

THE SOUTH PACIFIC ENVIRONMENTAL RADIOACTIVITY ASSOCIATION (SPERA)

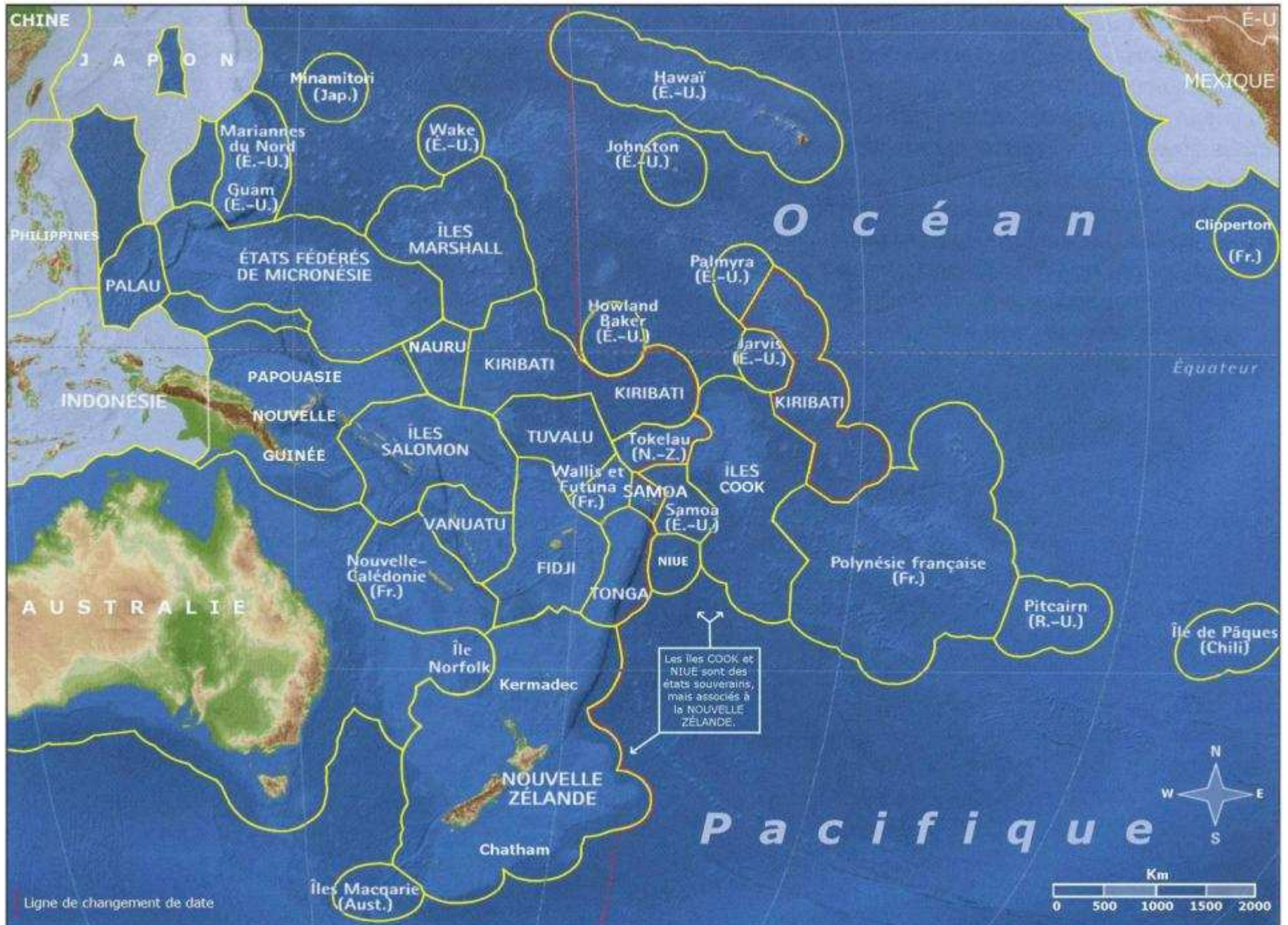


provides a forum to encourage and facilitate communication among scientists in the field of environmental radioactivity



OBJECTIVES

Encourage and facilitate communication and cooperation among scientists working in the South Pacific region in the field of environmental radioactivity which involves the study of the occurrence, behaviour and impact of radioactive species present in the environment either due to natural processes or as a result of human activities. The South Pacific region is deemed to include all countries in, or bordering on, the South Pacific Ocean.

