

Dr Laurance J Donnelly

BSc (Hons), PhD, CSci, CGeol, EurGeol, FGS, FGSA

Forensic Geologist & Police Search Advisor



Summary

Dr Laurance Donnelly is a professional, chartered geologist, with a First Class Honours Degree and a PhD in geology. He has 22 years experience throughout the UK and extensively world-wide in the fields of; mineral exploration, mining, engineering geology and geohazards. He is employed as a Consultant Geologist with Wardell Armstrong (since start of 2010) and formerly worked for Halcrow (2003-2010), International Mining Consultants (1998-2003, seconded from BGS) and the British Geological Survey (c1994-2004). For the past 17 years he has worked on numerous high-profile cases advising the Police as a Forensic Geologist. This has involved designing searches for graves and other burials and advising on the geological (trace) evidence. He has made significant contributions to the development of geoforensic search strategic and methodologies for locating graves and other burials and he works closely with the British police to help implement these techniques. In 2002, he was invited to Westminster Palace, Houses of Parliament, to give a presentation on Forensic Geology and the Moors Murders. In 2006, he established the Forensic Geoscience Group, of the Geological Society of London, and he is the current serving Chair. In 2010, the International Union of Geological Sciences invited him to establish an International Work Party on Forensic Geology and he is currently the Chair of the IUGS Initiative on Forensic Geology. He has been working in close collaboration with 'The Body Farm' (FBI Facility) in Tennessee, USA, to better understand the impact of human decomposition on geology. Currently he is a board member of the Quarterly Journal of Engineering Geology & Hydrogeology (QJEGH) and registered as and 'Expert Advisor' to the National Policing Improvements Agency (NPIA). He has published approximately 180 papers and articles and one book. Globally he continues to promote and pioneer the applications of Forensic Geology. He is the recipient of prestigious awards from the Institution of Mining & Metallurgy, Geological Society of London & Geological Society of America for outstanding and distinguished contributions to the fields of applied and engineering geology.

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Operational case experiences and the provision of informal advice to the police and law enforcement agencies

National Policing Improvements Agency, Experts Database (2006-2011)

Registered as an 'Expert Advisor' (EA) in Forensic Geology on the National NPIA database.

The Moors Murders, Greater Manchester Police (1994-ongoing)

Forensic geologist and search advisor for the search of Saddleworth Moor, northern England, for the last remaining 'Moors Murders' victim. This particular search began in 1994 and has experienced several phases of intense search. The search is currently ongoing.

A Northern England Police Force (2011-ongoing)

Design of a search methodology and strategy for missing persons believed to be buried in a remote, unmarked shallow graves.

A Eastern England Police Force (2010-ongoing)

Design of a search methodology and strategy for a missing child, believed to be buried in a remote, unmarked shallow grave. This involved attendance at briefings with the SIO and search team, followed by a visit to the search area with the force POLSA and Behavioural Profiler to conduct a geoforensic investigation.

A Midlands Police Force (2011-ongoing)

Provision of geological advice for the development of a RAG map to help locate a grave.

Search for a missing person in Northern Ireland (2011)

Provision of informal advice for a missing person in Scotland.

Search for a missing person in Scotland (2011)

Provision of informal advice to the Police for a missing person in Scotland.

Centre for Applied Science & Technology (CAST) (formerly, Home Office Scientific Development Branch, HOSDB)

Advised HOSDB on the purchase of geophysical equipment required for criminal and counter-terrorism burials. Provided advice and guidance on the recruitment of a specialist geophysicist.

Greater Manchester Police, search for a grave (2006)

Provision of informal advice to the POLSA, search teams & SIO during the search agricultural land for a shallow homicide grave. A geomorphological and geological analysis of high resolution air-photos was undertaken and this helped to find the murder victim in an shallow, unmarked grave.

Greater Manchester Police, search for burials (2006-2009)

Provision of general advice to POLSA & search teams on the search of the ground in the Greater Manchester area for burials, including fire-arms and other objects.

