



# Intelligent Video Surveillance

3-4 August 2009

Presenter: Professor Brian C. Lovell

Technology Park Conference Centre  
Mawson Lakes SA

## Teaching Arrangements:

The course will be conducted from 9.00am to 5.00pm. Morning tea will be available at approximately 10.00am to 10.30am, lunch from 12.30pm to 1.30pm and afternoon tea at approximately 3.00pm to 3.30pm.

**Registration Fee:**  
AU\$1320 (including GST)

Group and PhD student discounts available. Please enquire.

## How to Register

To register fill out the registration form (overleaf) and

- fax it to +61-8-8343-8711
- or
- scan and email it to [industryeducation@nicta.com.au](mailto:industryeducation@nicta.com.au).

## Cancellation Policy

At least **4 weeks** notice is required for cancellation of a place in a short course for full reimbursement. If cancellation is later than 4 weeks then the place can either be given to another person or the registrant can be provided with a credit towards other NICTA training.

For details of further courses please see our web site:  
[www.nicta.com.au/short\\_courses](http://www.nicta.com.au/short_courses)  
or contact the NICTA Industry Education Manager.

## About Intelligent Video Surveillance

A pressing need is emerging to detect events before harmful actions can occur. The problem is how do we cost-effectively monitor thousands of surveillance cameras to detect rare events of security interest in real-time? A solution may be found in advanced surveillance systems employing computer monitoring. Such systems may assist in maintaining the high level of vigilance required over many years to detect the rare events associated with terrorism as a well-designed computer system is never caught "off guard".

This **2-day** course covers important considerations for deploying and researching intelligent surveillance systems and assumes no prior knowledge. It includes fundamentals of image and video processing to introduce the participant to the basic techniques underpinning intelligent surveillance systems. This covers concepts such as image formats, image compression, colour spaces, edge detection, image segmentation, thresholding techniques, and morphological methods. Included also is an introduction to face recognition and biometric techniques covering history, technologies, state-of-the-art, and performance from recent FRVT and FRGC testing.

## Target Audience

The course is suitable for researchers, scientists, academics and industry professionals seeking to understand the motivations, principles, and methods required to support the emerging technologies used in intelligent surveillance systems, as well as individuals wanting to learn the basic principles of digital image and video processing, fundamentals of image analysis, mathematical basis for face recognition systems, challenges and opportunities for emerging technologies.

## Brief Course Outline

**Visual Surveillance Market Trends:** First, second, and third generation systems; typical day-to-day operation, walking the beat models, monitored and unmonitored systems, Price versus performance, interoperability and data sharing, CCTV as a deterrent to crime, watermarking, market drivers, sector growth.

**Visual Surveillance Technology Trends:** First, second, and third generation systems; AV versus IT personnel; analog versus digital, PTZ versus fixed cameras, track mounted cameras, 2D versus 3D immersive presentation, city-wide and continental surveillance systems, video analytics, bandwidth issues, video demonstrations of best practice systems.

**Image Processing:** Fundamental techniques and problems including edge detection and graph theoretic approaches; image formats, colour coordinate systems, and image compression; Viterbi algorithm.

**Advanced Algorithms:** Binary morphology, morphological operators, grayscale morphology, segmentation using morphology etc

**Face Recognition:** Fundamentals of face recognition and related biometrics including history, methods, results, demonstrations, and state-of-the-art.

## Presenter: Professor Brian C. Lovell

Brian C. Lovell received the BE in electrical engineering in 1982, the BSc in computer science in 1983, and the PhD in signal processing in 1991: all from the University of Queensland (UQ). Professor Lovell is Research Leader in NICTA and Research Director of the Security and Surveillance Research group in the School of ITEE, UQ. His research interests are currently focused on intelligent surveillance techniques, optimal image segmentation, real-time video analysis, and face recognition.

## About NICTA and Short Course Program

National ICT Australia (NICTA) is Australia's ICT Centre of Excellence and was established to drive innovation through high quality research, research training and technology transfer. As a world-class research institute NICTA uniquely combines excellence in research, education, commercialisation and collaboration. We are working to ensure that Australia is well placed to benefit from the significant opportunities that ICT research delivers.