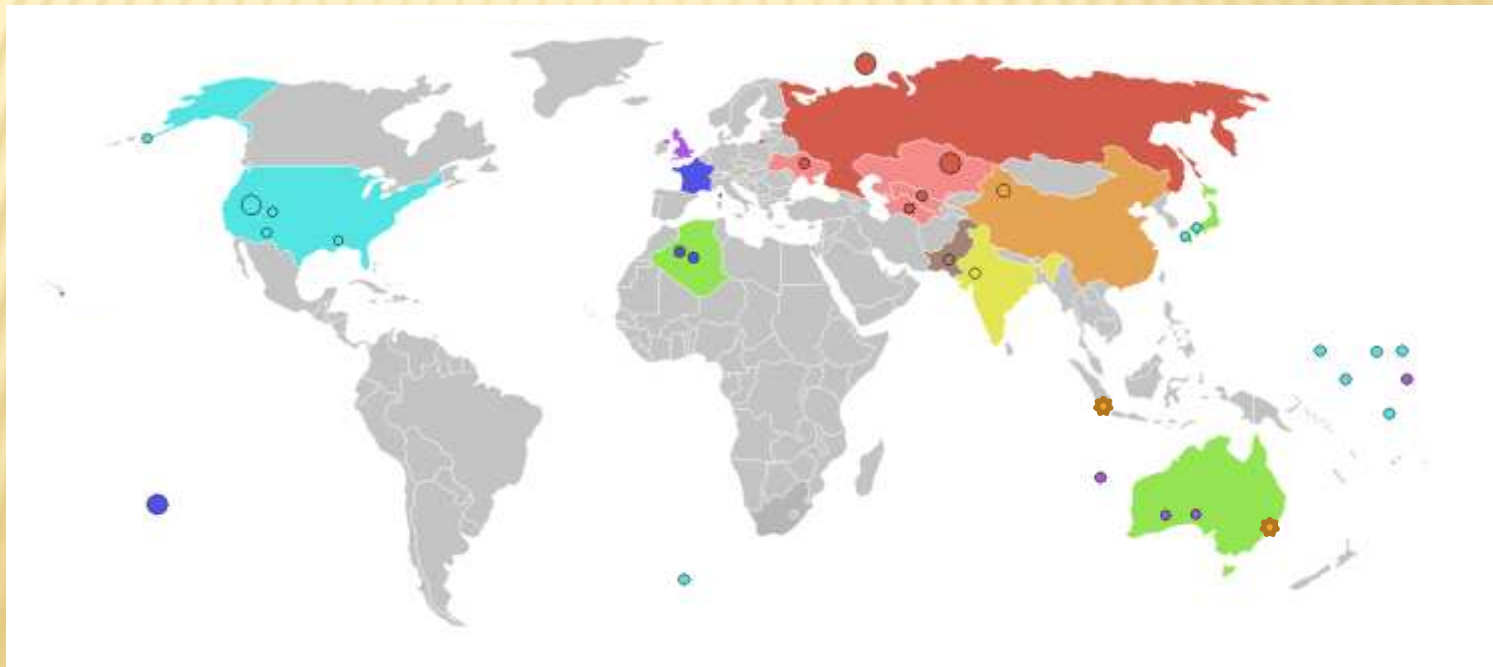


Les Îles COOK et NIUE sont des états souverains, mais associés à la NOUVELLE ZÉLANDE.

Carte de l'Océanie actualisée, par S.J.Cepleanu, d'après : Benoît Antheaume et Joël Bonnemaïson : « Atlas des îles et des états du Pacifique sud », GIP Recus-Publisud, 1988 ; Robert Cheouad, Alexandre Nicolas et Jean-Christophe Victor (dir.) : « Le dessous des cartes, itinéraires géopolitiques », Taillandier 2011 ; et « The World Factbook » 2011, Washington, DC : C.J.A. Les limites, en jaune, des Z.E.E., sont données à titre indicatif (validation en cours des différentes revendications).

