

**Date:** TUES, Feb 11th

**Time:** 15:00 (UTC+8)

**Venue:** 3N01 + Zoom



Environmental forensics is usually the science of determining who did it, when did they do it and did they cause harm? Answering these questions takes a specific approach and starts with defining the question that needs to be answered. Having done that, there are a range of tools available to us to allow us to proceed with an investigation. We need to identify sources, pathways through the environment and eventual receptors. Our approaches range from the simple chemical analysis based on presence or absence of key compounds through to complex multidimensional chemical signatures. At the receptor sites, we also need to differentiate between the background, baseline and contamination components if harm is to be correctly apportioned. Examples will be shown using mosses as passive samplers for metal discharges to the air, combustion sources from electronics "recycling", tracing improvised explosives and oil spills.

## Toolbox for Forensic Investigations in the Environment



**Prof. Stephen Mudge**

Prof Stephen Mudge works at Shandong University helping them develop an Institute of Eco-Environmental Forensics. Previously, he was a senior scientist working at the Norwegian Institute for Air Research (NILU) until 2020. His post-doctoral research concerned the environmental geochemistry of plutonium and polonium, after which he developed the world's first degree in environmental forensics at Bangor University. He chaired the International Network of Environmental Forensics (2008-2024) and is the immediate past president of the the Environment, Sustainability and Energy Community council of the Royal Society of Chemistry. He won the Enterprise Oil Heriot Watt University Award in 1998 for the development of methods to remove oil from beaches and rocky shores using biodegradable solvents. This method was used to clean-up a spill in Chile in 2007. He has worked on several major cases such as the Deepwater Horizon (Gulf of Mexico) oil spill, the ILVA smelter dioxin case and several other projects.

ALL ARE WELCOME!

