



NSF Program Update

January 28, 2016

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High-Level Summary

- Outstanding science opportunities offered/developed
 - ALMA, EVLA, Dark Energy Camera, GPI, DKIST, LSST
 - ~110 research awards/yr in AAG, plus MSIP, ATI, AAPF, REU, PAARE
 - Interagency: DES, DESI, NN-EXPLORE (plus LSST, of course)
 - Beyond AST budget, NSF spent over \$100 million on construction of AST facilities in FY 2015
- No expectation for significant budget increases this decade
- Partnerships with NASA and DOE have strengthened
- Data-enabled science continues to grow in importance
- Challenges are many, but our community continues to make progress at the science frontiers



IPA Program Officers Needed

- AST has 2-3 openings for rotators under Intergovernmental Personnel Act (IPA), with a new ad posted at <https://www.usajobs.gov/GetJob/ViewDetails/426982200>
 - Typically 2-3 years at NSF, while maintaining employment status at home institution
 - Per diem of \$22,500; up to 50 days of research time
- IPAs bring a different and important university perspective to the federal government, and can help translate federal requirements to the scientific community
 - As a default, IPAs return to their home institutions
 - Some come back to the federal government or leverage their experience for other positions
- At present, AST has only two IPAs on staff
- Potential candidates urgently needed!



Management Competitions

- NOAO competition concluded. AURA selected. New 5-yr cooperative agreement began on October 1, 2015
- NRAO competition concluded. AUI selected. New 10-yr cooperative agreement to begin on October 1, 2016
 - ALMA + VLA + Central Development Laboratory + associated administration
- Gemini competition nearing completion, for 6-yr cooperative agreement to begin on January 1, 2017

- Also, non-competitive 10-yr award has been made to AURA for NSO (including DKIST), and will run through September 30, 2024

