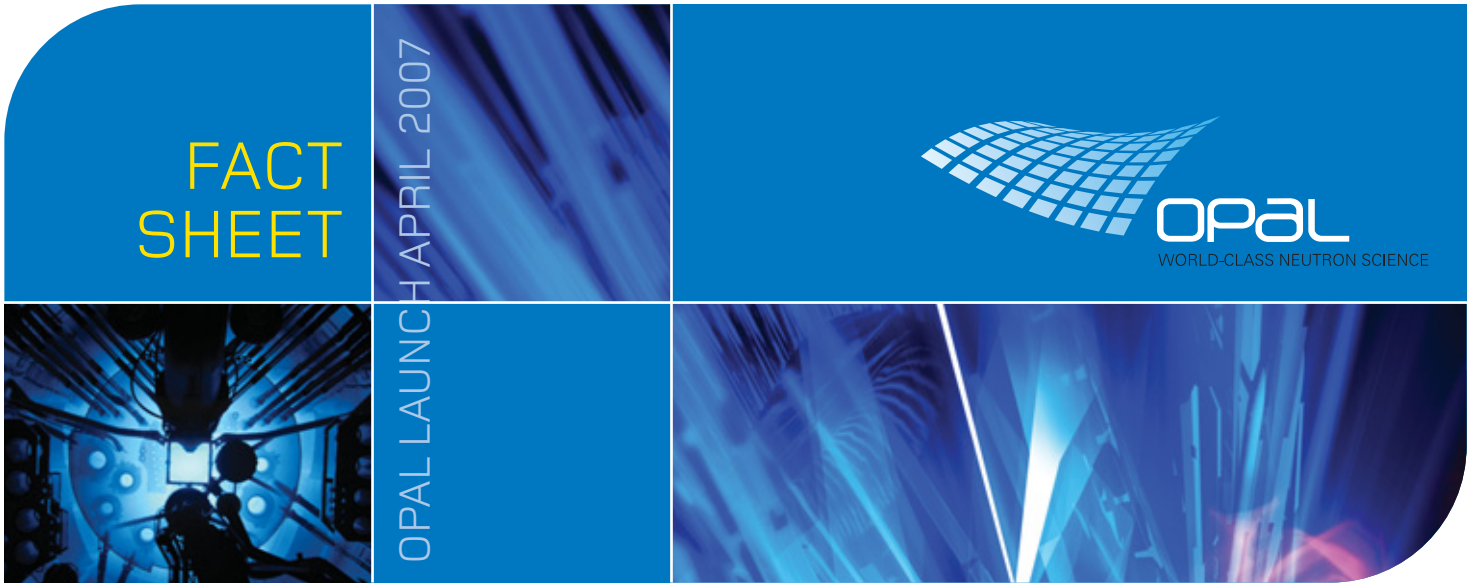

AINSE

AINSE is involved in high-level considerations of emerging research though financial and administrative support for conferences, workshops and forum.

The vital link

Located at Lucas Heights, the Australian Institute of Nuclear Science and Engineering Incorporated (AINSE) is a not-for-profit consortium of 39 universities plus the Institute of Geological and Nuclear Science, in partnership with ANSTO. There are 36 Australian and three New Zealand universities (Auckland, Canterbury and Otago) in the consortium.

AINSE provides a mechanism for access to the special facilities at ANSTO and other national facilities by universities and other tertiary institutions, and provides a focus for cooperation in the nuclear scientific and engineering fields. It has a specific mandate to arrange for the training of scientific research workers and the award of scientific research studentships in matters associated with nuclear science and engineering.

Today nuclear science at ANSTO is devoted to supporting activities and research in a wide range of disciplines. These have applications in advanced technology, manufacturing, mining, agriculture, medicine and environmental protection. All are of vital importance to Australia's future.

Many of the techniques and much of the expertise at ANSTO cannot be found elsewhere in Australia. AINSE plays an indispensable role in providing universities with access to major scientific facilities and encouraging a national cooperative research effort. It is a role that is efficient and cost-effective. Universities are saved from duplicating expensive items of equipment and Commonwealth funding can be directed at one national facility instead of several with sub-critical funding.

AINSE uses its funds primarily to provide access to nuclear and other facilities at ANSTO and to AINSE-supported facilities. These projects have applications in many fields and disciplines, including cultural heritage, advanced technology, manufacturing, mining, agriculture, medicine and environmental protection, all of which are vital to Australia's future.

