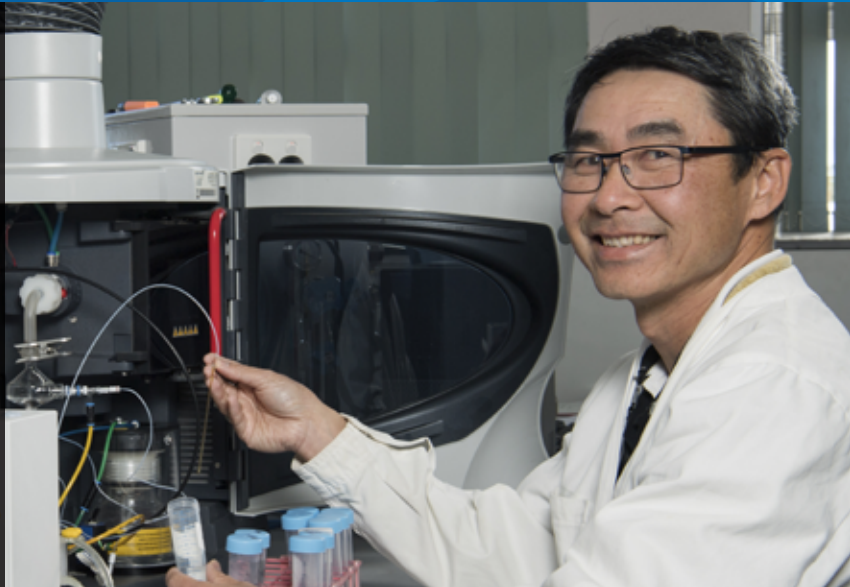


Isotope Tracing in Natural Systems (ITNS)

ANSTO's Isotope Tracing in Natural Systems facility is user focused, providing a range of radioanalytical, isotopic and elemental analytical techniques, measurements and expertise for environmental studies.



The facility undertakes a broad range of analyses for research and industry including analytical services customised to suit the requirements of each client.

Applications

Hydrology

Ecology and palaeoecology

Geomorphology/geochronology

Climate and atmospheric science

Capabilities

Dating (lead-210, cesium-137 dating of sediment and tritium dating of waters)

Low-level alpha and gamma spectrometry for determining radionuclides in samples such as water, soil, sediment, vegetation, biota and for radon in air

Stable isotope analysis of $\delta^2\text{H}$, $\delta^{18}\text{O}$ in waters and $\delta^{13}\text{C}$, $\delta^{15}\text{N}$ and CN% in vegetation and biota

X-ray fluorescence (XRF) core scanning for high resolution elemental distributions,

magnetic susceptibility, and optical and radiographic images

Elemental analysis, including laser ablation of solids

Manufacture of outdoor semi-portable detectors for continuous monitoring of ambient radon in air

Facilities

Environmental Isotope Labs (EIL) equipped with isotope ratio mass spectrometers (IRMS), a Picarro Cavity Ring-Down Spectrometer (CRDS) and a range of sample preparation devices

Radon Analytical Laboratory featuring a radon rig, a liquid scintillation counter, a gamma spectrometer, a flux chamber (emanometer) and field instrumentation

Analytical laboratory equipped with a quadrupole inductively coupled plasma mass spectrometer (qICPMS), a simultaneous inductively coupled plasma atomic emission spectrometer (ICPAES), an ion chromatographic (IC) system and a laser ablation unit coupled to the qICPMS

or ICPAES for chemical and isotopic composition of solid samples

Tritium laboratory equipped with large and small volume distillation apparatus, 32 electrolysis units and four liquid scintillation counters (LSC) for surface and groundwaters studies

Environmental Radioactivity Measurement Centre (ERMC) for the measurement of a wide range of radionuclides using alpha and gamma spectrometry, with a radiochemical laboratory for sample processing samples

The ERMC also houses the ITRAX XRF core scanner

ITNS provides analytical services customised to suit the requirements of each client

Access

For enquiries please contact us on user.office@ansto.gov.au or call **+61 2 9717 9111**.

LOCATIONS

Lucas Heights | NSW

Clayton | VIC

Camperdown | NSW

PHONE

+61 2 9717 3111

EMAIL

enquiries@ansto.gov.au

SOCIAL



WEBSITE

www.ansto.gov.au