THE REGION

- ✘ No nuclear power production, but . . .
 - + 21 of recent 27 new NPPs connected to grid in Asia
- ✘ $> \frac{1}{4}$ of world's U resources in Australia
- ✘ Weapons test sites (Maralinga, Mururoa....)
- ✘ Research Reactors (ANSTO, Serpong)





ABOUT SPERA

- ✘ Small, non-for-profit, apolitical, scientific organisation
- ✘ Workshops held in 1985 in Sydney and 1990 in Adelaide
- ✘ 1991 meeting in Tahiti: drafting of SPERA constitution
- ✘ 1992: SPERA was registered in South Australia
- ✘ SPERA: Incorporated Association under SA law
- ✘ MoU with IUR in 2012

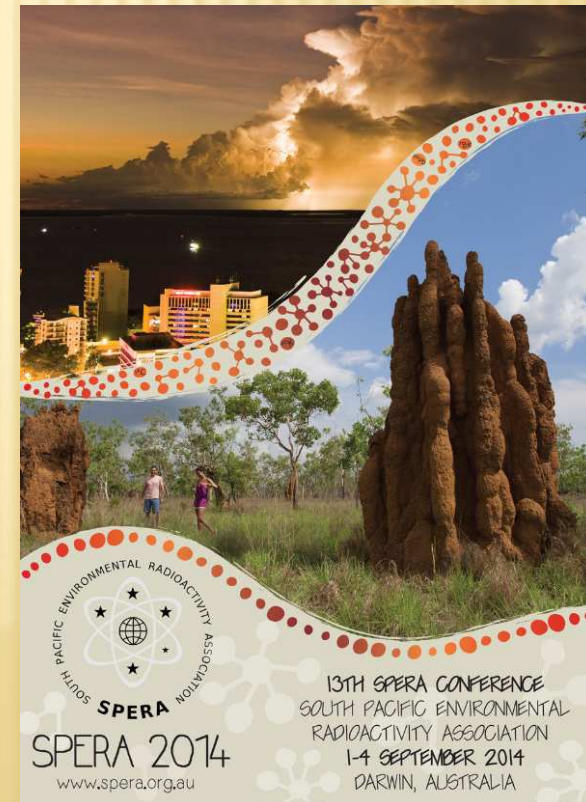


ACTIVITIES

- (a) conduct regular workshops, symposia and conferences**
- (b) establish Working Groups to carry out joint studies & scientific exchange**
- (c) organise inter-comparison programs for QA**
- (d) provide advice & information on environmental radioactivity issues to scientists in the South Pacific region and elsewhere**

SPERA CONFERENCES & WORKSHOPS

- ✘ 1985: Environmental Radioactivity workshop in Sydney
- ✘ 1990: Environmental Radioactivity workshop in Adelaide
- ✘ 1991: 1st SPERA meeting in Tahiti
- ✘ 1992: Conference in Dunedin - New Zealand
- ✘ 1994: Canberra - Australia
- ✘ 1996: Darwin & Jabiru - Australia
- ✘ 1998: Christchurch - New Zealand
- ✘ 2000: Noumea - New Caledonia
- ✘ 2002: Sydney - Australia
- ✘ 2004: Valdivia - Chile
- ✘ 2006: Melbourne - Australia
- ✘ 2008: Christchurch - New Zealand
- ✘ 2010: Gold Coast, Australia
- ✘ 2012: Sydney - Australia
- ✘ **2014: Darwin (13th SPERA conference)**



