

Australia-China International Centre for Light Alloys Research (ICLAR)

The Centre actively fosters collaboration with industry and is proud to have established the Australia-China International Centre for Light Alloys Research (ICLAR). The ICLAR is a joint initiative between the ARC Centre of Excellence and the Chinese Aluminium Corporation (CHALCO).

In 2008, Monash University and CHALCO established the first two foundation projects within the International Centre for Light Alloy Research. These projects provide an ideal platform for linking research efforts currently supported by CHALCO with the capabilities and facilities offered by partner institutions within the ARC Centre of Excellence for Design in Light Metals.

Australian Partnership in Light Metals Research

The Centre of Excellence for Design in Light Metals (CoE) and the Cooperative Research Centre for Cast Metals Manufacturing (CAST CRC) are joint collaborators with CSIRO through the CSIRO Flagship Collaboration Program to form the Australian Partnership in Light Metals Research.

By partnering the CoE for Design in Light Metals and the CAST CRC, this initiative combines two proven approaches to the development of advanced materials technologies. The Centre of Excellence brings a strong internationally recognised fundamental science approach to the design of alloy and hybrid materials while the CAST CRC introduces an approach that focuses on developing technologies that are fit for purpose through a research, development and commercialisation process.

For more information on

- **Research Partnerships**
- **Access to Facilities**
- **Collaborative Research**
- **Contract Research**
- **Consultancy**

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The Australian Research Council Centre of Excellence for Design in Light Metals is an organisation funded through the ARC Centres of Excellence Program.

The ARC Centres of Excellence are an Australian Government initiative designed to create prestigious hubs of expertise where high-quality researchers can maintain and develop Australia's international standing in research areas of national priority.



ARC Centre of Excellence Design in Light Metals



The University of Sydney



THE UNIVERSITY OF
MELBOURNE



The ARC Centre of Excellence for Design in Light Metals coordinates the principal materials research groups in Australia, and their internationally-competitive research strengths, to provide a research platform that will assist expansion of the light metals industry, both nationally and globally.

The Centre combines the expertise of leading materials scientists and engineers from Monash University, The University of Queensland, The University of New South Wales, Deakin University, The University of Sydney and The University of Melbourne.

The Centre was established in 2005 with a \$14.5 million Australian Research Council grant over five years. It has also received Victorian state government funding of \$1.5m and participant university cash contributions of \$5.15m, providing a total five-year research budget of over \$21m.

Since its commencement, the Centre has also attracted over \$6m in external funding from national and international research collaborations with industry and government organisations.

The Centre's major Research Programs are:

- **Alloy design and processing:** design of Al and Mg alloys, thermal stability and particle-assisted microstructure control, tailored anisotropy, superplastic alloys
- **Titanium:** powder characterisation, direct forming of Ti powders, powder forging, alloy design and development, multifunctional alloys
- **Hybrid materials:** multi-scale composite structures, dispersed phase nanocomposites, micro-truss structures, controlled microsegmentation, sandwich structures
- **Surface engineering:** surface properties and durability of Mg alloys, corrosion mitigation, surface coatings and cladding, cold spray, interfacial segregation and embrittlement.



Victorian Facility for Light Metals Surface Technology

The Victorian State Government (Department of Innovation, Industry and Regional Development) provides funding to the Centre through the Victorian Facility for Light Metals Surface Technology. This represents a strategic investment in essential capability and infrastructure within the framework of a designated Victorian Facility that provides national leadership and global competitiveness in Light Metals Surface Technology.

Research priorities of the Facility include:

- development of technology for the application of mechanically durable surface protection of magnesium alloys in order to expand applications of such alloys into large volume markets.
- novel approaches to improving the surface properties of aluminium alloys for improved wear and fatigue resistance, and enhanced toughness.
- implementation and development of dedicated laboratory space for characterisation of the physical properties of light metal surfaces.