NICTA is funded by the Australian Government as represented by the Department of Communications, Information Technology and the Arts and the Australian Research Council through *Backing Australia's Ability* and the ICT Centre of Excellence program. NICTA members are the Australian Capital Territory Government, the New South Wales Government, the University of New South Wales and the Australian National University.

NICTA short courses offer scientists, engineers and managers technical training with a leading edge in areas such as telecommunications, transport, security, defence, logistics, e-government, mining, finance and biotechnology.

There will be ample opportunities for discussion and questions and answers. Morning and afternoon tea/coffee and a light lunch will be provided. Extensive workshop materials will be made available to participants.

### How to register

Please complete the registration form below and

- Fax it to +61-8-8343-8711 or
- Scan and email it to [industryeducation@nicta.com.au](mailto:industryeducation@nicta.com.au).

**Send the form as soon as possible to secure your place.**

For further information please contact  
Anne-Marie Eliseo  
Industry Education Manager  
Telephone: +61-8-8343-8710  
Email: [anne-marie.eliseo@nicta.com.au](mailto:anne-marie.eliseo@nicta.com.au)

## Registration Form and Tax Invoice\* ABN 62 102 206 173

\*Upon completion of this form, including the relevant payment, this form will become a Tax Invoice.

**Please register me for Intelligent Video Surveillance on 3-4 August 2009.**

PLEASE PRINT

Date: \_\_\_\_\_

Title: \_\_\_\_\_ First Name: \_\_\_\_\_ Surname: \_\_\_\_\_

Position: \_\_\_\_\_ Organisation/Division: \_\_\_\_\_

Postal Address: \_\_\_\_\_

Telephone No: \_\_\_\_\_ Facsimile No: \_\_\_\_\_ Email: \_\_\_\_\_

Dietary preference: \_\_\_\_\_

Course Fees:  Full fee: AU\$1320 (incl. GST)  
(Register before **Jul 20<sup>th</sup>, 2009.**)

### Method of Payment (please tick below):

Cheque (payable to National ICT Australia Ltd)  
Forward the cheque and a copy of THIS registration form to:  
Anne-Marie Eliseo, Industry Education Manager, NICTA, Innovation House, First Avenue, Mawson Lakes SA 5095, Australia.

Credit Card: Credit Card No.: \_\_\_\_\_ Expiry Date: \_\_\_\_\_

Visa  Master Card Name on card: \_\_\_\_\_

Amount: AU\$ \_\_\_\_\_ Signature: \_\_\_\_\_  Tick if receipt required

Email address of card holder: \_\_\_\_\_

Electronic Funds Transfer  
**Please advise by email to Annette Van Bramer**  
[annette.vanbramer@nicta.com.au](mailto:annette.vanbramer@nicta.com.au)  
**when payment is made**

BANK	Commonwealth Bank of Australia
ACCOUNT NAME	National ICT Australia Limited
BSB	062 900
ACCOUNT NUMBER	1032 4576
REFERENCE NUMBER	030809

**FAX the form to +61-8-8343 8711 or EMAIL it to [industryeducation@nicta.com.au](mailto:industryeducation@nicta.com.au)**

**Privacy Clause:** The above information is being collected by NICTA and will be added to our contact database and will be used primarily to provide you with further information about NICTA events and services. All information is collected, used or disclosed subject to NICTA's Privacy Policy which can be accessed at [http://nicta.com.au/about/nicta\\_website/privacy](http://nicta.com.au/about/nicta_website/privacy). Please tick the box below if you do NOT wish to receive any further mailings from NICTA.

I do not wish to receive any further mailings from NICTA

You can use the following options to access or remove your personal information from NICTA's databases, make a complaint about a breach of privacy or if you have a query relating to NICTA's privacy practices and policies:

- Send an email to [comments@nicta.com.au](mailto:comments@nicta.com.au) or
- Phone NICTA's Industry Education Manager on +61 8 8343 8710.