



# IVEC ICT Industry Astronomy Update

## ICRAR Engineering Briefing

Professor Peter Hall invites you to attend an information session outlining the Engineering program within the International Centre for Radio Astronomy Research (ICRAR). The briefing will be hosted by Professor Peter Hall and speakers will describe various ICRAR projects, including the development of a new radio astronomy engineering laboratory. The session will include a discussion on ICRAR's contribution to engineering education in WA. Afternoon tea will be served. The program and additional details will be available on the ICRAR website next week, [www.icrar.org](http://www.icrar.org).

**Date:** Wednesday, 14 July 2010, 2.00pm – 5.00pm

**Venue:** ICRAR/Curtin Institute of Radio Astronomy Board Room, Brodie-Hall Building, 1 Turner Avenue, Technology Park, Bentley

**RSVP:** Ms Jennifer Talbot ([j.talbot@curtin.edu.au](mailto:j.talbot@curtin.edu.au)) by Friday 2 July 2010. RSVP is essential.

## ASKAP

The first dish to be installed as part of ASKAP has linked dishes in NSW, Tasmania and New Zealand to form a 6-dish array in a process similar to how the SKA will operate. The long baseline between the dishes has produced very high-resolution images, 100,000 times higher than previous images. Data was recorded at 4 Gbps for ten hours, and processed at ICRAR. The data was transferred using a mix of high speed networks such as iVEC's, and physical media. This demonstrates the necessity of the fibre optic link to Boolardy Station for real-time processing.

Sapphicon Semiconductor Pty Ltd from NSW is working with CSIRO over the next two years to develop a system-on-chip radio receiver. The technology has the potential to reduce the cost and power requirements of the receivers in ASKAP and the SKA. For further details, see <http://www.csiro.au/news/Honey-I-shrunk-the-receiver.html>

## MWA

ICRAR has been awarded \$4.6 million for further work on the Murchison Widefield Array. ICRAR has been working with local industry to develop the MWA, and if you would like to offer your services contact Steven Tingay at ICRAR by emailing [steven.tingay@icrar.org](mailto:steven.tingay@icrar.org).

## Pawsey Centre

The Pawsey Centre team is now on board. Guy Robinson has come from the UK to be the Pawsey

Systems Architect. Guy has experience working in world class supercomputer centres as well as the supercomputing industry. Des Marsh from Thinc Projects is managing the Pawsey Centre construction. He has over 15 years of experience in major infrastructure projects for government clients. Nick Chambers, who has led enterprise IT projects in leading consulting companies, is the overall project director for the Pawsey Centre. If you would like to meet with any of the team, please contact iVEC.

## Green Energy

The Federal Government is investing \$47.3M to develop green energy solutions for the Pawsey Centre and Murchison Radio-astronomy Observatory. The Pawsey Centre solution will use direct heat geothermal energy to cool its supercomputing infrastructure.

The MRO project will use a combination of solar, diesel and storage to power the MWA and ASKAP. The project will require advanced management systems to optimise the hybrid approach. If you are interested in collaborating on ICT solutions for the power management, contact ASKAIC member Horizon Power via [Brendan.Bourke@horizonpower.com.au](mailto:Brendan.Bourke@horizonpower.com.au)

Information Sources

## ASKAIC

The May 2009 ASKAIC meeting was held in Canberra. ASKAIC is looking to involve industry expertise earlier in the design process for SKA-related projects, which may reduce the risk in these large high tech development processes. SMEs may benefit by approaching larger companies to partner in these projects, rather than waiting for tenders.

The SKA will generate benefits outside of the science arena, such as in using renewable energy at remote sites, long-haul high speed communications, and remote management and fault tolerance. The geothermal cooling of the Pawsey Centre is an example of research that has been enabled by the SKA.

IVEC	ASKAIC	ICRAR
<a href="mailto:askaic@ivec.org">askaic@ivec.org</a>	<a href="mailto:ska@askaic.com">ska@askaic.com</a>	<a href="mailto:pete.wheeler@icrar.org">pete.wheeler@icrar.org</a>
Daniel Grimwood, Industry and Government Uptake	John Humphries, Chair	Pete Wheeler, Outreach and Education Manager
08 6436 8680	07 5474 5164	08 6488 7758