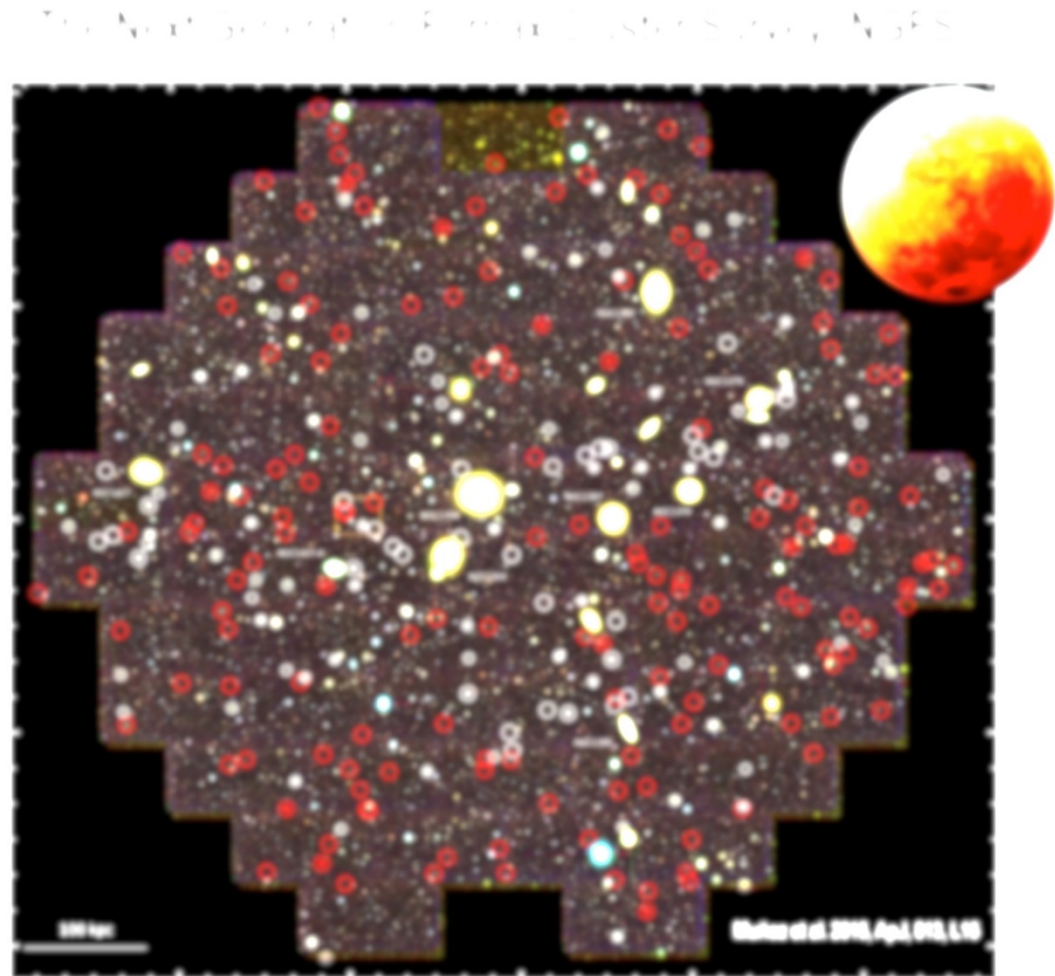


Recent & Upcoming Programmatic Milestones

- November 16: AAG deadline; ~708 proposals received
- November 19: NRAO management award approved by National Science Board
- December 7-9: DKIST Project Execution Plan review
- December 11: MSIP full proposal invitations issued
- December 16: ALMA trilateral agreement signed
- January 1: New Gemini International Agreement signed
- January 4-8: AAS winter meeting
- February 8-10: LSST Project Execution Plan review
- March 15: AAAC report due
- March 29-31: NRC Space Science Week
- May: Mid-decadal assessment report released

Next Generation Fornax Survey

- Dark Energy Camera on the CTIO 4-m telescope reveals numerous “new” (red circles in the 3-deg² field at right) dwarf galaxies in the Fornax cluster (Muñoz et al. 2015, ApJL, 813, L15)
- Total of 30 deg² being studied
- Possible solution to the “missing” dwarf galaxies predicted by cosmological simulations

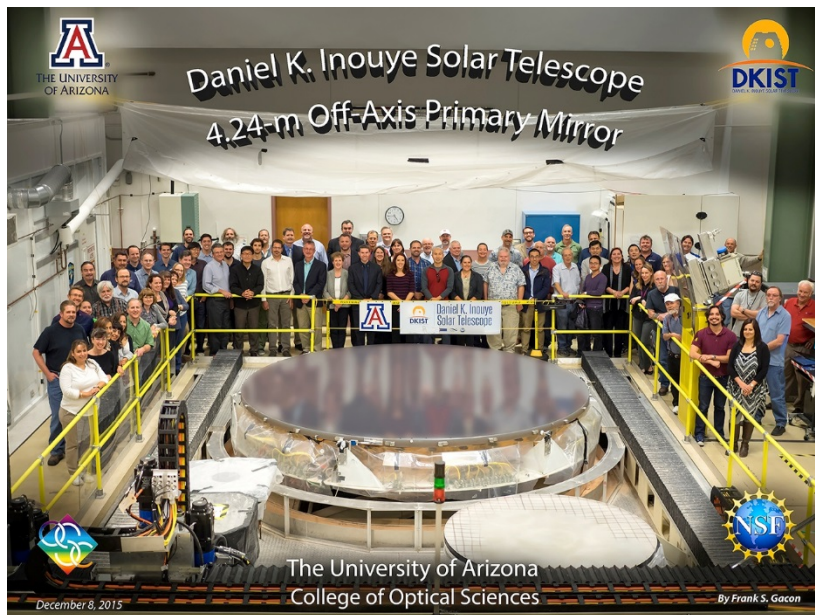




Daniel K. Inouye Solar Telescope



- Excellent construction progress, with some delays on site work because of poor weather in Hawaii
 - Scheduled for completion in 2019
- Data rate \approx LSST data rate, but three years earlier!

