

# ALMA Development Workshop



## ALMA International Development Program

Mark McKinnon

March 21, 2011

Atacama Large Millimeter/submillimeter Array  
Expanded Very Large Array  
Robert C. Byrd Green Bank Telescope  
Very Long Baseline Array



# Outline

- Origin of ALMA Development Program
- Scope
- Governance

# Origin

- Recognized early in the ALMA project that continuing technical upgrades and development of new capabilities are essential to maintain ALMA as state-of-the-art facility over its projected life of 30+ years
  - ALMA operations budget includes line dedicated to ALMA upgrades
- ALMA Board agreed that a science driven, long range development plan should be developed
- In 2008-2009, international panel considered wide range of possibilities to extend baseline capabilities of ALMA
  - ALMA Science Advisory Committee (ASAC) reviewed these and indicated their scientific priority

# Scope

- Key principle: program must be driven by science
- Program focused on delivery of tangible improvements to ALMA, but may also be used to fund ALMA-targeted R&D that may lead to improvements
- Projects could be:
  - New additions to the array
  - Extension of existing capabilities (more sensitivity, wider bandwidth, improved image quality)
  - Improvements to existing systems resulting in improved availability
    - Includes significant enhancements to software
  - Improved infrastructure that reduces risks, increases availability, makes operations easier/less expensive
- Timescale for project completion expected to be in the range of 3-5 years

# Governance

- JAO Director
  - Oversees/coordinates the development program
  - Submits a proposal for development projects for prioritization and approval by the ALMA Board
- Executives
  - Gather input from community-based discussions and proposals and from regional science advisory committees
  - Present proposals to the ALMA Director
  - Contribute to the program according to their share in funding of ALMA operations
  - Oversee or carryout development projects within their regions
- Development program will be conducted in manner similar to that of the construction project