

## About the University of Sydney

The University of Sydney, founded in 1850, is Australia's first university. Over the past 150 years, the University has built an international reputation for outstanding teaching and as a centre of research excellence. There are over 47,000 students enrolled, including almost 9,000 international students.

With 17 faculties, the University of Sydney covers a diverse range of disciplines, including health services, medicine, science, and information technology. The University's Faculties of Health is the largest and most comprehensive grouping of health and medical staff engaged in education and research in the Asia-Pacific region.

The University of Sydney is a partner in a global network of research collaborations and exchanges that spans Europe, North America and Asia. The University is one of only three Australian institutions in the prestigious Association of the Pacific Rim Universities (APRU) which comprises members from Asia, the United States and South America.

The University of Sydney continues high in global rankings, confirming its place within the top three universities in Australia, and within the top 37 in the world.

For more information about the University of Sydney please visit: [www.usyd.edu.au](http://www.usyd.edu.au)

## About RIAP

The Research Institute for Asia and the Pacific (RIAP) is a research and education unit within the International Portfolio of the University of Sydney. Founded in 1989, RIAP initiates, develops and manages multidisciplinary research projects and international leadership programs that support the international development priorities of the University. RIAP also plays a role in supporting the foreign policy outreach activities of the Australian government and organisations, and the capacity building needs of countries in the Asia-Pacific region.

Having served for five years as the Australian National Lead Institute for the Asia-Pacific Economic Cooperation Human Resource Development Working Group, RIAP has the proven ability to design programs that respond to regional and organisational development needs. RIAP also has extensive experience providing customised training for a wide range of professions that contributes to the building of institutional and human resource capacities and promotion of network linkages between Australia and the Asia-Pacific region.

Following the success of the 'Foundations of PET-CT' in 2008 there is growing demand to continue this program and similar customized training courses in the use of CT with PET and SPECT.

For more information about the Research Institute for Asia and the Pacific please visit: [www.usyd.edu.au/riap](http://www.usyd.edu.au/riap)



"This program is endorsed by the Australian and New Zealand Society of Nuclear Medicine (ANZSNM) as part of its commitment to supporting Education and Training in developing countries."

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**Ansto**

"The Australian Nuclear Science and Technology Organisation endorses the University of Sydney course in PET-CT."

### HOW TO APPLY

Admission is selective and the number of participants for each course will be restricted to 20. Interested applicants can apply by completing the enclosed form and return it by mail, email, or fax on the details listed below.

Application deadlines are:

- Course One (29 June–10 July, 2009): **15 May 2009**
- Course Two (2–13 November, 2009): **18 September 2009**

For more information and an application form please visit: [www.usyd.edu.au/riap/news\\_events/index.shtml](http://www.usyd.edu.au/riap/news_events/index.shtml)

