SCOPE AND APPROACH

The use of stable isotopes to decipher and monitor biosphere processes continues to expand. Greater accessibility, portability, speed and sensitivity of analytical instruments is allowing for wider uses and for explorations of previously difficult to study systems.

This course is directed to post-graduate students and post-docs with biological/ecological backgrounds who are interested in applying stable isotope tools for their research. No previous knowledge of stable isotopes is required.

We will focus on stable isotopes of C, N, H and O in and their dynamic interactions within the biosphere, soil and the atmosphere.

Learning will be structured around lectures by specialists and hands-on, student-led projects with direct support by course instructors. There will be opportunities to visit and use HIE’s world-class field experimental facilities as well as a short excursion to the Blue Mountains National Park.

INSTRUMENTATION

Instruments available for individual/group projects include:

- Tunable Diode Laser Absorption Spectrometer for online measurements of $\delta^{13}$C in CO₂.
- Picarro CO₂ cavity ring-down spectrometer for C ($\delta^{13}$C) in CO₂ and in methane.
- Picarro H₂O cavity ring-down spectrometer for oxygen ($\delta^{18}$O) and hydrogen ($\delta^2$H).
- Los Gatos Isotopic Water Analyser for oxygen ($\delta^{18}$O) and hydrogen ($\delta^2$H).
- Los Gatos Isotopic CO₂ Analyser for $\delta^{13}$C and $\delta^{18}$O of CO₂ in air.

CONTACT

For all enquiries, please contact the course organisers:

- Dr Yolima Carrillo
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- Dr Javier Cano
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FACILITIES, ACCOMMODATION AND TUITION

The course will take place at the Hawkesbury Institute for the Environment in the Richmond Campus of Western Sydney University. A tuition cost of $1300 will cover workshop cost, accommodation and meals. Accommodation is on campus.
Hawkesbury Institute for the Environment, Western Sydney University is home to some of the world's finest scientific facilities and is renowned as the ideal learning ground for modern use of isotopic techniques.