SPERA 1996 DARWIN



SPERA 2008 CHRISTCHURCH





SPERA MEMBERS & SUPPORT

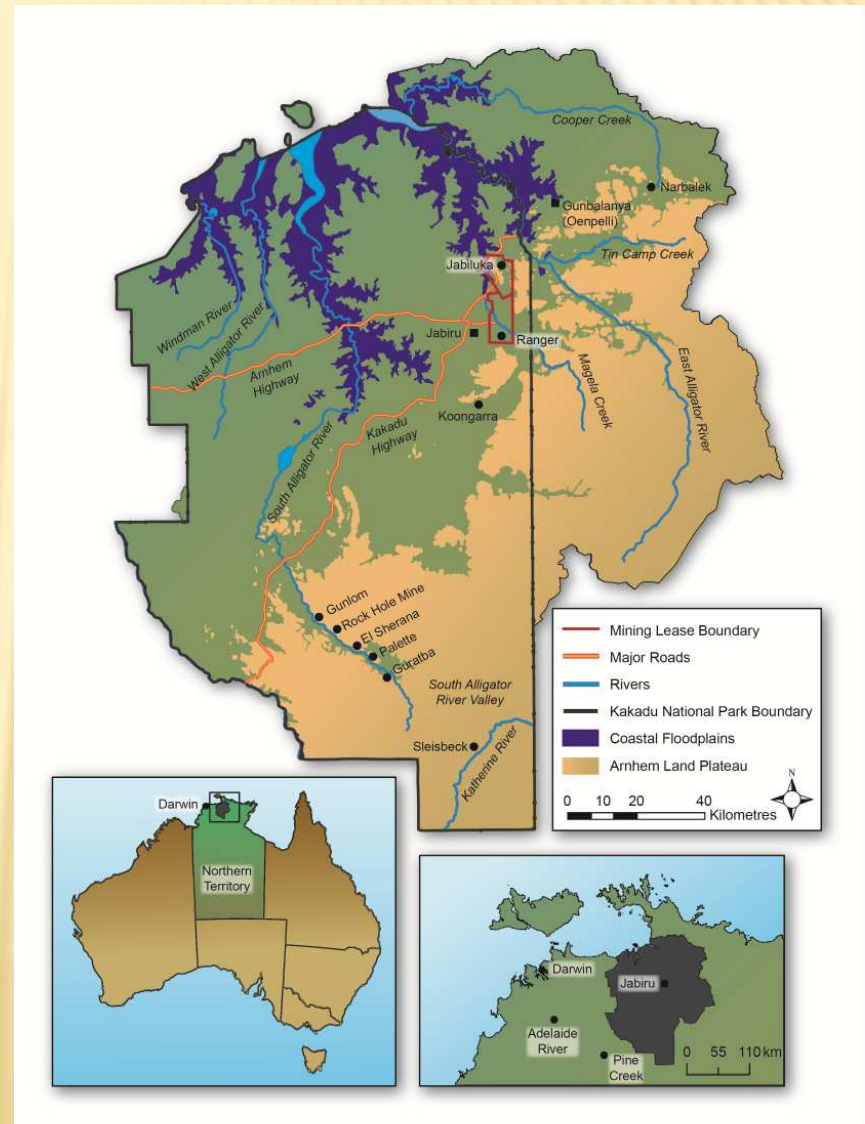
- ✘ ARPANSA - Australian Radiation Protection and Nuclear Safety Agency, Melbourne/Sydney
- ✘ ANSTO - Australian Nuclear Science & Technology Organisation, Sydney
- ✘ AINSE – Australian Institute of Nuclear Science and Engineering
- ✘ **eriss** - Environmental Research Institute of the Supervising Scientist, Department of the Environment, Darwin
- ✘ ANU - Australian National University, Canberra
- ✘ ARPS - Australasian Radiation Protection Society
- ✘ NCRS - National Centre for Radiation Science, Christchurch, New Zealand
- ✘ CSIRO, Qld Health, SA EPA, Universidad Austral de Chile



ERISS

The Environmental Research Institute of the Supervising Scientist (*eriss*) is part of the Science Division of the Gov't Department of the Environment.

- ✘ Undertake research & monitoring into the impact of uranium mining activities in the Alligators Rivers region to protect human & eco-system health
- ✘ Provide advice to the Supervising Scientist and other Government Agencies on EPBC related matters
- ✘ Development of closure criteria for the safe rehabilitation of Ranger U mine