Search for a homicide grave, USA, Federal Bureau of Investigation (FBI) (2006)

Provision of UK based advice to the FBI and a specialist canine search advisor during the search for a shallow grave in the USA, which resulted in the discovery of the victim.

Geological (trace) evidence, Surrey Police (2006)

Provision of advice on geological trace evidence for a murder investigation. This involved the peer review of

reports on the mineralogy of soils and sediments found on a victim's body and other objects associated with a suspect/offender.

Search with Staffordshire Police & Home Office Scientific Development Branch (HOSDB)

Responsible for the design, implementation and co-ordination of a search with the Staffordshire Police POLSA, search teams and HOSDB. This resulted in a high assurance search being carried out in Staffordshire following the discovery of high monetary value Anglo Saxon gold.

NPIA, search for a missing person on a Scottish island Scotland (2010)

Provision of informal advice to British police officers and the NPIA National Search Advisor during the design and deployment of a search for a missing person on a remote Scottish island. The remains of the victim was subsequently found in a shallow grave on a sandy beach.

Colombian Police (2009)

Visited Colombia as part of a USA & UK team of forensic geologists to deliver a series of lectures on geoforensics to an audience consisting of; judges, lawyers, police officers, forensic geologists and other forensic scientists. Provided advice on search to the Colombian police at their headquarters and training academy in Bogota, to help locate homicide graves, mass (genocide) graves, narcotics, firearms and explosive devices containing minimal metal components.

Search for a missing person in Staffordshire (2006)

Provision of informal advice to the NPIA National Search Advisor and a specialist canine search advisor for the search for a missing person in Staffordshire.

Search for a missing person in Derbyshire (2006)

Provision of informal advice to the NPIA National Search Advisor and a specialist canine search advisor for the search for a missing person in Derbyshire.

Search for a missing person in Yorkshire (2006)

Provision of informal advice to the NPIA National Search Advisor and a specialist canine search advisor for the search for a missing person in Yorkshire.

Search for a grave (cold case) in Virginia, USA (2006)

Provision of UK-based informal advice for the search of a grave in a woodland and a lake in Virginia, USA.

Search for missing persons in Northern Ireland (PSNI) (2005 & 2008)

Provision of informal advice to the Police Service of Northern Ireland (PSNI) and Queens University Belfast for the search for missing persons and other buried objects related to IRA activities during 'the troubles.'

Search of a structure in Jersey (2007)

Provision of informal advice to the NPIA National Search Advisor and a specialist canine search advisor for the search of a building in Jersey.

NPIA, Search for a missing British citizen in Australia (2006)

Provision of informal advice on search strategy, methodology and techniques for a missing British person in northern Australia (in association with the Australian Federal Police).

NPIA, search for a missing British citizen in Portugal (2007)

Provision of informal advice to British police officers and the NPIA National Search Advisor for the search of a missing British citizen in Portugal. A visit to Portugal was carried out in 2008 to provide guidance on geological and geophysical search methods and techniques.

NPIA, search for a missing person in Scotland (2008)

Provision of informal advice to British police officers and the NPIA National Search Advisor for the search of a missing person in Scotland, thought to be buried within a large area of agricultural land or woodland.

Pioneering international research in forensic geology

Westminster Palace, House of Commons (2002)

Invited to the House of Commons, Westminster Palace, to give a presentation on the applications of Forensic Geology to Policing and the search of Saddleworth Moor.

International Union of Geological Sciences (IUGS), Initiative on Forensic Geology

Delivered a presentation to IUGS, at UNESCO headquarters, in Paris, which resulted in the elevation of 'Forensic Geology' to the status of 'Initiative' and the establishment of the IUGS Initiative on Forensic Geology.

International Union of Geological Sciences (IUGS) Working Group on Forensic Geology (2009-2011)

Visited Montevideo, in Uruguay to become inaugurated as an 'Officer' of the International Union of Geological Sciences (IUGS). Responsible for establishing an; 'International Working Group on Forensic Geology as part of the Commission on Geoscience for Environmental Management (GEM). In 2010, the IUGS-GEM, Geoforensic International Network (GIN) was established and included meetings held in Windhoek, Namibia, to unite forensic geologists from around the world and promote best practise.

