2016-present)

- Brevik, E.C.; Dawson, L.A.; Reyes Sanches, L.B. (2021) International gender equity in soil science: a social equity issue. EGU General Assembly, Online, 19-30 April 2021.
- Pitts, K.; Clarke, R.; Coumbaros, J.; Aspandiar, M.; Newland, T.; Lewis S.; Dawson, L.A. (2020) The forensic analysis of the inorganic and organic fractions of sandy soils. Australian

and New Zealand Forensic Society (ANZFSS) 2020 Conference, Sydney Australia, 21-25 September 2020.

Dawson, L.A. (2020) Resource material for SSERC in response to COVID-19.

Miller, D.R.; Thomson, J.; Barron, S.; Bate, B.; Brooks, S.; Campbell, G.; Crofts, R.; Dawson, L.A.; et al., (2020) Position statement on landscape, land use and economy, September 2020. Scotland's Alliance - Working Group 3 Report, September 2020, 17pp.

Robinson, M., Pepper, J., Caldwell, A., Gibb, L., Toteva, G., Mitchell, C., Marrs, S., Loades, K., Payne, C., Young, T., Firth, A., Valluri, C., Smith, C., Claridge, H., Taylor, R., Midgley, A., Wade, R., Bestwick, C., Buckingham, S., Williams, M.; Bader, E.; Dawson, L.A. et al., (2020) Climate Emergency Summit III: nature based solutions report. Royal Scottish Geographical Society, Report from Conference Meeting, 31 pages.

Dawson, L.A.; Mclean, J. (2020) Soil secrets (P7, S1, S2); Soil formation (Higher Geography); Soil types (Higher geography). RSGS Website, Soil, Science and Sustainability.

Dawson, **L.A.** (2020) Land use strategy and change review. Summary Report to the Cabinet Office.

Dawson, L.A. (2020) Regional Land Use Partnerships Discussion Paper. Comments and links to resource material from SEFARI Gateway. Report to Scottish Land Commission.

Dawson, L.A. (2020) Soil Posters as a resource for schools (Soil posters updated and published as part of a collated tabular resource across SEFARI) https://sefari.scot/news/educational-sefari https://sefari.scot/document/online-education-resources-table

Russell, W.; Watson, C.; Dawson, L.A. (2020) The Hemp Booklet. SEFARI Gateway web site and Rowett Institute web site

Russell, W.; Dawson, L.A. & Coleman, M. (2020) Sowing wild seeds. SEFARI Gateway Blog. Professor Wendy Russell, Professor Lorna Dawson and Dr Max Coleman https://sefari.scot/blog/2020/05/22/sowing-wild-seeds

Dawson, L.A. (2020) SEFARI Gateway blog Soils and Crofting Resources: Diversity is key to life sefari.scot/blog/2020/05/1

Dawson, L.A., Yates, K., and Harrison, K., (2020) Kazakhstan Forensic Ecology Course. 8-12 December 2020 Environmental forensic geoscience, Analysis of soil organics & Analysis of elements in soil Casework.

Dawson, L.A. (2020) Natural justice: the use of soil in criminal investigations. The Presidents Lecture, BSSS Annual Meeting, Invited Lecture. 4 December 2020.

Dawson, L., Di Maggio, R., MckInley, J., Di Cappua, G., Peppoloni, S., Pringle, J., (2020) A White Paper on geoethics in forensic geology. 1st Brazilian Geoforensic Virtual Workshop, Plenary Presentation. 30 November 2020.

Dawson, L.A. (2020) Natural justice. Sherlock Institute of Forensic Science, India, Lecture Series. 29th November 2020.

Dawson, L.A. (2020) Natural Justice. Online event. An 'Inspiring People At Home' talk for the Royal Scottish Geographical Society. 18 November 2020.

Dawson, L.A. (2020) Engagement in one health initiatives. The International One Health Conference 2020, Edinburgh, 1 November 2020.