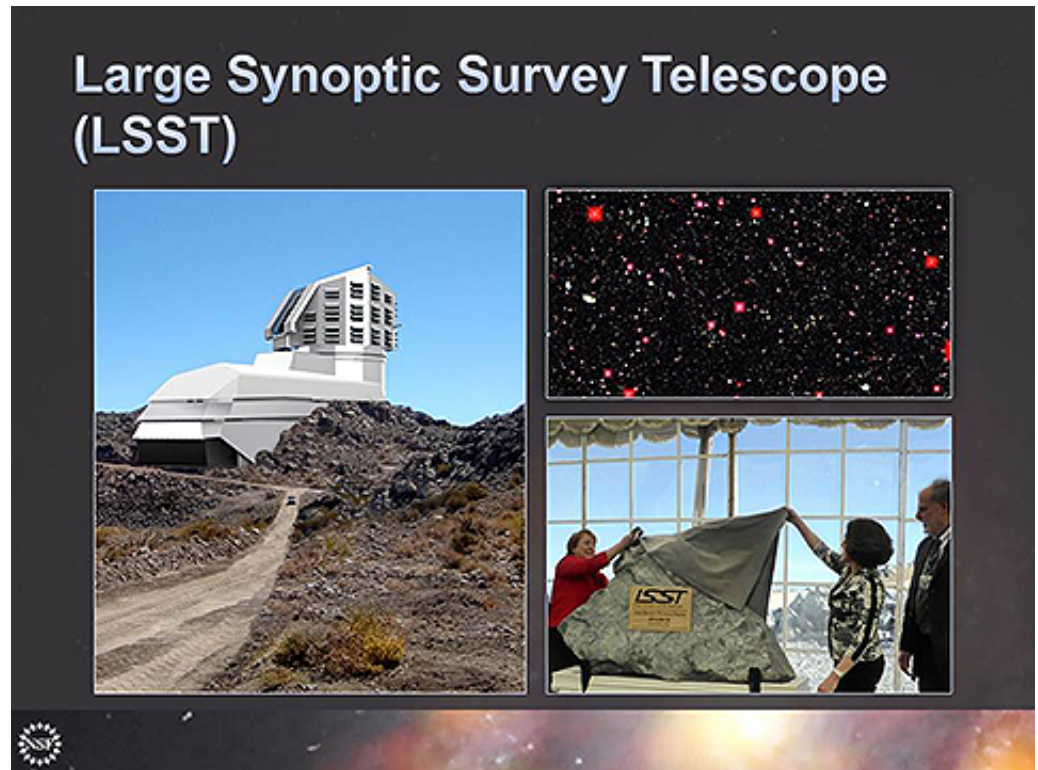


Telescope enclosure assembly underway at the DKIST site on Haleakala, Maui, HI, November 2015. [Credit: DKIST project web camera.](#)