The Geological Society of London, Forensic Geoscience Group (FGG) (2005-2010)

Founder and current Chair of a new specialist group in the Geological Society of London, '*The Forensic Geoscience Group*' (FGG). FGG aims to develop and promote the study and understanding of forensic geoscience (geoforensics), by creating a network for geoscientists and related specialists to; share knowledge, review and disseminate information, facilitate multi-disciplinary collaboration, promote best practice, discuss case histories, share geoforensic experiences, develop national and international contacts, stimulate discussions and debates. This is achieved by; the circulation of emails, organisation of meetings, conferences, seminars, workshops with related forensic and other specialist groups, promoting world-wide research, training and teaching in the field of geoforensics. FGG has a growing network of contacts and brings together forensic geoscientists and related experts from; academia, industry, consultancy, government, police, law enforcement and the military, both nationally and internationally throughout the world.

National Policing Improvement Agency (NPIA) & Police National Search Centre (PNSC) Conference

Invited as a guest speaker to the NPIA & PNSC, POLSA Conference, in Bournemouth, on 11 November 2009, to deliver a paper on '*The Moors Murders and Geoforensic Search Strategies*'. The theme of the conference was '*Developing the POLSA Role to Meet the Challenges*'. The presentation was delivered with two Greater Manchester Police POLSAs.

Denver Police, USA (2007)

Meeting with Denver Police for the mutual exchange of ideas on methods and techniques in search and geological trace evidence.

Dutch Police (2008)

Informal discussions and provision of advice on search strategies, methodologies and instrumentation to locate burials.

British Geological Survey (1998-2010)

Responsible for establishing collaboration between the BGS and NPIA in the field of forensic geology.

Los Angeles Police Department (LAPD) & Los Angeles Sheriff's Department (2010)

Discussions and provision of informal advice on methods and techniques in forensic geology and geological trace evidence.

Federal Bureau of Investigation (FBI) (2010)

Informal advice on methods and techniques in forensic geology and the potential for closer collaboration to promote and develop geoforensics in policing and law enforcement.

Namibia/South African Police (2010)

Informal discussions and provision of advice on search to locate burials in sub-saharan Africa and general advice on geological techniques applicable to fraud and other serious crimes.

Search for a crashed Spitfire Plane from Second World War (2010)

Provision of general advice on the search for a buried plane in Ireland.

Search to verify the content of graves, Mauritania (2010)

Provision of general advice on the search to provide the content of suspected tribal graves in the vicinity of the Guelb Moghrein Copper-Gold Mine, in Mauritania.

Centrex (2005) and National Policing Improvements Agency (1996-2010)

Provision of advice to the NPIA on search strategies, methodologies and choice of search assets/instrumentation. Contribution to a NPIA training document on the use of geology during 'Body Recovery'. Collaboration with members of the CATCHEM team including the senior Behaviour Investigative Advisor and Clinical Psychologist, on behavioural profiling, environmental profiling and victimology assessments.

Police National Search Centre (PNSC) (2007-2010)

Advise and collaboration with POLSA and search teams at the PNSC.

Ministry of Defence, Defence Science and Technology Laboratory (DSTL) (2006-2008)

Provided informal advice to the DSTL Forensic Geophysicist Advisor on geology, geological exploration and search methods and techniques, to help locate burials.

Royal Air Force, Joint Air Reconnaissance Intelligence Centre (JARIC) (2006-2007)

Provided informal advice to the JARIC Aerial Imagery Analyst Expert for the geological and geomorphological analysis of high resolution imagery to help search vast expanses of open land for a unmarked grave.

Royal Engineers British Army (2006-2008)

Provided informal advice for the RESA and Military Advanced Search Advisor on geological and geomorphological analysis of high resolution imagery, geomorphology, geology and geophysics to help search vast expanses of open land for a unmarked grave.

