

## From the Research Director

Following a very successful visit from the CEO and President of the Aluminium Corporation of China (CHALCO) (highlighted elsewhere in this edition) in March, the past quarter has seen a continued focus on the developing relationship between the Centre and CHALCO.

Along with the Chair of the Centre Advisory Board, Dr Colin Adam, and Director of the CSIRO Light Metals Flagship, Dr Raj Rajakumar, I attended a meeting with CHALCO executives on May 21 in Beijing to further discussions on a potential joint international centre of excellence in light alloy design. Also in attendance were senior representatives of Central South University, Chongqing University and Shanghai Jiao Tong University.

On the domestic front, it is pleasing to see an increase in the frequency of meetings involving Program and Project teams, and the associated growth in levels of collaboration across institutional boundaries. The first formal meeting of the Research Management Committee was convened by Professor Peter Hodgson in June and, along with commissioning of the Centric project management package, this signals significant progress in the Centre's internal monitoring of research progress and outcomes, and quality control.

The positive experiences of some Centre participants with the Centric package within the CAST CRC has led to us being the first ARC Centre to adopt this formal project management tool. It will undoubtedly prove a little more intrusive and increase current levels of accountability compared to most ARC-funded research.

However, the package itself is well-designed for efficiencies in reporting and I am confident that it will prove an excellent communication tool within this complex, multi-institutional Centre. I am equally confident that it will offer considerable efficiencies in the collection of data essential to the operations and reporting requirements of the Centre.

In a closing note, I was pleased to coordinate a light metals symposium within the framework of a highly successful Materials and Austceram 2007 Conference held in Sydney, July 4-6. Given the many competing priorities within the light metals scene, the symposium was well-supported and featured many presentations which again highlight the strength of the national research effort.

This biennial conference promises to offer the potential for regular national symposia into the future and there is an opportunity for the community to anticipate the next such event in Brisbane in 2009. In the meantime, we now look forward to the Centre's Annual Workshop at UNSW (4-5 December, 2007) and the first opportunity to canvas the full research portfolio of the Centre.

**Barry Muddle**



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## Congratulations to Nick Birbilis



Congratulations to Nick Birbilis for winning the 'Electrochimica Acta Award for Young Electrochemists' which is given by the International Society for Electrochemistry.

These awards are aimed at favouring the participation of young electrochemists in the ISE Annual Meetings. The applicants must be ISE members and must have obtained their PhD not earlier than six years before the deadline for applications.

Nick's award will be presented at the Annual ISE meeting later this year in Canada. His submission was titled 'High-resolution electrochemical and microscopic characterisation of localised corrosion of light alloys: Possibilities and ramifications'.

Nick has also been invited to travel to China to participate in the Australia China Young Scientists Exchange Scheme. This scheme is organised by the Department of Education, Science and Training (DEST) and the Chinese Ministry of Science and Technology (MOST).

It is aimed at mid-career researchers who have shown both technical expertise and leadership potential, and aims to promote collaboration between younger Australian and Chinese scientists by allowing participants to form research networks and explore possible areas of collaborative research.

During his trip between 22 July – 6 August, Nick will visit the Institute of Metals Research (IMR) in Shenyang and Central South University in Changsha.

Congratulations Nick!

## CHALCO

The Centre's efforts to establish a strong international collaboration with the Aluminium Corporation of China Ltd (CHALCO) received a major boost with a visit to Melbourne by the President and CEO, Dr Xiao Yaqing on 26 March, 2007. Dr Xiao visited Monash University, CSIRO and the Australian Synchrotron Facility, before meeting with Victorian State Treasurer and Minister for Innovation, Industry and Regional Development, Mr John Brumby. Minister Brumby was witness to the execution of a Memorandum of Understanding, signed by Dr Xiao and Monash Vice Chancellor Professor Richard Larkins, committing CHALCO and Monash University (on behalf of the ARC Centre) to strengthening long-term cooperation in research and development of light metals, and joint efforts to establish the Australia-China International Centre for Light Alloy Design.



## AFM Workshop

On Thursday April 5, a Scanning Probe Microscopy (SPM) Mini-workshop was carried out at Monash University (Clayton Campus). The workshop was hosted by Robert Reutter from Agilent Technologies (Arizona, USA) and included an introduction to SPM, technical lecture and laboratory session/demonstration.

The function was aimed at introducing Scanning Probe Microscopy to an audience of materials scientists. This included outlining the various forms of microscopy available (namely Atomic Force and Scanning Tunneling) and how they may be incorporated into materials research for both characterisation and spectroscopy over a range of length scales and resolution.

The workshop was well attended by approximately 50 people, including staff and students from Materials Engineering, as well as mechanical and chemical engineers, chemists and physicists.

