

European Academy of Forensic Sciences Conference, The Hague, The Netherlands 2012

Lorna Dawson, Shari Forbes and Rosa Maria Di Maggio

A wonderful opening session was held in a most beautiful new building at the centre of The Hague, The Netherlands (below):



The International Union of Geological Sciences (IUGS), Initiative on Forensic Geology (IFG) was well represented at the 6th European Academy of Forensic Sciences conference held in The Hague, Netherlands from August 20-24, 2012. After collaboration and co organisation with various IUGS-IFG members, along with Lida van den Eijkel (Netherlands Forensic Institute), an interesting programme on soils as trace, search, taphonomy and archaeology was initiated.

A Special Session on Soil Forensics was included as part of the main scientific program. The rationale for the structure was that, increasingly in recent years, soils and sediments have proved to be increasingly useful in obtaining evidence in three major areas of forensic investigation: (a) violation of environments through pollution and/or poor management, (b) in criminal investigation, particularly as sources of trace evidence and (c) as a place where human remains are buried and decompose.

The Soil Forensics session was organized and chaired by Henk Kars (Free University, Amsterdam) and Lida van den Eijkel (Netherlands Forensic Institute). Due to the considerable interest and large number of oral presentations, the Special Session on Soil Forensics was run as two parallel sessions throughout the entire conference. It made it difficult to make decisions as to which session to attend. Thankfully most speakers kept to time and the rooms were adjacent to each other. The sessions were broadly divided between “trace evidence” and “forensic taphonomy”. The session opened on August 21 2012 with a presentation by IUGS-GIN member, Pat Wiltshire, titled Soil Analysis: Scope and Value in Criminal Investigation.

The presentations within the “Trace Evidence” session were as follows, with IUGS-IFG members and officers highlighted:

- Murray, R.C. [**Member**] the importance of the unusual in soil examination;
- Hawksworth, D.L. [**Member**] Fungal evidence from soil and other surface samples: applications, possibilities, and problems;

- Palenek S. [**Geological Trace Evidence Advisor**] Forensic Geosourcing;
- Di Maggio, R.M. [**Officer, Europe**] A case of damage to graves: analysis of geological microtraces;
- Fitzpatrick, R.W. [**Vice Chair**] Soil as significant evidence in 4 murder investigations involving a wide range of soil types across Australia;
- Dawson, L.A. [**Treasurer**] Soil as intelligence and evidence: learning experiences from research and casework;
- Carvalho, A. Independent techniques for the forensic characterization of river beaches;
- Weber, M, Forensic Palynology: How pollen in hay can link to a crime scene;
- Uitdehaag, S. Soil comparisons using small soil traces, examples from casework at the NFI; and
- Vinayak, V. Diatom test and drowning: Shopian Rape and Murder Case in India.

The presentations given within the “Forensic Taphonomy” session were as follows, with IUGS-IFG members and officers highlighted:

- McCullagh, N. Searching for “The Disappeared” in Ireland: The Independent Commission for the Location of Victims Remains 2006-2011;
- Janaway, R.C. and Wilson A.S. Death, decay and reconstruction – 25 years of taphonomic research at Bradford;
- Stadler, S.S. and Forbes S.L. [**Officer, Canada and Pacific**] Analysis of VOCs from surface decomposition of human analogues via comprehensive two dimensional gas chromatography-time of flight mass spectroscopy;
- Stefanuto, P.H. Grave soil analysis by TD-GCxGC-ToFMS;
- Cockle, D.L. Variability of human decomposition in Canada;
- Comstock, J. and Forbes S.L. [**Officer, Canada and Pacific**] Analysis of decomposition fluid collected from carcasses decomposing in the presence and absence of insects;
- Schotsmans, E.M.J. Taphonomy of limed burials – the effects of lime on the decomposition of buried human remains and the grave micro-environment;
- McColl, S.M. The chemical composition of graveyard soils: identifying trends from the dissolved corpse;
- Breton, H. and Forbes S.L. [**Officer, Canada and Pacific**] Determining the impact of cadaver decomposition on soil microbial communities and potential uses in forensic investigations;
- Perrault, K. and Forbes S.L. [**Officer, Canada and Pacific**] Elemental analysis of soil and vegetation surrounding decomposing carcasses;
- Von der Lühe, B.M. and Dawson, L. [**Treasurer**] The preliminary investigation of animal sterols for the detection of decomposing bodies in soil.
- Mackinnon, G. Interdisciplinary approaches to the search and location of buried bodies: A United Kingdom context;
- Morrison, A.R. The potential use of organic components in soil for forensic discrimination of land use and location;
- Ruffell, A. [**Training and Publications**] A search strategy for the location of landfills;
- Barone, P.M. Forensic Geophysics: How the GPR technique can help forensic investigations;