Oak Ridge National Laboratory (ORNL) and 'The Body Farm (FBI Training Facility)', in Knoxville, Tennessee, USA (1998-2010)

Responsible for pioneering research with ORNL and 'The Body Farm' which is aimed at; determining the influence of geology on human decomposition or preservation to help during the design of searches to locate shallow unmarked, homicide graves, and gaining a better understanding of the detection capabilities of specialist canine search assets.

California Association of Criminalistics (2010)

Visited Long Beach, in California, to attend a soil forensic conference and to present the concepts of the RAG (**R**ed-**A**mber-**G**reen) prioritisation methods and diggability surveys as part of searches to locate burials.

INTERPOL (2010)

Part responsible for FGG & IUGS representation at the INTERPOL conference, Lyon, in France.

International Union of Geological Sciences (IUGS), UNESCO Headquarters, Paris (2011)

Invited speaker at the International Union of Geological Sciences (IUGS), 62nd Executive Committee Meeting, held at UNESCO Headquarters, in Paris, on Tuesday 22nd February 2011.

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Geologist



Personal

- Profession: Geologist
- Employer: Wardell Armstrong
- Position: Associate Director (Geologist)
- Years of experience: 22
- Nationality: British
- Year of birth: 1968
- Place of birth: Manchester, United Kingdom
- Marital status: Married
- Children: Two (aged 6 and 3)
- Home: Manchester, UK (and family home in Sicily)

Key Skills and Specialisation

Engineering Geology, Geotechnical & Geohazards

- Engineering geology
- Engineering geomorphology
- Engineering geophysics
- Desk studies
- Ground investigations
- Geotechnical risks
- Geological hazards

Mineral Exploration, Mining & Mining Hazards

- Mineral exploration
- Mining geology
- Feasibility studies
- Mining & minerals audits
- Competent Persons Report
- Bankable documents
- Mining hazards

Forensic Geology & Police Search Advisor

- Forensic geology
- Police searches
- Geological evidence
- Trace evidence
- Operational support
- Engineering forensics
- Environmental forensics

Education

- Fellow, Geological Society of America (FGSA), 2008
- Chartered Scientist (CSci), 2005
- European Geologist (EurGeol), 2002
- Chartered Geologist (CGeol), 1998
- **PhD**, 1991-1994 (engineering geology, mining subsidence, geotechnical engineering and geohazards) University of Nottingham, Department of Environmental & Mining Engineering
- **BSc Honours Degree (1st Class) Applied (Mining) Geology**, 1986-1989 University of Leicester, Department of Geology

Professional Awards

- Awarded **Fellow of the Geological Society of America (2008)**
- **The Geological Society of London, Engineering Group Award (2008)**. In recognition of work in furthering the progress of engineering geology in the UK
- **The Geological Society of America, Burwell Award (2007)**. In recognition of distinguished contribution to the multidisciplinary field of engineering geology
- Portrait placed in the **Geological Society of America, Hall of Fame (2007)**
- **Institution of Mining & Metallurgy Award (1989)** for outstanding work in Applied Geology

International Geological Experiences

- **Europe:** Austria, Belgium, Greece, France, Former Yugoslavia (Slovenia), Ireland, Italy, Netherlands, Northern North Sea (Norway), Northern Ireland, Portugal, Sicily, Spain
- **Latin America & Caribbean:** Antigua, Colombia, Costa Rica, Dominican Republic/Haiti, Guyana, Montserrat, Nicaragua, Panama, Puerto Rico, Trinidad & Tobago, Venezuela
- **Asia:** China, India, Iran, Mongolia, Nepal, North West Pakistan (Kashmir)/Afghanistan frontier
- **Australia:** Sydney, Queensland
- **Middle East:** United Arab Emirates (Dubai & Abu Dhabi)

