



Parker Centre

Parker Cooperative Research Centre for Integrated Hydrometallurgy Solutions

Media Release
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Parker Centre rewards outstanding collaboration and student research

The Parker Centre has recognised the collaborative research efforts of the Centre's "Impacts of Mineralogy on Hydrometallurgy" project team and the PhD research of former student Dr Geoffrey Carter.

The "Impacts of Mineralogy on Hydrometallurgy" project, involving researchers from CSIRO and Curtin University of Technology, has been awarded the 2009 Parker Centre Award for Research Collaboration.

The award acknowledges the most effective team collaboration within the Centre in a CRC Program-funded research project during the preceding year. The award comes with a A\$5000 prize to be shared between the team.

Work in the project focuses on nickel laterite and complex sulfide ores. The research aims to minimise nickel and copper losses during leaching, increase dissolution of nickel and copper from refractory mineral assemblages and develop strategies for iron and acid control in heap leaching.

The project team comprises 17 members from CSIRO's Minerals Down Under Flagship and three Curtin University departments (Applied Geology; Chemical Engineering; Imaging and Applied Physics). Many of the team had not worked together, or even met, before the project commenced in July 2008.

Project leader Dr Jian Li (CSIRO) said the collaboration has strengthened the research and has already produced significant results. "For example, we have determined the microstructure of natrojarosite scale formed inside an industrial autoclave during high pressure acid leaching (HPAL) of nickel laterite ore."

She said that build-up of scale inside HPAL autoclaves is a considerable problem for the processing plants. "Understanding how the scale crystal deposits inside the autoclaves has implications for the solubility and reactivity of the processing waste, and for future development of scale growth inhibitors."

"I look forward to more exciting science from our collaborative research in the near future," said Dr Li.

Mr Jules Perkins, Chair of the Parker Centre's Board, presented the award to Dr Li and her team. He said that it was particularly encouraging to see the excellent scientific contribution being made by the Curtin Applied Geology and Applied Physics researchers, who do not have a hydrometallurgy or mineral processing background.

"The project is an outstanding example of what we aim to achieve within the Centre, bringing together teams, from different Research Participants, with a range of skills and scientific backgrounds – recognising that there are scientific capabilities in non-hydrometallurgy research disciplines that potentially add significant value to delivering technological solutions to our end-users," Mr Perkins said.

The 2009 Parker Centre PhD Project Excellence Award was awarded to Dr Geoffrey Carter for the best thesis submitted by a Centre PhD student during the past year, winning him a laptop computer.

His project, "Controlling Precipitation Processes in the Production of Value Added Zirconia", was undertaken at Curtin University under the supervision of Professor Mark Ogden. His research enhanced the performance of an operational plant and produced five refereed journal publications.

Both awards were presented at the Parker Centre's fifth annual Science Day on Wednesday this week. The 2009 Science Day attracted a record audience of over 100 people (including industry representatives and Centre Board Directors, staff and students), and showcased the Centre's new knowledge and emerging solutions for the current and future needs of the international minerals industry.

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Images (JPG) available:

1. Presentation of the Award for Research Collaboration to Dr Jian Li.
2. Dr Li with the award trophy.

Additional information:

The Parker Centre operates as a multi-million-dollar collaborative joint venture between four Core Research Participants (CSIRO Process Science and Engineering, Curtin University of Technology, Murdoch University and the University of Queensland), nine Core Industry Participants from the minerals industry (Alcoa of Australia, AngloGold Ashanti Australia, Aughinish Alumina, BHP Billiton, Billiton Aluminium Australia, Hatch Associates, Queensland Alumina, Rio Tinto and Rio Tinto Alcan) and 12 Supporting Participants (Barrick Gold, Central TAFE, Ciba Specialty Chemicals, Minara Resources, Minerals Council of Australia, Nalco Australia, Norsk Hydro, Nyrstar, Outotec, Straits Resources, WA Department of Industry and Resources and WorleyParsons Services).

The Centre generates research outputs that maximise returns from hydrometallurgical processing of mineral resources and reduce environmental impacts of hydrometallurgical processes. Established in 1992 and headquartered in Western Australia, the Centre is supported by the Australian Government's Cooperative Research Centres Program.

The Centre undertakes fundamental and applied research on behalf of the minerals industry (the alumina, gold and base metals market sectors), at laboratory and pilot scales and at operating sites in Australia, North America, the Caribbean, South America, Africa and Europe.

The outputs of the Centre's work have been applied widely throughout Australia and overseas. The independently estimated value (delivered and expected) of the adoption of the Centre's research outputs by industry from the Centre's establishment in 1992 to 2004 totals over A\$540 million NPV (net present value). Using a model developed for the Centre by RMDSTEM Ltd, assessment of projects undertaken between 2005-2008 shows a NPV benefits: industry investment ratio of 22:1.

Industry's recognition of the value of the Centre's work is demonstrated by the investment of a total of A\$6.7 million in the Centre's activities in 2008-2009 by 104 companies from the international minerals industry.

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