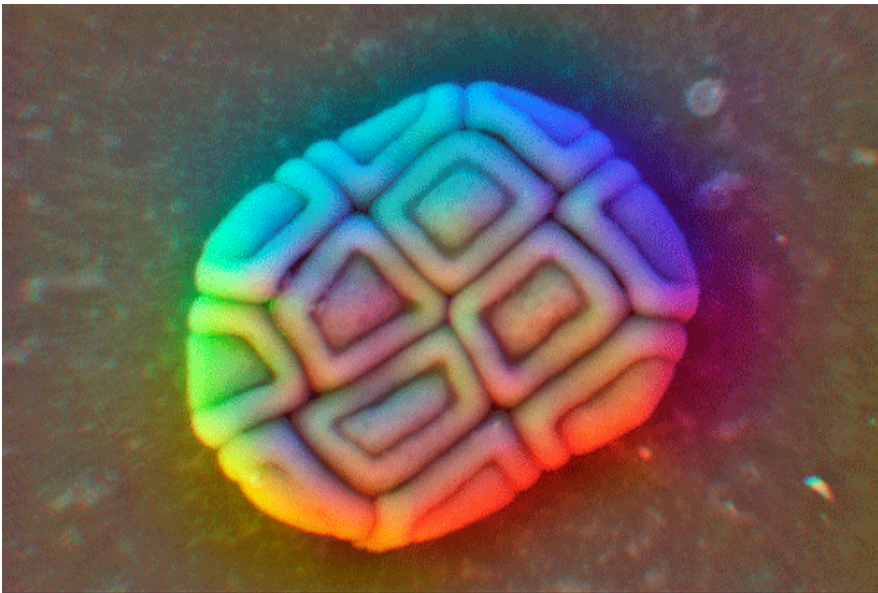Published: 9 March 2011

Biodiversity research aided by rapid pollen ID

A new automated microscope will help scientists to rapidly identify pollen, helping them to better understand the role of flowering plants in the face of challenges such as climate change and deforestation.

Credit: scienceimage

The AutoStage system was developed by New Zealand's Massey University, and will be used by scientists from CSIRO, the Atlas of Living Australia and the Australian National Insect Collection (ANIC). CSIRO image analysts will work with the Australian Pollen and Spore Atlas at the Australian National University to develop software that can rapidly and automatically identify pollen grains from thousands of Australian plants.

The microscope captures pollen images on a microscope slide, identifies distinctive visual features, and then classifies the pollen grain. One of its earliest applications will be helping to identify species of pollen trapped on the legs of bees and other pollinator specimens in the ANIC, some of which are more than 90 years old.

'This system will help us gather large amounts of information very quickly, contributing to our understanding of pollinator biology and the ecosystem services those pollinators provide,' says ANIC Director, Dr John La Salle.

'If we want to preserve ecosystems and make informed decisions in biodiversity management and conservation, we need to have some idea about who does what. This will be much quicker than sitting there watching which bee goes to which flower!'

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