ADVANCED LIGHT MICROSCOPY FACILITIES AND TECHNIQUES AT NANO MAJOR NATIONAL RESEARCH FACILITY

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The Nanostructural Analysis Network Organisation Major National Research Facility (NANO) is Australia’s peak facility for the nano-metric analysis of the structure and chemistry of materials in physical and biological systems. It is a network of five university microscopy and microanalysis laboratories that are unified in terms of both equipment and research expertise. The universities in the network are the University of Queensland, University of Western Australia, University of Sydney, University of New South Wales and the University of Melbourne. NANO was established in 2002 under the Australian Government’s Backing Australia’s Ability initiative and receives funding from the Commonwealth and four State Governments.

NANO provides access to local and overseas researchers to state of the art microscopy and analysis platforms for microstructural and nano-scale characterisation. Advanced light microscopy facilities and techniques for materials and biological applications include FRET, FLIM, Second Harmonic Imaging, Live Cell Imaging, utilising multiphoton, basic fluorescent and instruments operating in reflective and transmission modes. Comprehensive information concerning NANO capabilities can be found at http://www.emu.usyd.edu.au/emu/facilities.php.

Projects that NANO currently supports range from cancer motility, detection of collagen by second harmonic generation, receptor interactions, coral fluorescent proteins, to identification and classification of archaeological and metallurgical specimens. NANO is also active in developing advanced microscopy techniques. The projects are supported by a comprehensive suite of image analysis systems that provide 2D and 3D visualisation and analysis.

NANO supports researchers to access instrumentation and expertise through the Travel and Access Program (TAP). TAP funding covers instrument use and a contribution towards travel to and accommodation. This support provides all researchers with an opportunity to apply the latest developments in microscopy to their research programs.