

**IAEA/RCA RAS6097**

Regional Training Course on:

# Production & Preclinical Evaluation of Emerging Cyclotron-Based Radiopharmaceuticals

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## About ANSTO

Australia's Nuclear Science and Technology Organisation, (ANSTO) is the home of Australia's most significant landmark and national infrastructure for research. Thousands of scientists from industry and academia benefit from gaining access to state-of-the-art instruments every year.

In April 15 1953, Australia entered the nuclear science arena, when the Atomic Energy Act came into effect. The Australian Atomic Energy Commission (AAEC) followed and in 1987 the AAEC evolved into the Australian Nuclear Science and Technology Organisation (ANSTO) as it's known today.

ANSTO leverages great science to deliver big outcomes. We partner with scientists and engineers and apply new technologies to provide real-world benefits. Our work improves human health, saves lives, builds our industries and protects the environment.

To find solutions ANSTO operates much of Australia's landmark infrastructure including one of the world's most modern nuclear research reactors, OPAL; a comprehensive suite of neutron beam instruments at the Australian Centre for Neutron Scattering; the Australian Synchrotron; the National Imaging Facility Research Cyclotron; and the Centre for Accelerator Science.

## Code of Conduct

Recording, taking photography, or screenshots of the lectures without the explicit permission from the individual delivering them is not permitted.

All participants should treat each other with respect and consideration.

Personal attacks directed toward other participants, harassment, intimidation, or discrimination in any form will not be tolerated. Disruption of oral presentations will also not be tolerated.

Examples of unacceptable conduct include, but are not limited to:

- \* verbal comments related to gender, sexual orientation, disability, physical appearance, body size, race, religion, national origin,
- \* inappropriate use of nudity and/or sexual images in online meetings or in presentations
- \* threatening or stalking any participant.

### Consequences for Violating the Code of Conduct

Anyone requested to cease unacceptable behaviour will be expected to comply immediately. The organisers may take any action deemed necessary and appropriate, including immediate removal from the training. The RTC organisers may also prohibit attendance by anyone violating this code of conduct at any future training, meetings or events.

### Reporting Violations of the Code of Conduct

If you are the subject of unacceptable behaviour or have witnessed any such behaviour, please immediately notify us. This can be done by writing to [niceevents@ansto.gov.au](mailto:niceevents@ansto.gov.au).



## Training area @ nandin

Training on Monday, Tuesday, Wednesday and Friday will be held in **building 72** nandin Innovation Centre.



## Tour departure point @ Discovery Centre

The Discovery Centre is the meeting point to undertake the tour of ANSTO on Thursday. After the tour, lunch will be held at the Discovery Centre with some ANSTO staff joining providing an opportunity to ask questions raised from the tour. The tour to the Royal North Shore Hospital will depart from this location.





# Agenda @ nandin Hot Cell Room

Chair:  
Tien Pham

Time	Description	Speaker
7:45	Meet at Rydges Hotel Reception	
8:30	ANSTO Reception Security Briefing	Security
<b>Bus to nandin</b>		
	Welcome, safety, housekeeping and Acknowledgement of country	Tien Pham: ANSTO
	Opening remarks	Natascha Spark: ANSTO
	IAEA ANSTO Support - Program Design Logic for RTC	Natascha Spark: ANSTO
	Self introduction of participants (name back ground)	Participants
<b>Group photo</b>		
10:30	<b>Break</b>	
11:00	<b>ANSTO Research &amp; Capabilities</b>	
	ANSTO NST Biosciences	John Bennett: ANSTO
	ANSTO NST Human Health	Ryan Middleton: ANSTO
	ANSTO Nuclear medicine	Abdul Fneiche: ANSTO
	Overview of 5 day course	Tien Pham: ANSTO
12:30	<b>Lunch</b>	
13:30	Country reports - 10 mins presentation	
14:40	<b>Break</b>	
15:00	Country reports - 10 mins presentation Q & A and course discussion	
16:30	<b>Close</b>	



