



AMMRF @ The University of Sydney

## The Australian Key Centre for Microscopy and Microanalysis (AKCMM)

*The Australian Key Centre for Microscopy and Microanalysis is a research and teaching centre in microscopy. Organisationally, the Centre is part of the University of Sydney's Electron Microscope Unit, the first and one of the most comprehensive facilities of its type in Australia.*

### Contact and information

Australian Key Centre for  
Microscopy and Microanalysis  
(AKCMM)

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Node Director:  
Prof. Simon P. Ringer

### About the Node

The AKCMM laboratories are world-class and offer researchers and students access to the complete environment needed for modern advanced characterisation ([www.emu.usyd.edu.au](http://www.emu.usyd.edu.au)). Features include specimen preparation laboratories for materials science, surface science, biological science and live-cell imaging; nearly 30 instruments; and computational studios for image visualisation, simulation and analysis. These facilities are supported by a large team of technical and research staff.

Besides enabling the research of scientists and engineers from across Australia, the AKCMM also maintains an active program of its own local research. The interdisciplinary research within the AKCMM is directed towards development of advanced methods and techniques in microscopy and microanalysis, and the application of these and other methods to the characterisation and design of biological, physical and chemical systems. Within these overarching directions, the AKCMM's local research covers a wide variety of fields, including advanced materials, archaeology, biology and biotechnology, chemistry, medical science, nanotechnology and physics.

The AKCMM is a node of the Centre of Excellence for Design in Light Metals ([www.arclightmetals.org.au](http://www.arclightmetals.org.au)), established in 2005 by the Australian Research Council (ARC) to deliver a broad-based, fundamental research program to enhance Australia's light metals industry. The Centre brings together world-leading researchers in this field from six Australian universities to pursue an exciting design-directed approach to research on alloys derived from aluminium, magnesium and/or titanium. The quality of the AKCMM's research means that its academics and research associates have strong international linkages and collaborations. Major interactions exist with researchers in the USA, in Belgium, Sweden and the Netherlands, in Japan, and in China and Taiwan.

The AKCMM also offers Australia's only formal post-graduate coursework qualifications in microscopy and microanalysis. These include Graduate Certificate, Graduate Diploma and Masters degrees.

The AKCMM is the headquarters of the AMMRF and coordinates its centralised management, reporting and marketing activities.



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### Node Director & AMMRF Executive Director and CEO



**Prof. Simon P. Ringer**

Simon has extensive experience in academic leadership, with particular expertise in operating major research facilities. As Node Director, he

heads the team in the AKCMM, while bringing his vision and strategic leadership to the entire AMMRF in his role of Executive Director and CEO. Simon is an active researcher, with a materials science and microscopy background. His research interests include design, characterisation and theory of light alloys and advanced ferrous alloys such as intermetallics and magnetic semiconductors. His group investigates approaches to designing these materials through insights gained from nanostructural analysis, with particular emphasis on transmission electron microscopes and atom probe tomography, and complementary simulation techniques.

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### AMMRF General Manager



**Dr Miles Apperley**

As General Manager, Miles is leading many of the key initiatives associated with establishment and operation of the AMMRF. He has a back-

ground in metallurgical engineering and materials science and brings to the role a solid knowledge of financial management, contracts, intellectual property and creation of strategic partnerships. Miles worked as the Business Development Manager of the NANO-MNRF, and he has 15 years experience in industry-based R&D and collaborative technology development with industrial products companies.

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### AMMRF Marketing & Business Development Manager



**Dr Jenny Whiting**

Jenny is responsible for promoting the capabilities of the AMMRF to the Australian research community, identifying new user-groups

and encouraging a wide range of new collaborations with academic and industry users. With a

PhD from the University of Adelaide, Jenny has considerable research experience in molecular and developmental biology, gained in Australia and the UK. Before joining the AMMRF, she worked for the Wellcome Trust in London, building their collection of scientific and medical images, and making it accessible to academic and commercial clients. She now brings her combined experiences to her role within the AMMRF.

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### Deputy Node Director



**A/Prof. Filip Braet**

Filip has a background in clinical chemistry and biomedical sciences and has worked in the Flemish Institute for Biotechnology as a researcher

and the supervisor of its microscopy core facility. He has substantial experience in the successful establishment and operation of biologically-oriented microscopy systems. Filip's research activities combine various microscopy techniques (correlative microscopy) to give thorough insights into the functioning of key biological processes from the cellular to the molecular levels. His research interests include the functioning of the liver endothelium, metastasis of colon-cancer cells, and developing and applying new microscopy techniques to biological systems.

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### Node Manager



**Ms Karen Hill**

Until late 2005, Karen worked as finance and funding manager for the Engineering Forum in the UK. The Engineering Forum is a not-for-profit business network supporting engineering companies, which is funded by local, regional and national government.

During her time at the Engineering Forum, Karen completed a marketing diploma from the Chartered Institute of Marketing. As Node Manager, she is responsible for managing the finances and human resources of the AKCMM, and she plays a pivotal role in the Business and Administration Committee of the AMMRF.

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### Laboratory Manager



**Mrs Ellie Kable**

Ellie plays a major role in keeping the AKCMM laboratories and equipment operating smoothly, and is a senior member of the AMMRF's

Laboratory Managers' Committee, charged with integrating the laboratory activities across the nodes of the AMMRF. She has a background in biology and biological chemistry, and has worked in laboratories in the USA and Europe as a researcher as well as a technician. Ellie has considerable expertise in confocal, light and live-cell microscopy; she is involved in collaborative research in the AKCMM that uses these techniques and is active in teaching these important modes of microscopy.

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### Flagship Manager



**Mr Alexandre La Fontaine**

Alexandre holds an engineering degree in materials science and a Masters degree in Nano-

sciences and Microtechnology for electronic and communication applications, both obtained at the University of Orsay in Paris. As Atom Probe Engineer, Alexandre is responsible for the management of the two local-electrode atom probe (LEAP) flagships, providing support for users from specimen preparation to the operation of the instruments and the analysis of their data. He is the point of contact for researchers from universities and industry who wish to use the atom probes.

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