Ansto

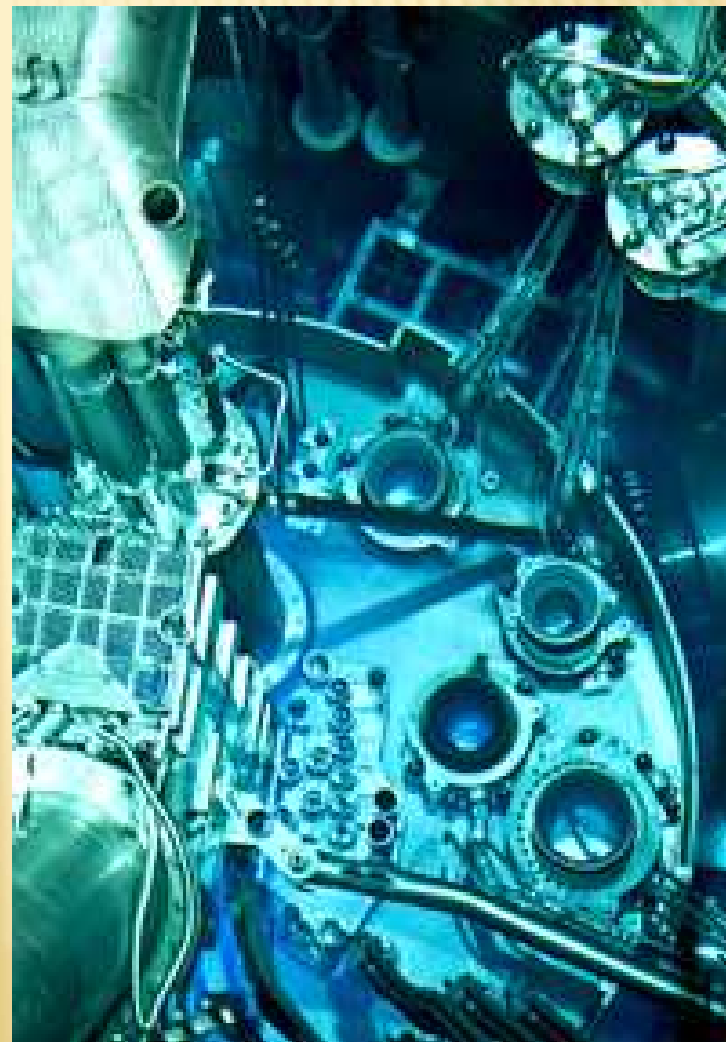
Nuclear-based science benefiting all Australians

ANSTO



The Australian Nuclear Science and Technology Organisation is an agency within the portfolio of the Minister for Industry, responsible for delivering specialised advice, scientific services & products to industry, government, academia & other research organisations.

- ✘ Conduct research and development in relation to nuclear science & technology
- ✘ Produce and use radioisotopes, isotopic techniques & nuclear radiation for medicine, science, industry, commerce, agriculture
- ✘ Manage radioactive materials and waste arising from various prescribed activities





ARPANSA

- ARPANSA is the Australian Government's primary authority on nuclear safety and security, radiation protection and emergency preparedness and response:
 - regulates C'wealth nuclear installations and facilities using radiation sources
 - provides radiation protection services
 - undertakes research
- ARPANSA has a legislative responsibility to promote national uniformity and implementation of international best practice across all jurisdictions.





ANU

THE AUSTRALIAN NATIONAL UNIVERSITY



Australian National University

The Department of Nuclear Physics,
Research School of Physics and
Engineering at ANU houses two AMS
used for Environmental Physics/
Radioactivity projects

- ✘ Accelerator Mass Spectrometry
 - + Measures atomic ratios
 - + Ultra-trace level (ratios of 10^{-12} to 10^{-16})
 - + Isotopes measured:
 - ✘ ^{10}Be , ^{14}C , ^{26}Al , ^{32}Si , ^{36}Cl , ^{41}Ca , ^{53}Mn ,
 ^{59}Ni , ^{99}Tc , ^{129}I , ^{226}Ra , ^{228}Ra , ^{236}U ,
 ^{239}Pu , ^{240}Pu , ^{242}Pu and ^{244}Pu



NCRS

The National Centre for Radiation Science is part of the Institute of Environmental Science & Research (ESR), a government owned crown research institute, providing operational science and research services in New Zealand.

- ✘ Scientific advice to NZ regulatory body (Office of Radiation Safety)
- ✘ Personal Dosimetry Service
- ✘ CTBTO station operation
- ✘ Radiation Training Institute
- ✘ Calibration service
- ✘ Environmental Radioactivity Laboratory





EXECUTIVE COMMITTEE (2012-14)

President

Henk Heijnis

ANSTO

Vice President

Andreas Bollhöfer

eriss

Secretary

Stephen Tims

ANU

Treasurer

Stephen Long

ARPANSA

Committee Members

Emmy Hoffmann

ANSTO

Peter Medley

eriss