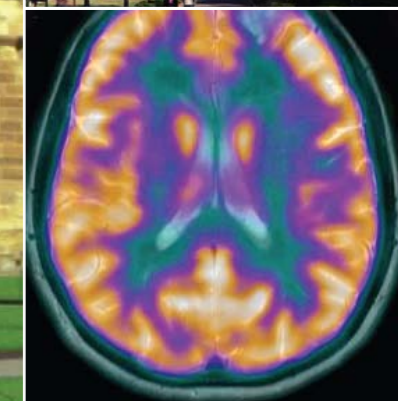
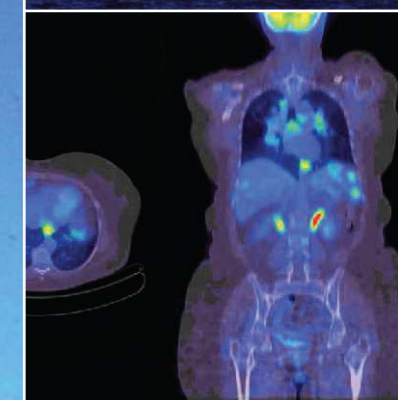
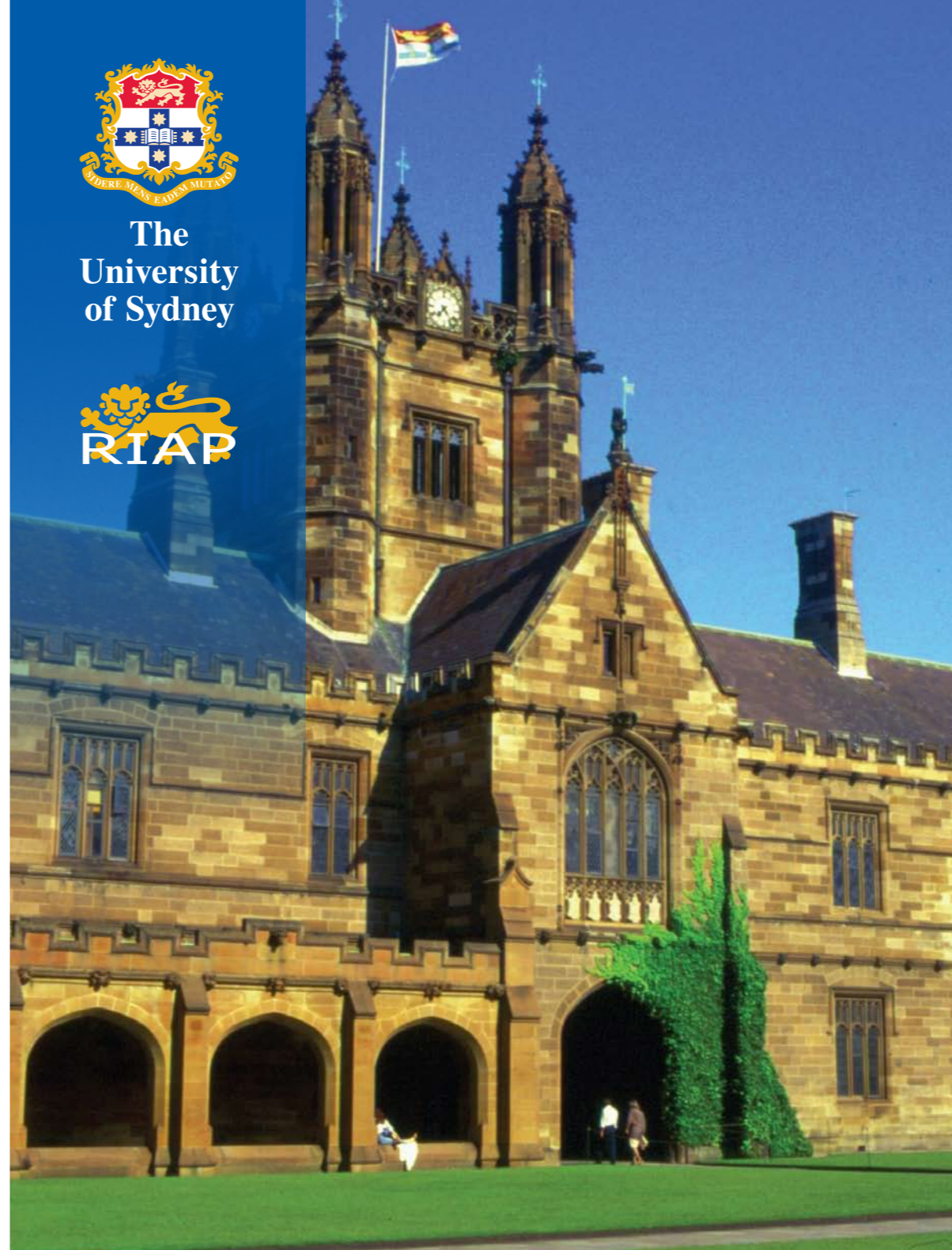
## Contact us for more information

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The University of Sydney



# Foundations of PET-CT

Positron Emission Tomography-X-ray Computerised Tomography

Research Institute for Asia and the Pacific (RIAP)

# About the PET-CT Program

As integrated imaging technologies develop rapidly the need for continuing education to update the knowledge and skills of nuclear medicine professionals is in much demand. The Research Institute for Asia and the Pacific (RIAP) of the University of Sydney now offers a professional development course on Positron Emission Tomography-X-ray Computerised Tomography (PET-CT) designed to integrate the most recent knowledge and skills related to safety, and technical and clinical practice. This comprehensive 10-day training course is suitable for physicians, scientists and technologists. Through lectures, workshops and clinical sessions the course will provide essential strategies for creating quality assurance and best practice for a safe environment and an efficient clinical service. The course also promotes team coordination for effective application of the technology.



<b>DATES:</b>	<b>29 June–10 July, 2009 and 2–13 November, 2009</b>
<b>PROGRAM FEE:</b>	<b>AU\$5000</b> <i>(Excluding travel, accommodation and living expenses)</i>
<b>LOCATION:</b>	<b>Sydney, Australia</b>

*Program dates, fees, faculty and curriculum are subject to change.*

## Structure

The program consists of a 10-day professional development course, offered twice in 2009. Through seminars, workshops, case studies and field experiences, the program is designed to advance the knowledge and skills of nuclear medicine professionals in PET-CT principles and applications.

## Program Objectives

At the completion of this program, participants will be able to:

- Explain the principles of PET and CT scanning and issues of PET-CT integration;
- Understand radiation safety and dosimetry considerations in PET-CT;
- Describe the Quality Assurance required to ensure optimal performance of PET-CT scanners;
- Identify common and new radiopharmaceuticals used in PET-CT and production methods;

- Recognise normal image appearance and possible sources of artifacts in acquisition and processing;
- Relate practical aspects of image interpretation of PET and PET-CT studies, focusing on cancer and other diseases;
- Discuss the underlying physical principles of F-18 FDG PET and its application to patients with emphasis on practical imaging protocols and methodology;
- Explain the basics in interpretation of PET images, recognise normal and abnormal radiopharmaceutical distributions and avoid common pitfalls and artifacts;
- Develop strategies and protocols applicable to participants' own organisational settings which enables good and safe clinical practice; and
- Explain principles of PET-CT workflows.