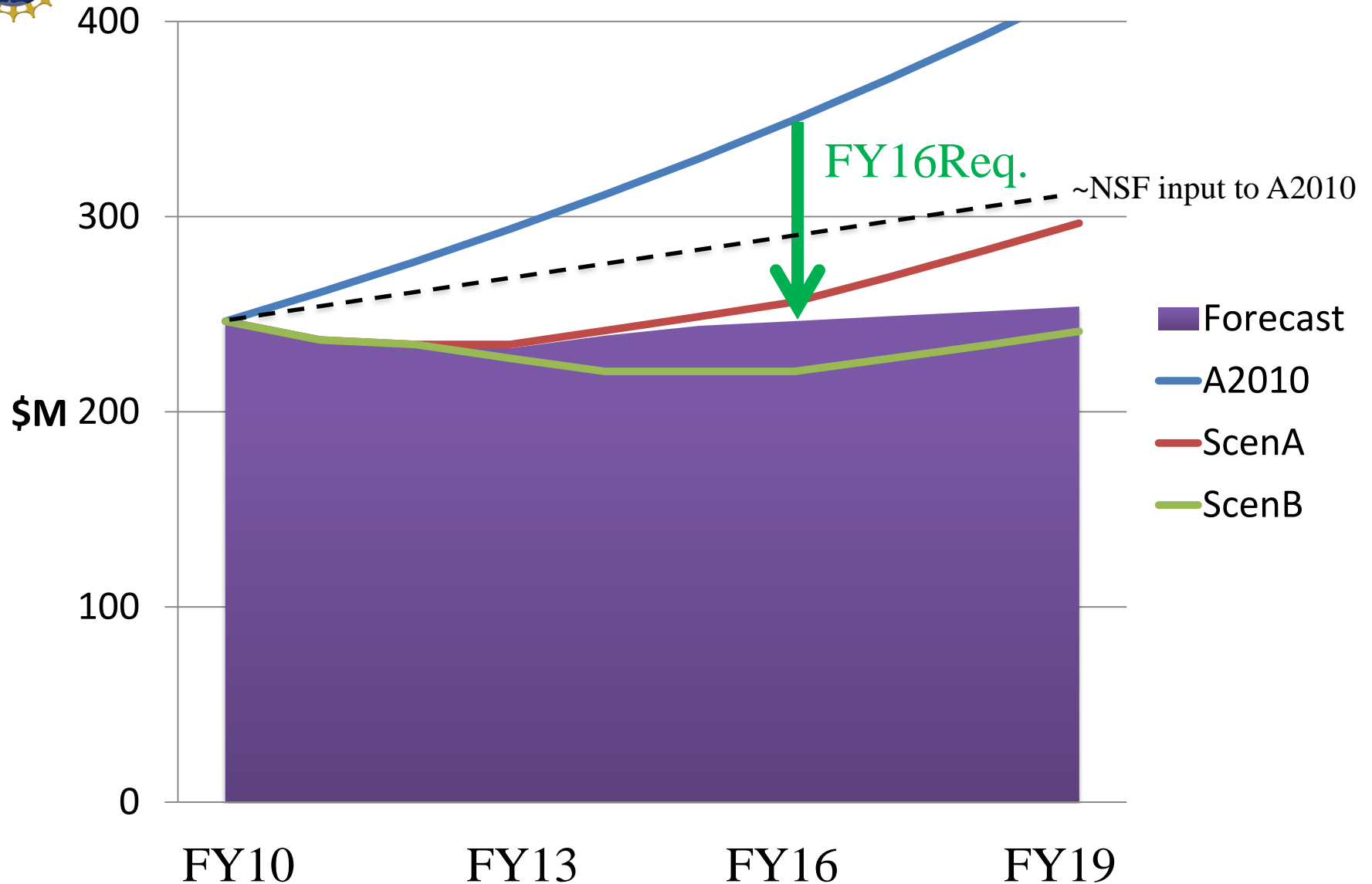
Large Synoptic Survey Telescope

- NSF construction award made in August 2014
- Strong NSF/DOE partnership in construction and operations
- NRC committee studied OIR system in LSST era