Research projects

Support for university projects is directed through a yearly award system where applications are competitively judged by one of five specialist committees. These awards cover facility access costs, travel and accommodation expenses.

AINSE support is directed through five specialist committees:

- Archaeology and geosciences: Applications in this area seek to advance knowledge in any of the branches of archaeology or geosciences
- Biomedical science and biotechnology: Research into diagnostic and therapeutic nuclear medicine, radiobiology, experimental radiation oncology, and radiation effects on biological materials
- Environmental sciences: Applications in this area seek to understand problems based in environmental science
- Materials – structures and dynamics: Research that uses neutron scattering or reflectometry to study the structure of materials
- Materials – properties and engineering: Research in this area typically involves the study of the properties and composition of engineering and inorganic materials; surface modification, surface characterisation and surface properties; advanced materials processing; specialist techniques in materials characterisation; materials testing, bulk and local materials properties; effects of radiation on materials.

Postgraduate scholarships

In addition, AINSE offers top-up scholarships for postgraduate students whose research projects are associated with nuclear science, or its applications, and require access to the unique national facilities at ANSTO. The scholarships provide for facility access,

AINSE

two visits to Lucas Heights for a total of 30 days per annum and a stipend of $7 500 per annum. The scholarships run concurrently with a primary APRA or university equivalent scholarship.

Tenure track fellowships

The institute is proud to be able to offer tenure track fellowships for career researchers with a record in neutron scattering. AINSE offers fellowships at academic level B for outstanding and enthusiastic scientists to undertake research in areas of science and technology requiring the use of the OPAL reactor. Fellows will be expected to build a research group in one of the AINSE member universities and be attached to ANSTO for experiments on the new, state-of-the-art facilities at OPAL.

Applicants from a wide range of disciplines including chemistry, physics, molecular biology, biochemistry, medicine, materials science, environmental science and engineering are invited to apply.

ISIS

AINSE plays a pivotal role in arranging for postgraduate research for research at ISIS, the world's leading pulsed neutron and muon source situated at the CCLRC Rutherford Appleton Laboratory near Oxford, UK.

Above, AINSE allows universities and other tertiary institutions in Australia and New Zealand to have access to the special facilities at ANSTO.

Above right, the annual AINSE Winter School allows undergraduate university students from around Australia and New Zealand to learn about and use ANSTO's nuclear facilities through a program of lectures, demonstrations and hands on experiments.

ISIS supports an international community of around 1 600 scientists who use neutrons and muons for research in physics, chemistry, materials science, geology, engineering and biology.

Academic awards

In support of scientific research and education AINSE awards a gold medal each year for excellence in research, based on publications over the last five years which acknowledge AINSE support. An award is also made at the post graduate level. AINSE Honorary Fellowships are awarded by the AINSE Council to individuals for distinguished and dedicated services to the institute. By maintaining links with AINSE, it is one means by which the scientific community will continue to benefit from the wisdom and experience of some outstanding scientists.

Winter School

Each year, AINSE offers scholarships to each of its member universities to enable a nominated student to attend Winter Schools on Applications of Nuclear Techniques Applied to Natural Processes. The scholarship is open to all senior undergraduate students in which knowledge of nuclear techniques of analysis would be of interest. Such techniques have applications in areas ranging from agriculture to zoology, and include physics, chemistry, biology, environmental science, geography, geology, archaeology.

The Winter School involves a mixture of lectures, experimental sessions and demonstrations and includes hands-on experience in experiments.

Emerging research

AINSE is involved in high-level considerations of emerging research though financial and administrative support for conferences, workshops and forum. One recent instance is AINSE's support and active involvement in the Australian ITER Forum which is a collection of scientists and engineers from multiple research disciplines supporting a mission-oriented goal of controlled fusion as an energy source. AINSE underwrote and administratively supported a major ITER workshop – Towards an Australian involvement in ITER – held in Sydney in October 2006.

AINSE acts as a peak body on behalf of its member organisations in applying for and administering major research infrastructure grants. It also actively promotes emerging university educational opportunities in the area of nuclear science and engineering.

To find out more about AINSE, contact:
Dr Dennis Mather
Executive Secretary
T +61 2 9717 3388
E email ainse@ansto.gov.au
W www.ainse.edu.au