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Colin Lewis
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Introduction

The real voyage of discovery consists not in seeking new landscapes, but in having new eyes.

Marcel Proust (1871-1922)

This rather philosophical quotation perhaps summarises the current state of surveillance technology, one of the key technologies in the field of crime-fighting and counter-terrorism. Instead of developing technology to gather more information, why not use the information we have—"using new eyes"—using the tools available to extract useful information from the massive amount of information being constantly gathered. This is a theme of this conference; an example of technology that is "using new eyes" is facial recognition. As in 2006, we had a successful session on the use of CCTV for face recognition and automatic tracking. In addition to face recognition, other areas of biometrics were covered, including fingerprints and gait analysis. However, during an excellent discussion group, concern was expressed over the slow uptake of such "smart technology" in view of the large amounts of funding spent on research.

Optics and photonics are used in diverse ways in the security arena. Applications use several spectral bands and range from front–end such as CCTV to information processing, including cryptography. The latter is becoming increasingly important since commerce is increasingly dependent on secure transactions using the World Wide Web.

Terahertz technology represents exploitation of a new spectral region where the techniques for generation and detection are relatively new. It is still under development and offers the possibility for the detection of contraband material under certain conditions. Programmes are now identifying the possibilities and limitations of this technology.

Optics and photonics are making a substantial contribution in the detection of explosives and other illegal substances, and examples (e.g. Raman) are provided in the conference. Forensic techniques are also reviewed.

Novel applications discussed at the conference include the use of polarization for object recognition and security tagging, and the increasing use of hyperspectral imaging.

Overall, this conference presents examples of leading-edge science and technology of optics and photonics applied to security and counter-terrorism. These technologies can hopefully make a valuable contribution, provided they are adequately robust and not subject to simple countermeasures.

Colin Lewis