Current Professional Affiliations and Active Positions

- **Board Member:** Quarterly Journal of Engineering Geology & Hydrogeology (QJEGH), 2009-present
- **CIRIA:** Co-author & Steering Committee Member, for the rewrite of CIRIA 32 '*Construction Over Abandoned Mine Workings*', 2010-present
- **Founder & Chair:** International Union of Geological Sciences (IUGS), International Association of Forensic Geology, 2011-present
- **Special Advisor:** Geoforensics and Specialist Search International (GSSI), 2009-present
- **Founder:** Geoforensic International Network (GIN), 2008-present
- **Professional Member:** Geological Society of America, 2007-present
- **Professional Member:** American Association of Engineering Geologists, 2007-present
- **Honorary Member:** Saddleworth Archaeological Trust, 2007-present
- **Founder & Chair:** The Geological Society of London, Forensic Geoscience Group (FGG), 2006-present
- **Greater Manchester Police:** Personnel Vetting, National Security Clearance, SC level, 2006-present
- **BSc course designer & lecturer:** Forensic Geology, University of Leicester, 2006-present
- **Expert Advisor:** National Policing Improvements Agency (NPIA), 1994-present
- **Member:** Geological Society of London, Geohazards Working Party, 2002-present
- **Registered participant:** Geological Society and Science Council, CPD scheme, 1998-present
- **Fellow:** Geological Society (FGS), 1997-present
- **Mentor:** Geological Society of London, Chartered Geologist (CGeol) scrutineer, 2004-present

Former Professional Affiliations and Positions Held

- **Officer:** International Union of Geological Sciences (IUGS), Commission on Geoscience for Environmental Management (GEM), Working Group on Forensic Geology, 2009-2011
- **Geoforensic & Geological Advisor:** Institute for Field Archaeologists (IFA), 2008-2011
- **Organiser:** Conference on Piling & Deep Foundations, Optimising Foundation Design and Construction in the Middle East, Session on the Detection and Mitigation of cavities in Abu Dhabi and Dubai, 2009
- **Organiser & Chair:** Conference on Geoscientific Equipment and Techniques at Crime Scene, The Geological Society, Forensic Geoscience Group, December 2008
- **PhD External Examiner:** Mining subsidence, University of Nottingham, 2007
- **Committee Member:** Soil Forensic International Conference, Forensic Geology Session, Macaulay Institute, Edinburgh, 2006-2007
- **Member:** Geoforensic and Information Management for Crime Investigation (GIMI), Macaulay Institute, 2005-2008
- **Member, Conference Organising Committee:** International Association of Engineering Geology Conference (IAEG) & UK field trips organiser, 2003-2006
- **PhD External Supervisor:** Coal mining hazards, University of Birmingham, 2002-2006
- **Committee Member:** Geological Society of London, Fellowship & Validation Group, 2001-2004
- **Visiting Fellow:** Nottingham Trent University, Geohazards Group, 2000-2004
- **Committee Member:** East Midlands Geological Society of London, 2000-2004
- **Committee Member:** Public Understanding of Volcanic Hazards, Geological Society, 1999-2000
- **PhD External Examiner:** Rock mechanics University of Nottingham, 1999
- **Committee Member:** Geological Society of London, Engineering Group, 1998-2004
- **MSc course designer & lecturer:** Engineering Geology, Nottingham Trent University, 1996-1998
- **MSc course designer & lecturer:** Geological Hazards, Nottingham Trent University, 1996-1998
- **Member:** Institution of Mining & Metallurgy, 1986-1990
- **Member:** Institution of Quarrying, 1986-1990
- **President:** Leicester Mining Geology Society (LMG), 1988-1989

Employment Record

- | | | |
|---|-----------|---|
| • Wardell Armstrong LLP | 2010- | Associate Director (Geologist) |
| • Halcrow Group Ltd | 2003-2010 | Principal Engineering Geologist |
| • International Mining Consultants/BGS | 1998-2003 | Senior Engineering & Exploration Geologist |
| • British Geological Survey (BGS),
<i>Groundwater & Geotechnical Surveys
Division, Engineering Geology Group</i> | 1994-1998 | Senior Engineering & Exploration Geologist
<i>Specialist geological advisor in geological
hazards and mining hazards</i> |
| • University of Nottingham | 1991-1994 | Full time PhD research |
| • Redland Aggregates Ltd | 1990-1991 | Mineral Exploration Geologist |
| • Exploration Logging Inc | 1989-1990 | Mud-logger & Oil Exploration Geologist |
| • ARC Eastern Ltd (student placement) | 1988 | Exploration Geologist (undergraduate) |