## Agenda @ nandin Hot Cell Room

Time	Description	Speaker
<b>9:00</b>	<b>Preclinical Radiochemistry I</b>	Chair: Giancarlo Pascali
	C11 Radiochemistry Overview and Experience	Lawson Spare: ANSTO
	Radiometal chemistry 1 - Development of Radiochemistry and Formulation	Ashley Walker : ANSTO
	Radiometal chemistry 2 - Translation to Modules	Andrew Hall : ANSTO
<b>10:15</b>	<b>Break</b>	
<b>10:45</b>	<b>Preclinical Radiochemistry II</b>	Chair: Ashley Walker
	F18 Radiochemistry Overview and Experience	Giancarlo Pascali: ANSTO
	Quality control testing of radiotracers for preclinical applications - equipment and considerations	John Doan : Prince of Wales Hospital
	Quality control challenges and practical considerations in development	Joe Ioppolo : University of WA
<b>12:00</b>	<b>Lunch</b>	
<b>13:00</b>	Site visit - Commercial Cyclotron Production and Quality Control at Cyclotek	Michael Tran - Production & Jana Delamont - Assurance
<b>14:15</b>	<b>Break</b>	
<b>14:45</b>	<b>Radiopharmaceutical Preclinical Data (Data for Investigators Brochure)</b>	Chair: Dave Zahra
	Preclinical Evaluation, Pharmacology	Paul Callaghan : ANSTO
	In vivo Preclinical Imaging Evaluation of Radiopharmaceuticals	Kelly Smart : ANSTO
	Preclinical Evaluation, Dosimetry	Mitra Safavi-Naeini: ANSTO
	Outlook for PET radiochemistry	Giancarlo Pascali: ANSTO
<b>16:30</b>	<b>Close</b>	





## Agenda @ nandin Hot Cell Room

Time	Description	Speaker
<b>9:00</b>	<b>Radiopharmaceuticals in Asia Pacific</b>	Chair: Tien Pham
	An Overview of Translation of Radiopharmaceuticals in Australia	Andrew Scott: Olivia Newton John Cancer Research Institute
	At-211 Bench to Bedside, Stories from Japan	Koshin Washiyama: Fukushima Medical University (FMU)
	KIRAMS Experiences of RI Research & its Cooperation	Kyo-Chul Lee: Korea Institute of Radiological and Medical Sciences (KIRAMS)
<b>10:15</b>	<b>Break</b>	
<b>10:45</b>	<b>Technology Supporting Radiopharmaceutical Development</b>	Chair: Andrew Hall
	Solid Target Produced Radioisotopes: Theory and Practice	Harris Panopoulous: Austin Hospital
	Radiochemistry Automation	Stan Poniger: Iphase Technologies
	From Cyclotron to Clinic - Translation of Zirconium-8 Labelled Antibodies for PET Imaging	Christian Wichmann: Olivia Newton John Cancer Research Institute
<b>12:00</b>	<b>Lunch</b>	



## Agenda @ nandin Hot Cell Room

Time	Description	Speaker
13:00	Technology Supporting Radiopharmaceutical Development	Chair: Andrew Hall
	Cyclotron Production of Ga-68	Dr Andrew Katsifis: Royal Prince Alfred Hospital
	An Overview of the Total Body PET	Steve Meikle: University of Sydney
13:50	Preclinical Radiopharmaceuticals to the Clinic	Chair: Kelly Smart
	Introducing Radiopharmaceuticals to the clinic process and validation	Melissa Latter: Royal Brisbane Womens Hospital
	Introducing a New Theranostic into the Clinic	Dale Bailey: Royal North Shore Hospital
14:40	Break	
15:10	Translation case studies	Chair: Kelly Smart
	Translation of Radiopharmaceuticals, Pitfalls & Practical Experience	Andrew Katsifis: Royal Prince Alfred Hospital
	Translation of F18 Radiopharmaceuticals	Maggie Aulsebrook: Monash University
	Development of 18F - Oxytocin	Giancarlo Pascali: ANSTO
16:30	Close	



