

Scientists develop new technique to track algae

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Researchers at The University of Western Australia have developed a new technique to detect and monitor algae in aquatic systems.

Research Associate Professor Clelia Marti, from UWA's Centre for Water Research, said to understand the ecology of an [aquatic system](#), it was important to know how algae, or [phytoplankton](#) communities, were distributed due to their central role in the functioning of aquatic ecosystems.

"Traditionally, this could only be known from the collection and analysis of a large number of [water samples](#) through labour-intensive microscopic methods and experienced staff, which is a long and expensive process," Professor Marti said.

To overcome these issues, the team of scientists at the Centre for Water Research, led by Professor Jorg Imberger and Professor Marti, developed new hardware and software that allowed them to rapidly survey in the field and assess on site the distribution of phytoplankton.

Professor Marti said scientists were able to

determine phytoplankton distribution by measuring spectral fluorescence data, which contained important information about phytoplankton composition that was difficult to decode from raw data.

Recognising this issue, recently graduated PhD student Dr Ryan Alexander developed a new technique with the CWR team that allows the main features in the phytoplankton distribution to be identified based on interpreting a two-dimensional graph.

This technique was applied to field data collected from Lake Victoria in Kenya, one of the largest lakes in the world. Outcomes of the research provided new insights that are relevant to the ongoing management of that important water resource.

The new method was also used during a recent field study of the Marina Bay reservoir in Singapore and has since been applied locally in the Swan-Canning Estuary and Cockburn Sound.

The work completed on this new method is detailed in two publications: [Limnology and Oceanography: Methods](#) and [Freshwater Biology](#).

Provided by University of Western Australia

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