Professional Background and Capabilities

Engineering Geology, Geotechnical & Geohazards

- Team manager for the provision of multi-disciplinary engineering geology, geotechnical and geo-environmental consultancy services for a variety of engineering projects including: the construction of motorways, roads, underground pipelines, residential developments, flood defences, commercial and industrial buildings, infrastructure, non-hazardous waste storage, surface and underground high and low level nuclear waste storage sites (eg. BNFL, Sellafield, NIREX deep repository and UKAEA Dounreay).
- Experienced in the management and integration of geological, geotechnical and geo-environmental teams.
- Considerable expertise in the investigation and assessment of both 'greenfield' and 'brownfield' sites to determine pragmatic and economic solutions for their developments and operational uses.
- Experienced in undertaking geotechnical desk studies followed by the design, management and implementation of ground investigations. These include the design of drilling and trenching programmes, the acquisition and analysis of geophysical data (GPR, seismic, magnetic, electromagnetic, microgravity), insitu ground monitoring, laboratory testing of soils and rocks.
- Investigated geological hazards to assess their likely consequences and associated geotechnical and geo-environmental risks. Provided practicable engineering geology solutions for the management of risks associated with the dissolution of soluble rock (eg. limestone, chalk, halite, gypsum, anhydrite), problems soils (compressive peat, shrink-swell clays, expansive soils, collapsible soils & running sands), geomorphological processes (eg. landslides, flooding, weathering, erosion and gas seeps).
- Conducted several landslides investigations (eg. Edinburgh Castle, South Wales Coalfield and the Pennines), and engineered slope stability surveys (eg. railway cuttings and embankments) and engineering induced failures (eg. wind farm induced peat flows).
- Provided Expert Witness reports for mining subsidence and fault reactivation tribunals.
- Experienced in disaster management, monitoring and investigation. These have included volcanic eruptions, earthquakes, secondary seismic hazards, tsunamis, landslides and liquefaction (eg. Soufriere Hills Volcano (Montserrat), Etna (Sicily), Colima (Mexico), Masaya (Nicaragua), Vesuvius (Italy), Poas (Costa Rica), Nevado del Ruiz (Colombia) and the Canary Islands).

Mineral Exploration, Mining & Mining Hazards

- Designed and implemented mineral exploration programmes, for energy minerals (oil, gas, coal) metalliferous ore-bodies (copper, tin, gold, lead, zinc, iron-ore, ferro-chrome, aluminium & rare earths) and industrial minerals (sand, gravel, aggregates, limestone, sandstone & mudrocks).
- Experienced across the broad spectrum of mining and mineral, from mineral resource audits, resource evaluation for investments, through to mine development and operation, post mine closure and mine abandonment.
- Conducted numerous investigations for coal and metalliferous ore bodies, which rang from preliminary exploration, resource valuation, reserve estimation compliant with JORC, mineral valuations, pre-feasibility and due diligence studies, stock markets flotation reports, final appraisals and bankable feasibility studies (eg. Kazakhstan, Mongolia, Russia).
- Evaluated mining and minerals projects paying cognisance to any national protocols, but also, with a view to adhering to international best practice throughout.
- A large portfolio of clients have included companies and organisations from the private and public sectors, mining companies, many major lending institutions, banks and private minerals investors.
- Carried out numerous projects in surface and underground, active and abandoned, coal and metal mines around the world. These have involved geological mapping, investigation of pillar stability, strata control, assessment of open-pit stability, inspection of geological faults, geophysical exploration, hydrogeological modelling and waste disposal.
- Responsible for investigating the environmental impact of mining, mining hazards and liabilities for abandoned and active coal, metal and industrial mineral mines. These have included the investigation of mining subsidence, fault reactivation, fissures, historical shallow mining, mine entries (shafts & adits), mining waste, mine gas, mine water rebound, acid mine drainage, spontaneous combustion, coal fires, seismicity, landslides, dereliction and contaminated land. When required cost-effective mitigative measures have been developed to reduce geotechnical, environmental or mining risks to an acceptable level.