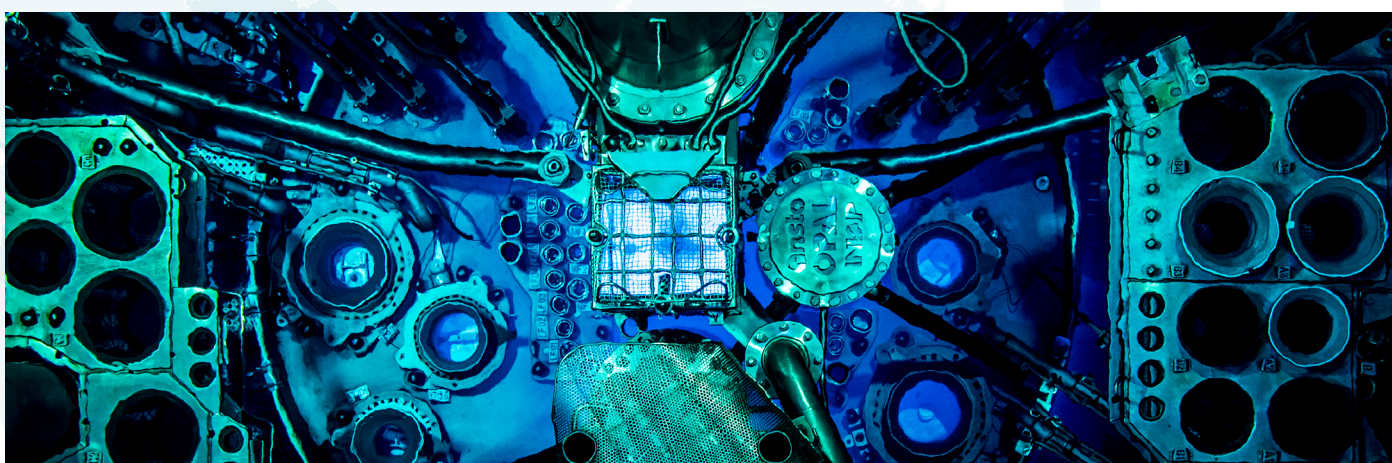


## Tour of ANSTO from Discovery Centre

With over 350 scientists and researchers, ANSTO is home to some of Australia's most critical scientific infrastructure. This tour will be an exciting journey into the world at the sub-atomic scale, explaining how through applying our knowledge of the basic building blocks of our universe, scientists are helping solve the big issues surrounding health, climate change and innovation for industry. The tour will commence at 9am from the Discovery Centre and includes four locations:

1. OPAL Research Reactor
2. Australian Centre for Neutron Scattering
3. ANSTO Nuclear Medicine
4. Centre for Accelerator Science

Lunch will be held after the tour in the Discovery Centre with some ANSTO staff members.



## Tour of Royal North Shore Hospital

The tour will see the group split into two and will include:

- A) Satellite radiochemistry labs that produce clinical radiopharmaceuticals by importing isotopes from cyclotrons
- B) Tour of the total body PET - a game changing technology to evaluate radiopharmaceuticals

## 18:00 Event Dinner at The Pines Cronullala

Dinner this evening will be hosted by Tien Pham at The Pines Cronulla. The restaurant is a short stroll towards the beach, across the road from the hotel. Please arrive by 6pm. There will be canapes and drinks initially enabling mingling and discussion and then we will be seated for mains.



## Agenda @ nandin Hot Cell Room

Time	Description	Speaker
<b>9:00</b>	<b>Quiz</b>	Chair: Tien Pham
9:00	Group Activity	Carol Azzam Mckay
10:45	Actions, implementation of learnings	Carol Azzam Mckay
<b>11:00</b>	<b>Course evaluation</b>	
11:30	Closing remarks	
<b>12:00</b>	<b>Lunch</b>	
<b>13:00</b>	<b>Bus back to Rydges hotel</b>	