

# Introduction to High Range Resolution Radar Imaging and Target Classification

9 September 2009

Presenter: Professor Chris J. Baker

Technology Park Conference Centre  
Mawson Lakes SA

## Teaching Arrangements:

The courses 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\$770 (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 this Course

It has become increasingly clear that improving the resolving ability of a radar systems leads to an increase in information content in the received echo. Perhaps the clearest example of this is two dimensional SAR imaging which provides a map like picture of the surface of the earth. As resolution is increased still further it begins to allow the identification of smaller and smaller objects. This is an introductory course exploring high resolution in radar systems and subsequent methods for classification of detected objects. The course begins by exploring the concept of resolution and then goes on to examine techniques for generating high resolution in radar systems including imaging radar. Subsequently, the topic of automatic target classification is introduced very much from a practical systems perspective, reviewing techniques and outlining the current state of the art. Throughout the course real world examples are used with data derived from advanced experimental systems to demonstrate actual radar and classification performance.

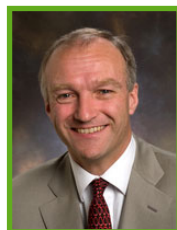
**Target Audience:** The course is suitable for engineers, scientists and others of military or civil employment. It will also be suitable for those new to the topic of radar, those who have or plan to have an interest in this important area and those who may be working in a support role such as procurement of systems.

**Pre-requisites:** graduate level in any of mathematics, physics, engineering, computer science or some experience in radar.

## Topics Covered:

- Resolution
- High range resolution techniques
- High resolution radar imaging
- Image interpretation
- Target classification
- Future directions.

## About the Presenter



**Professor Chris Baker** is the Dean of the College of Engineering and Computer Science at the Australian National University (ANU). Prior to this he held the Thales-Royal Academy of Engineering Chair of intelligent radar systems based at University College London. He has been actively engaged in radar system research since 1984 and is the author of over one hundred and fifty publications. His research interests include Coherent radar techniques, radar signal processing, radar signal interpretation, electronically scanned radar systems, natural echo locating systems and radar imaging. He is the recipient of the IEE Mountbatten premium (twice), the IEE Institute premium and is a fellow of the IEE. He is also currently chairman of the IEE Radar, Sonar and Navigation systems professional network. He is a visiting Professor at the University of Cape Town, Cranfield University, University College London and Adelaide University.

## 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 Introduction to High Range Resolution Radar Imaging and Target Classification on 9 September 2009.**

PLEASE PRINT

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

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

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

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

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

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

Course Fees:  Full fees: AU\$770 (incl. GST)  
(Please register by **Aug 25<sup>th</sup>**.)

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

**Cheque** (payable to National ICT Australia Ltd)

Please 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	240709

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- 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.