Forensic Geology & Police Search Advisor

- Experienced in the design, planning and implementation of geoforensic ground search strategies to locate burials (eg. homicide graves), in association with Police search teams.
- Provided formal and informal advice for numerous police searches throughout the UK, Northern Ireland, Jersey, Portugal, Australia, Colombia and USA.
- Provided expert opinions for high profile crimes involving geological (trace) evidence.
- Visited Colombia to present a training course on Forensic Geology to geologists, police officers, lawyers, barristers, judges, and forensic scientists. Provided advice to the police in Bogota on search methods and techniques to locate mass (genocide) graves, homicide graves, drugs and minimal metal content explosive devices.
- Working in close collaboration with the Police as a Forensic Geology for the past 17 years. This has involved collaborations with: Oak Ridge National Laboratory (ORNL) and The Body Farm (an FBI Training Facility in Tennessee, USA), Centrex, National Policing Improvements Agency (NPIA), Police National Search Centre (PNSC), the military (JARIC, Royal Engineers), Home Office Scientific Development Branch (HOSDB), former UK Police National Search Advisor (now working with the Australian Federal Police), former UK Police Specialist Canine Search Advisor (now working with the FBI) and several UK police forces.
- Responsible for pioneering global leadership in the field of Forensic Geology as the founder and chair of the Geological Society Forensic Geoscience Group, the Geoforensic International Network (GIN) and the IUGS International Association of Forensic Geology.

Publications & Continuation of Professional Development (CPD)

- Published approximately 190 articles in refereed journals, conference proceedings, magazines, newspapers and reports of the British Geological Survey.
- Co-author of the critically acclaimed book: **Bell, F. G. & Donnelly, L. J. 2006. Mining & Its Impact on the Environment. Taylor & Francis, London**.
- **Produced several hundred 'secret' or 'restricted' documents for the Police** (maps, technical notes, presentations, search strategies, search records & reports).
- Featured in **media documentaries** for TV, radio and news programmes promoting gohazards, mining hazards and forensic geology.
- **Invited speaker** for numerous events including: the House of Commons, Westminster Palace (All-Party Parliamentary Group for Earth Science), International Union of Geological Sciences (IUGS), Geological Society of London (GSL), Geological Society of America (GSA), British Geological Survey (BGS), UNESCO Headquarters (Paris), Institution of Civil Engineers (ICE), Construction Industry Research and Information Association (CIRIA), Royal Institute of Chartered Surveyors, (RICS), Institution of Mining & Metallurgy (IMM), National Policing Improvement Agency (NPIA), Police National Search Centre (PNSC), Home Office Scientific Development Branch (HOSDB), Colombian Police Headquarters (Bogota), Los Angeles Police, County of Los Angeles Sheriff's Department, University of Tennessee, Department of Forensic Anthropology & The Body Farm (FBI Facility), numerous UK Police Forces, several British and overseas universities, mining companies, engineering firms, lawyers, insurers, loss adjusters and bankers.

Contact Details

Work

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Further information, available on request

- International projects completed
- UK projects completed
- List of papers and publications
- Feedback record
- List of presentations, key note lectures and invited guest speaker