The workshop aligned with the commissioning of the new SPM at Monash as part of the Victorian Facility for Light Metals Surface Technology. The instrument is an Agilent 5500 SPM and can be used as a traditional Atomic Force Microscope (AFM) and a traditional Scanning Tunneling Microscope (STM) – both capable of yielding atomic scale resolution. These modes can also be conducted in-situ in liquids, and as a result, together with potentiostat control (built into the SPM as an option), Electrochemical SPM may be carried out.

## Centric

The Centre has recently subscribed to a licensing agreement with **CRC-Centric** - a web-based research management software package commonly used by CRCs and other multi-institutional research entities. It is anticipated that Centric will be the primary mechanism for recording research outcomes and coordinating communication amongst CoE participants. Many CoE staff and students will already be familiar with the package through their engagement with CAST, however, training programs will be offered for new users if required. The web page can soon be accessed through the Centre's home page.



## ALTIMA

## Upcoming conferences

### 10th Aluminium Casthouse Conference

5-8 August 2007, Sydney, NSW, Australia  
[www.aluminiumcasthouse.com](http://www.aluminiumcasthouse.com)

### MP3 - 6th International Conference on Materials Processing for Properties and Performance

14-16 September 2007, Beijing, China  
[www.materials.org.au](http://www.materials.org.au)

### Ultralight 2007 - 2nd International Symposium on Ultralight Materials & Structures

14-16 September 2007, Beijing, China  
[www.materials.org.au](http://www.materials.org.au)

### MS&T'07 - Materials Science and Technology 2007 Conference and Exhibition

17-20 September 2007, Detroit, USA  
[www.matscitech.org](http://www.matscitech.org)

### LMT2007 - 3rd International Conference on Light Metals Technology

24-26 September 2007, Saint-Sauveur, Québec, Canada  
[www.lightmetals.org](http://www.lightmetals.org)

### ICAA11 - International Conference on Aluminium Alloys

22-26 September 2008, Aachen, Germany

[www.dgm.de/dgm/icaa11](http://www.dgm.de/dgm/icaa11)

### Titanium & China Conference 2007

21-23 October 2007, Beijing, China  
[www.metal-pages.com](http://www.metal-pages.com)

### PRICM-6: Sixth Pacific Rim International Conference on Advanced Materials Processing

6-9 November 2007, Korea  
[www.pricm-6.org](http://www.pricm-6.org)

## New Heads of School



Professor  
Graham Schaffer  
(Left)



Professor  
Mark Hoffman  
(Right)

Congratulations to **Professors Graham Schaffer** and **Mark Hoffman** who have recently been appointed Heads of School at their respective universities.

Graham assumed the position of Head in the School of Engineering at the University of Queensland from July 2nd, while Mark will become Head of the School of Materials Science and Engineering at UNSW from August 1.

## Contact the Centre

Dr. Astrid Nordmann  
Chief Operating Officer  
ARC Centre of Excellence for Design in Light Metals  
Monash University  
Wellington Road, Clayton, VIC. 3800  
Tel: +613 9905 5791  
Fax: + 613 9905 4900  
Email: [astrid.nordmann@eng.monash.edu.au](mailto:astrid.nordmann@eng.monash.edu.au)  
Website: [www.arclightmetals.org.au](http://www.arclightmetals.org.au)

## Staff & student profiles

This issue's staff and student profiles are **Dr. Gianluca Ranzi** at the University of Sydney and **Mr. Bastian Meylan** at the University of Queensland.



Dr. Gianluca Ranzi is a researcher involved in the area of computational mechanics. His current research focuses on (i) the investigation of the behaviour and design of structural members formed by different materials accounting for time effects and for material nonlinearities and on (ii) the characterisation of material properties of light metals.

In particular, some of this work includes the derivation of analytical solutions aimed at identifying significant physical parameters and of stiffness and finite element formulations to evaluate the response with particular attention to the numerical stability of the solution procedures adopted.

Gianluca lives in Sydney and in his spare time enjoys listening to music, dining out, reading and, when possible, travelling.



Bastian Meylan comes from the French region of Switzerland, where he lived in a beautiful valley called Vallée de Joux, also called the "Watch Valley" due to the production of several brands of luxury watches. After finishing his undergraduate studies in Lausanne, Bastian moved to Australia and is now working at the University of Queensland as a PhD student.

Bastian's main research interest is the solidification of light metals during deformation. His PhD project focuses on the rheology of light metals during solidification. The analogies between granular materials and solidifying metals are also considered.

Bastian lives with his partner in a nice Queensland and in his spare time enjoys playing computer and card games, reading (mostly books relating to Roman history) and snow skiing. Unfortunately this last activity curtailed aside during his stay in Brisbane.

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