

**NRAO/Socorro Colloquium Series**

**Ron Beresford**

*ATNF*

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**ASKAP PAF Design**

**Abstract**

The Australian Square Kilometre Array Pathfinder (ASKAP), a \$200M instrument in its own right being built in the radio quiet back blocks of Western Australia. ASKAP has 36 x 12m dishes designed to be a high speed broadband sky survey instrument with high dynamic range operating at 700MHz to 1800MHz. Each Phased Array Feed has 188 receptor elements with 188 receivers. Why build dishes with a single pixel feeds and narrow field of view (FOV) when you can use a Phased Array Feed, digitally generate multiple pencil beams and see an instantaneous 30 square degrees ? This presentation will overview the ASKAP hardware architectures used, the prolific use of linear RF on fiber and high bit rate digital on fiber techniques, practical considerations of PAF design, progress to-date and some early astronomical images. I will have some show and tell pieces of hardware to help people visualize in awe the mass production requirements of the project.

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**March 20, 2015**

**11:00 am**

**Array Operations Center Auditorium**

**All NRAO employees are invited to attend via video, available in Charlottesville Auditorium, Green Bank Auditorium, and VLA Video Conference Room.**

Local Host: Steve Durand

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