## Curriculum

During the 2009 program, participants will explore the following key modules:

- **Module 1: Physics Fundamentals**
  - Principles of PET and CT
  - Quality Assurance
  - Image Formation
  - Quantitative Corrections
  - Multimodality / Fusion Imaging
- **Module 2: PET Chemistry and Physiology**
  - PET Isotope Production
  - PET Radiopharmaceuticals
  - Fluoro-2-deoxy-D-glucose (FDG) Kinetics
  - Other PET-tracers
- **Module 3: Clinical Practice and Workflow**
  - Oncological and Non-oncological Applications
  - Read with the Experts
  - Protocols and Scheduling
- **Module 4: Radiation Protection and Safety**
  - Patient and Staff Dosimetry
  - CT Dosimetry
  - Departmental Design and Shielding

## Faculty

The PET-CT Program is developed by the University of Sydney's Research Institute for Asia and the Pacific (RIAP), the University of Sydney's Faculty of Health Sciences, the University of Sydney's Brain & Mind Research Institute (BMRI),

Westmead Hospital's Department of Nuclear Medicine and PET, Royal North Shore Hospital's Department of Nuclear Medicine, the University of Sydney's Faculty of Science and Austin Hospital's Centre for PET.

The program is managed by RIAP.



### Ms. Heather Patterson

International Project Manager, Research Institute for Asia and the Pacific, University of Sydney, Australia  
Co-Developer, IAEA Distance Assisted Training programme for Nuclear Medicine Technologists



### Prof. Steve Meikle

Head, Discipline of Medical Radiation Sciences, Faculty of Health Sciences, and Co-Director, Ramaciotti Centre for Molecular Imaging, Brain & Mind Research Institute, University of Sydney, Australia



### A/Prof. Dale Bailey

Principal Physicist, Department of Nuclear Medicine, Royal North Shore Hospital, Sydney, Australia



### Adj. A/Prof. Roger Fulton

Adj. A/Prof. School of Physics, Faculty of Science, and Conjoint A/Prof. in the Discipline of Medical Radiation Sciences, University of Sydney, Australia  
Principal Hospital Scientist in the Department of Medical Physics, Westmead Hospital



### Dr. David Farlow

Director, Nuclear Medicine, Ultrasound and PET, Westmead Hospital, Sydney, Australia



### Mr. Scott Evans

Senior Nuclear Medicine Technologist, Department of Nuclear Medicine and PET, Westmead Hospital, Sydney, Australia



### Prof. Clive Baldock

Director, Institute of Medical Physics, School of Physics, Faculty of Science, University of Sydney, Australia



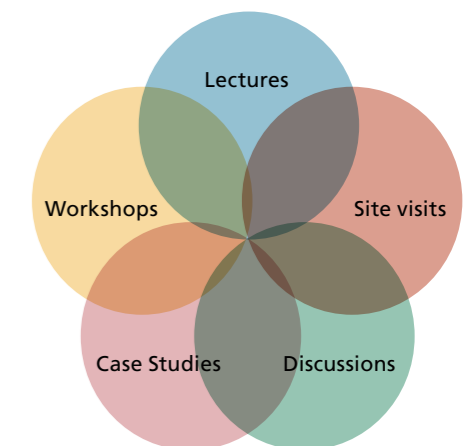
### Prof. Andrew M. Scott

Director, Ludwig Institute for Cancer Research, Melbourne Centre for Clinical Sciences, Melbourne, Australia  
Director, Centre for PET, Austin Hospital, Melbourne, Australia

## Training Methodology

Training will be delivered through:

1. Lectures and Workshops at the University of Sydney in collaboration with selected PET-CT clinical and research centres in Sydney. The lectures and workshops will provide the participants with cutting-edge knowledge to advance their understanding of best PET-CT practice.
2. Observation of Practice (clinical site visits) linked to lecture themes. The site visits will enable participants to learn and observe physical and practical approaches to PET-CT applications.



## Participants' Profile

Participants will be nuclear medicine professionals who are new PET-CT users or plan to implement PET-CT in their organisation. Participants will have a good understanding of radiation safety and have prior experience in a clinical nuclear medicine environment. The program is designed for participants from developing countries however a proficiency in written and spoken English is essential.

## Support Services

The University of Sydney will provide a complete set of support services to the program participants, which will include administrative assistance with accommodation, meals, domestic and international travel, transport, visas to Australia, health insurance and recreational activities.