- McKinley, J.M. A review of spatial and temporal approaches in soil forensics: challenges and case studies;
- Guedes, A. Temporal characterization of sediments. Relevance to practical use in forensic investigations;
- Kotrly, M. Modern techniques in analysis of pedological traces in forensic practice;
- Woods, B.A. Criminalistics Get Dirty;
- Buscaglia, J. Luminescence spectroscopy of Feldspar Minerals for Forensic Geology;
- Morgan, R.M. The use of quartz in geoforensic investigations: towards full automation;
- Von der Lühe, BM The preliminary investigation of animal sterols for the detection of decomposing bodies in soil;
- Pirrie, D. Can automated mineralogy data allow different beach sand locations to be differentiated?
- Gradusva, O. [**Officer, Russia**] The procedure of forensic soil examination and a view on world standardization process; and
- Kars, H. Synthesis and future prospects.

In addition to the Special Session on Soil Forensics, Shari Forbes and Lorna Dawson attended the Inaugural European Meeting on Forensic Archaeology (EMFA) hosted by the Netherlands Forensic Institute. This special workshop was designed to establish the state of forensic archaeology within Europe and to provide a network for forensic archaeologists to transfer knowledge regarding expertise, skills, and casework. The inaugural meeting was an overwhelming success and highlighted potential opportunities for collaboration between the EMFA and IUGS-IFG into the future.

All of the soil forensic sessions were well attended throughout the week by members of the IUGS-IFG as well as other conference delegates. IUGS-IFG members also presented in several of the other Themes and Special Sessions of the scientific program. Lorna Dawson presented a brief presentation about the history and mandate of the IUGS-IFG and brochures were distributed to the audience in both soil forensic sessions. The Special Session on Soil Forensics closed on August 24 with a synthesis of the presented themes and an interdisciplinary discussion surrounding future prospects for the field. The EAFS conference was an excellent opportunity to promote the IUGS-IFG. Officers and Members were able to network with each other and with potential new members who showed considerable interest in the fields of soil forensics and forensic geology. The IUGS-IFG had such a good feedback that people from a range of Forensic Institutes and organisations asked to be part of it.



Waiting for Princess Beatrix to arrive on the final day of the conference.

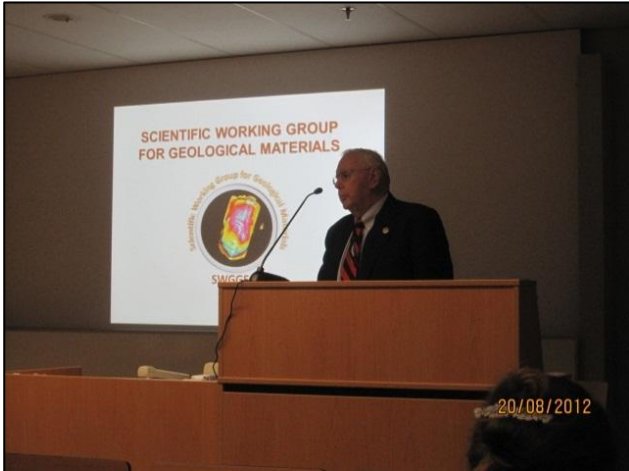
Some of the speakers at the conference soil forensic sessions



Lorna Dawson, UK



Aurea Carvalho, Portugal



Ray Murray, USA



Rosa Maria Di Maggio, Italy



Skip Palenik, USA



Rob Fitzpatrick, Australia



Brenda Woods, Australia



Barbara Von der Lühe, Germany



Joann Buscaglia, USA



Lorna and Shari meet the Wise Owl



BBQ and knowledge exchange at the forensic archaeology sub group meeting



For more information visit the EAFS 2012 website; www.eafs2012.eu