Selected Clients & Projects: Mineral Exploration, Mining & Mining Hazards

Client	Country	Project
Confidential (ongoing)	Mongolia	CPR of magnetite ore-body for listing of PLUS stock exchange
Confidential (ongoing)	Russia	Due diligence review of the gold deposit in eastern Russia
Department of Mines & Energy	Namibia	Environmental impact of abandoned copper mining
Occidental Petroleum	Canada	General advice on reprocessing of a coal waste tip
Confidential	Saudi Arabia	Design of mineral exploration to locate hard rock resources
DFID	Montserrat	Design of mineral exploration to locate hard rock resources
NISCO & ESA	Iran	Use of satellite imagery for copper exploration
NISCO	Iran	Coal mining and coal exploration, Tabas Coal Mine, Iran
Confidential	China	Assessment of coal mining hazards
DFID, HTS Ltd, ITC Ltd & AKRSP	NW Pakistan/Afghanistan	Coal exploration & assessment of geohazards in the Karakoram
Confidential	Ethiopia	Advice on phosphate exploration
CMPDI, World Bank	India	Institutional strengthening of Indian coal mining industry
EU SYSMIN	Dominican Republic	Rehabilitation of abandoned bauxite mines
JCI	Kazakhstan	Due diligence review of iron ore, ferro-chrome & coal mines
Credit Lyonnais	Kazakhstan	Due diligence review of copper-lead-zinc, gold & coal mines
ECOCARBON	Colombia	Assessment of coal mining hazards in Antioquia & El Cerrejon
Geological Survey of Guyana	Guyana	Privatisation of the Guyana bauxite industry
GECONSA & Walbell Developers	Venezuela	Development and exploration of Fila Maestra coal mine
Ukrainian Institute, Rock Mechanics	Ukraine	Assessment of coal mining hazards & mining subsidence
Addleshaw Goddard	Siberia	Expert advisor for a strata control coal mining arbitration case

Selected Clients & Projects: Engineering Geology, Geotechnical & Geohazards

Confidential	Abu Dhabi & Dubai	Geotechnical assessment of dissolution hazards, Yas Island & UAE
NISCO & Confidential	Iran	Assessment of seismic risks for a new mine and a dam
INGEOMINAS	Colombia	Urban geohazards, landslides and mining risk assessment
DFID	Montserrat	Geotechnical monitoring of the Soufriere Hills volcanic eruption
DFID	Montserrat	Geotechnical investigation for a new bridge and airport
The Coal Authority & DLP Piper	UK	Expert adviser for mining subsidence and mining hazards claims
CIRIA	UK	Steering committee member/author for rewrite of CIRIA 32
Montgomery Watson	UK	Geological assessment for carbon capture scheme
Renewable Power Ltd	UK	Geomorphologic survey for hydro electric power scheme
RWE nPower & Golders	UK	Geological assessment for wind farms in Scotland
Arley Consulting	UK	Quarry regulations stability assessment for landfill waste storage
Eggborough Power Station	UK	Subsidence and fault reactivation advice
National Grid	UK	Geotechnical investigations for new and existing pipelines
Ministry of Defence, Babbie, Fugro	UK	Near shore geophysical survey for a military installation
Environment Agency	UK	Geotechnical investigations for dewatering a reservoir
Scottish Water	UK	Geotechnical investigations for new major sewer schemes
Environment Agency	UK	Advice on dissolution risks for flood defences in Ripon
Laing O'Rourke, Yorkshire Water	UK	Stabilisation of abandoned mine workings for new sewers
Historic Scotland	UK	Investigation & stabilisation of the Edinburgh Castle landslide
Blaenau Gwent Borough Council	UK	Geohazards associated with rehabilitation of former steel works
AMEC, Scottish Power	UK	Geotechnical & geophysical investigation for Blacklaw wind farm
DTI	UK	Coal gas investigation, West Midlands
St Modwen's Development Ltd	UK	Geotechnical investigation of coal & limestone mines Dudley
Scottish Power	UK	Geotechnical investigation for a new electricity sub station
NIREX & BNFL	UK	Geological investigations for deep nuclear waste storage
UKAEA	UK	Design of shallow waste repositories for nuclear waste
ICI Petrochemical	UK	Hydrogeological & stability survey of an anhydrite mine for waste
Network Rail	UK	Geological assessment of SSSIs, stability of cuttings & embankments
HMNB Design Authority	UK	Landslide risk assessments at Faslane & Couplort nuclear bases

Note: Forensic projects and police investigations remain confidential, but some selected projects may be made available on request