Dawson, L.A. (2020) Types of physical traces encountered at crime scenes. *Keynote presentation, Forensic India, International Conference*. 14 August 2020.

Dawson, L.A. (2020) Soil as intelligence and evidence in the criminal justice system. Presentation on Zoom to the Forensic Geobiology, Department of Biology Masters Course, University of Copenhagen. 24 August 2020.

Dawson, L.A. (2020) RSA Food, Farming and Countryside Reports, House of Lords, Westminster, London, 2 March 2020.

Dawson, L.A. (2020) Climate change, natural capital and health. Invited talk and panel discussion at Cross Party Group on Food, Scottish Parliament, Edinburgh, 28 January 2020.

Dawson, L.A. (2020) Research, data and evidence in SEFARI Data, what's the big deal? Scottish Agricultural Organisation Society - SAOS 2020 Annual conference, Dunblane Hydro Hotel, Dunblane, 30 January 2020.

Dawson, L.A. (2020) Natural Justice: the use of soil science and botany to assist in criminal investigations. Invited Lecture, Cambridge Science Society, Trinity College, Cambridge 3 March 2020.

Dawson, L.A. (2020) Natural justice and a sense of place: examples of how soil can be used as intelligence and evidence. Invited Biology Lecture, University of York, 5 March 2020.

Dawson, L.A. (2020) Collaboration and cooperation across disciplines. *Sunday Post*, 5 January 2020.

Dawson, **L.A.** (2020) Join our Corona College. Home school for grown-ups. Chemistry in a flash. *The Times*, 29 March 2020.

Skelton, D., Thomson, I., Dawson, L.A., Harvey, P., Grieve, J., (2020) You the Jury. *Produced film and panel discussion at Bloody Scotland 2020.*

Dawson, L.A. (2020) 1MillionWomenInSTEM. Panel Session Online invited panel discussion Online panel debate, March 2020.

Dawson, L.A. (2020) 'Hemp Futures' an online art/science gathering to showcase the benefits of hemp, 20 November 2020.

Dawson, L.A. (2020) Geography delivering to our global nexus of threats. SAGT 50 year conference 24 October 2020. *Video contribution talk*.

Dawson, L.A. (2021) A career in forensic soil science. Times Radio interview with Matt Chorley. 11 February, 2021.

Dawson, L.A. (2019) Interview by Eddie Stark, for *BBC Radio Scotland*. Stark Talk. 1 May 2019.

Dawson, L.A. (2018) Video interviews on Soil Analysis. You Tube videos and Educational Resource *Material by Hairy Frog Productions*.

Dawson, L.A. (2018) Film on Angus Sinclair, Worlds End murders, Edinburgh. *Charlotte Circle Films Ltd.*, 24 January 2018.

Pflüger A (2017) Soil Forensics Expert, **Lorna Dawson**. *Video interview. https://www.zdf.de/dokumentation/zdfinfo-doku/auf-der-spur-des-verbrechens-forensiker-imeinsatz-102.html*

Dawson, L.A. (2017) Experiences related to soil in case work. BBC Radio Scotland. Kaye Adams show. March 2017.

Dawson, L.A. (2017) Woman's Own. November 2017.

Woolrich, P. (2017) The Soil Detective. Lorna Dawson. Readers Digest. July 2017. 59-70.

Dawson, L.A. (2017) The Metro. 10 living female scientists you should know about. Metro.co.uk/2017/05/24

Dawson, L.A. (2017) Soil Detectives. The One Show. BBC TV. 9 March 2017.

Dawson, L.A. (2017) Brainwaves Radio interview. Radio Scotland and podcasts. 5 April 2017.

Dawson, L.A (2017) Royal Society of Edinburgh. Interviews for Quiz a Whiz. Soil Science, 7 April 2017.

Dawson, L.A. (2017) Where there's muck, there's clues. Issue 2, Magazine eCBRN. 36-38.