

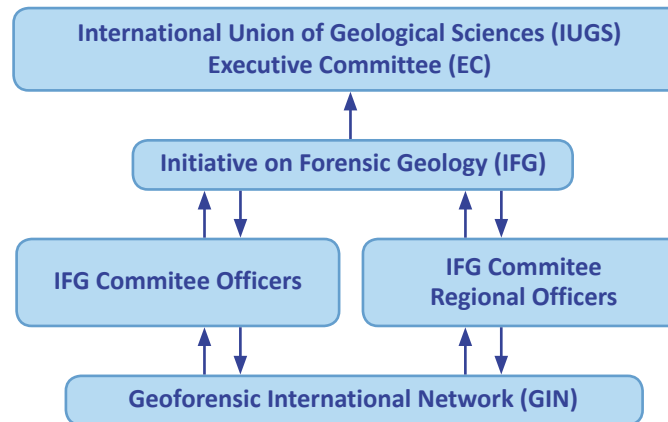
Forensic Geology

- **Forensic geology** involves the application of geoscience to:
 - Policing, law enforcement or other investigations, which may potentially be relevant for a court of law.
- **Forensic geoscientists** may be called upon to be an expert witness or to provide an expert opinion for a variety of cases:
 - Murder, rape, counter terrorism, kidnapping, humanitarian incidents, environmental crimes, geohazards, mining incidents, geotechnical and civil engineering failures, materials engineering, precious minerals and metals theft and fraud etc.
- **Police support** is provided by geoscientists in two broad areas:
 - Geological (trace) evidence and ground searches.
- **Geological (trace) evidence** involves the collection of soil, rock fragments, micro-fossils or man-made materials derived from geological raw materials (such as glass, bricks, concrete and tiles). These are analysed before being evaluated with some knowledge of the particular circumstances of the investigation. The aim may be to help determine if there could be an association between the samples. This is based on the premise that every contact leaves a trace and geological evidence may be transferred onto the body of a victim, offender or associated item/object.
- **Ground searches** are conducted to locate; homicide graves, mass genocide graves, weapons, firearms, drugs or other items of value that have been buried beneath or concealed on the ground surface.



IUGS and IFG

- The International Union of Geological Sciences (IUGS) is a non-governmental organization representing a global membership of one million Earth scientists through its approximately 120 member countries and almost 50 affiliated organizations. It encourages international co-operation and participation in the Earth sciences with a view to understanding earth processes and earth resources especially in relation to human welfare.
- IUGS works through its Commissions, Subcommissions, Task Groups, and Joint Programmes and with the support of its international affiliated bodies to address Earth science issues of relevance to society.
- In 2011 IUGS approved the establishment of the Initiative on Forensic Geology (IFG) which operates through a system of committee and regional officers (*see below*).



IFG Mission Statement

The IUGS Initiative on Forensic Geology (IFG) seeks to:
'Develop forensic geology internationally and promote its applications.'

IUGS-IFG Approach

IUGS-IFG aims to raise the global awareness of forensic geology by holding meetings and conferences, promoting research, teaching, training and the operational deployment of forensic geologists. This will be achieved through an approach consistent with the broad objectives of IUGS:

- **Capacity building:** by raising levels of awareness, knowledge and providing information about forensic geology
- **Technology transfer:** an improvement in skill sets
- **Outreach:** educating and informing geologists, geoscientists, non-geological specialists, police, law enforcement organisations, schools, universities, general interest groups and the general public about forensic geology

IUGS-IFG currently is planning to provide capacity building, technology transfer and outreach events in different parts of the world over the next 3–5 years.

IFG Objectives

- Collate and disseminate data and information on forensic geology applied to policing and law enforcement, criminal, environmental and civil investigations.
- Promote international meetings, seminars, conferences and training.
- Develop a 'Committee' to act as principal advisers, collaborators and active participants.
- Develop an international network whereby each 'member' will act as a principal contact in their respective country for the collation and dissemination of information on forensic geology.
- Collate, review and make available any existing documentation and publications in forensic geology.
- Produce a document endorsed by the Committee to be called '*A Guide to Forensic Geology*'.

IFG Officers

COMMITTEE OFFICERS:

Chair: Dr Laurance Donnelly, UK
E: ldonnelly@wardell-armstrong.com

Vice Chair: Prof Rob Fitzpatrick, Australia
E: rob.fitzpatrick@csiro.au

Treasurer: Prof Lorna Dawson, UK
E: lorna.dawson@hutton.ac.uk

Secretary: Ms Marianne Stam, USA
E: marianne.stam@doj.ca.gov

Information Officer/Webmaster: Dr Elisa Bergslien, USA
E: bergslet@buffalostate.edu

Geoforensic Law Enforcement Adviser:
Mr Mark Harrison, Australia
E: c/o ldonnelly@wardell-armstrong.com

Training and Publications: Dr Alastair Ruffell, UK
E: a.ruffell@qub.ac.uk

Communications: Jennifer McKinley, UK
E: j.mckinley@qub.ac.uk

Geological (trace) Evidence Advisers:
Drs Skip and Christopher Palenik, USA
E: spalenik@microtracescientific.com

IFG Honorary Committee Member:
Dr Raymond Murray, USA
E: rmurray@bresnan.net

FBI Adviser: Dr Jodi Webb, USA
E: c/o ldonnelly@wardell-armstrong.com

REGIONAL OFFICERS:

Africa: Colonel Roger Dixon

Australia: Dr James Robertson

Canada: Prof Grant Wach

Europe: Dr Rosa Maria Di Maggio

Japan and Asia: Dr Ritsuko Sugita

Latin America: Mr Carlos Molina Gallego

Middle East: Captain Ahmed Saeed Al Kaabi,
Captain Khudooma Said Al Naimi and
Lt. Saleh Ali Al Katheeri

Pacific: Dr Shari Forbes

Russia and CIS: Dr Olga Gradusva and
Dr Ekaterina Nesterina

USA: Dr Bill Schneck



- Geological Society, Near Surface Geophysics Group, Recent Work in Archaeological Geophysics, Burlington House, London, UK, 2 December 2014.
- Geological Society, Forensic Geoscience Group Conference, Future Horizons, Burlington House, London, UK, 3 December 2014.
- IUGS-IFG, Annual General Meeting, Burlington House, London, UK, 4-5 December 2014.



- 2nd International Conference on Engineering Geophysics and knowledge transfer training with the Abu Dhabi Police, Al Ain, UAE, November 2013.
- Training in Forensic Soil Analysis with La Guardia Civil, Alcalá de Henares, Spain, November 2013.
- Geological Society of America (GSA) Annual Meeting, Denver, USA, October 2013.
- Brazilian Federal Police and National Institute of Criminology, Brasília, Brazil, October 2013.
- Russian Federal Centre for Forensic Science, Ministry of Justice, Moscow, Russia, October 2013.
- Interpol General Secretariat Headquarters, Lyon, France, October 2013.
- Forensic Geoscience, Chiba, Japan, May 2013.
- Serious Organised Crime Agency (SOCA), Leicestershire, UK, March 2013.
- Forensic Geology Session, Criminal and Environmental Soil Forensic Conference, The Hague, the Netherlands, August 2012.
- Inaugural Meeting of the IUGS-IFG, Rome, Italy, September 2011.



<http://forensicgeologyinternational.org>

