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Front Matter: Volume 6741

, "Front Matter: Volume 6741," Proc. SPIE 6741, Optics and Photonics for Counterterrorism and Crime Fighting III, 674101 (2 November 2007); doi: 10.1117/12.779554

SPIE.

Event: Optics/Photonics in Security and Defence, 2007, Florence, Italy

PROCEEDINGS OF SPIE

Optics and Photonics for Counterterrorism and Crime Fighting III

Colin Lewis
Editor

18–20 September 2007
Florence, Italy

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Published by
SPIE

Volume 6741

Proceedings of SPIE, 0277-786X, v. 6741

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Please use the following format to cite material from this book:

Author(s), "Title of Paper," in *Optics and Photonics for Counterterrorism and Crime Fighting III*, edited by Colin Lewis, Proceedings of SPIE Vol. 6741 (SPIE, Bellingham, WA, 2007) Article CID Number.

ISSN 0277-786X

ISBN 9780819468994

Published by

SPIE

P.O. Box 10, Bellingham, Washington 98227-0010 USA

Telephone +1 360 676 3290 (Pacific Time) · Fax +1 360 647 1445

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Printed in the United States of America.

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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