



Australian Government



Nuclear-based science benefiting all Australians

Australian Nuclear Science and Technology Organisation

Media Release

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PM Opens Australia's New Nuclear Reactor

Today the Prime Minister, The Hon. John Howard MP, opened Australia's new \$400 million nuclear research reactor, OPAL, at ANSTO¹ in Sydney's south.

ANSTO's Executive Director, Dr Ian Smith, said it was an historic day for Australia and a major step forward for Australian science.

"OPAL is the jewel in the crown of Australian nuclear science, and is Australia's largest single scientific investment," said Dr Smith. "It is destined to be one of the top three reactors in the world for scientific research.

"OPAL's nuclear tools will help scientists better understand a number of issues such as essential biological processes in the body, genetics and diseases like cancer and obesity.

"OPAL will contribute to a variety of areas," said Dr Smith. "For example, helping to improve food processing and storage, contributing to the development of a more sustainable energy industry and providing detailed analysis of the earth's geological structure. Things we could not do before in Australia.

"The facility will also allow ANSTO to continue supplying nuclear medicines to about half a million Australians each year, with a capacity to view to increase this number in the future," said Dr Smith. "Many research opportunities also lie on the horizon in the areas of nuclear medicine diagnosis and treatments for major diseases such as cancer and Alzheimer's.

"ANSTO's silicon irradiation production business will grow thanks to OPAL, and the semiconductor industry which uses irradiated silicon to produce chips for computers, cameras, washing machines and other electronic equipment will increasingly look to ANSTO for this service," said Dr Smith.

Dr Rob Robinson, Head of ANSTO's Bragg Institute – which manages and operates ANSTO's seven new neutron beam instruments – said, "The OPAL facility is already attracting major interest from local and international scientific researchers and will allow ANSTO's science to dramatically expand.

"These instruments are very sophisticated and are designed to measure and understand materials, including biological substances, at the atomic level," explained Dr Robinson. "In addition, a sample can be placed under various influences such as pressure, heat or chemicals, so scientists can find out how it reacts in certain environments.

"This way we can understand, for example, what happens during a manufacturing process, or how a molecule reacts when it interacts with a drug, thereby providing information about how that drug works in the human body."

OPAL replaces ANSTO's previous reactor HIFAR², which was shut down at the end of January. OPAL was designed by Argentine reactor designers, INVAP, who also manufactured the "nuclear" components. The building was constructed by John Holland Construction and Engineering Pty Ltd and Evans Deakin Industries Limited. The neutron beam instruments were designed by ANSTO scientists and engineers in collaboration with other scientific and engineering organisations.

More information and to arrange interviews please call Sharon Kelly, Media Adviser on (02) 9717 9575 or 0400 394 085 or sharon.kelly@ansto.gov.au

¹ ANSTO is the Australian Nuclear Science and Technology Organisation, the country's national nuclear research and development organisation and the centre of Australian nuclear expertise – over 70 per cent of all radioisotopes used in Australian nuclear medicine are made in ANSTO's reactor.

² High Flux Australian Reactor