NWNH Budget vs. Actual AST Budget





FY 2016 Budget Status

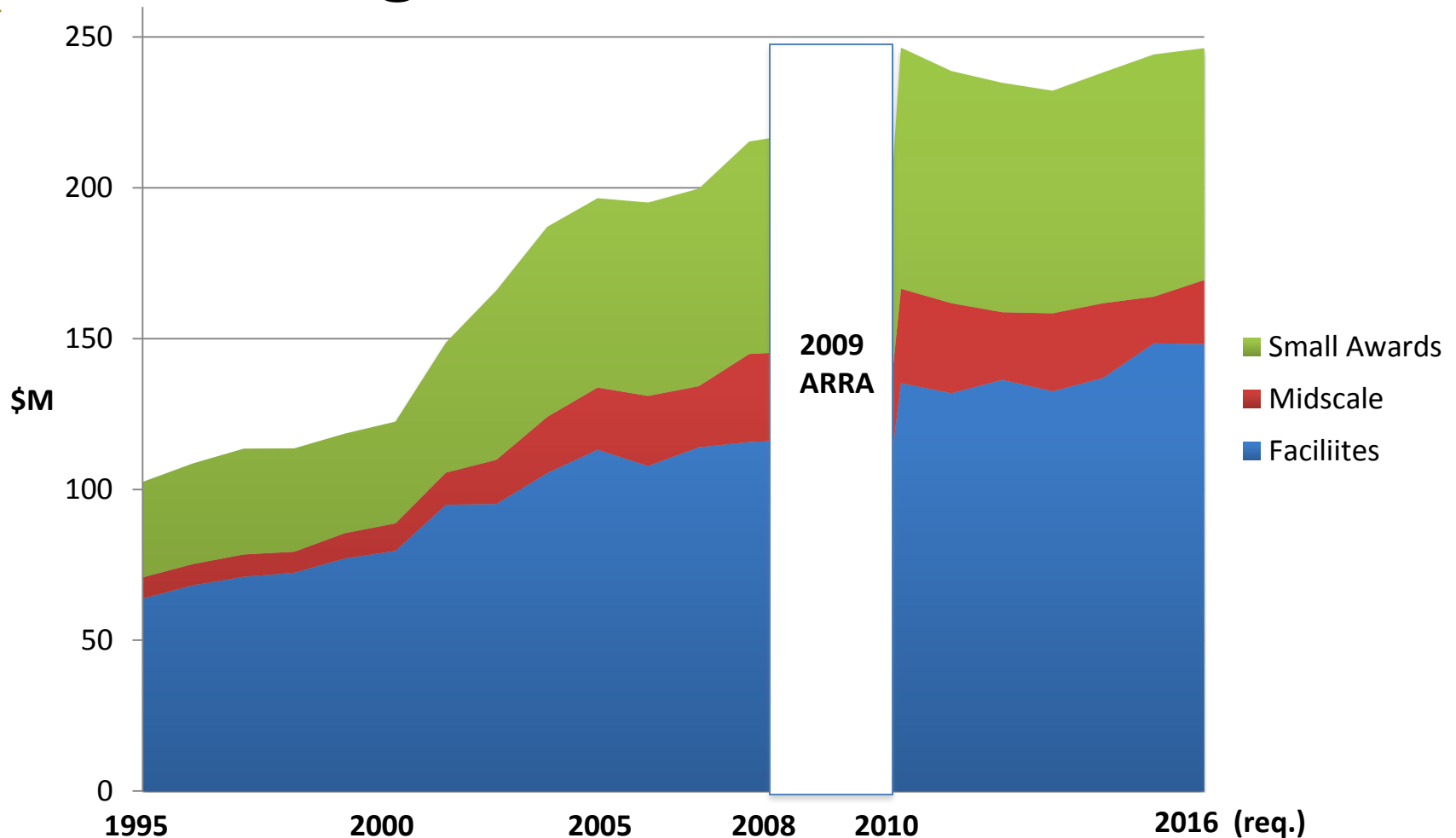
- Omnibus funding bill for FY 2016 passed in December

\$M	FY14 Actual	FY15 Actual	FY16 Request	FY16 Omnibus
NSF Total	7131	7344	7724	7464
NSF R&RA	5775	5934	6186	6034
MPS	1268	1337	1366	??
AST	238.4	244.2	246.5	??
MREFC	200.0	200.8	200.3	200.3

- Since NSF received less than the President's Request Budget, MPS and AST are unlikely to receive more!
- NSF Current Plan for FY 2016 submitted to Congress in late January, with ~30 days for approval
- FY 2017 President's Request will be out on February 9, and will contain FY 2016 Estimated Budget



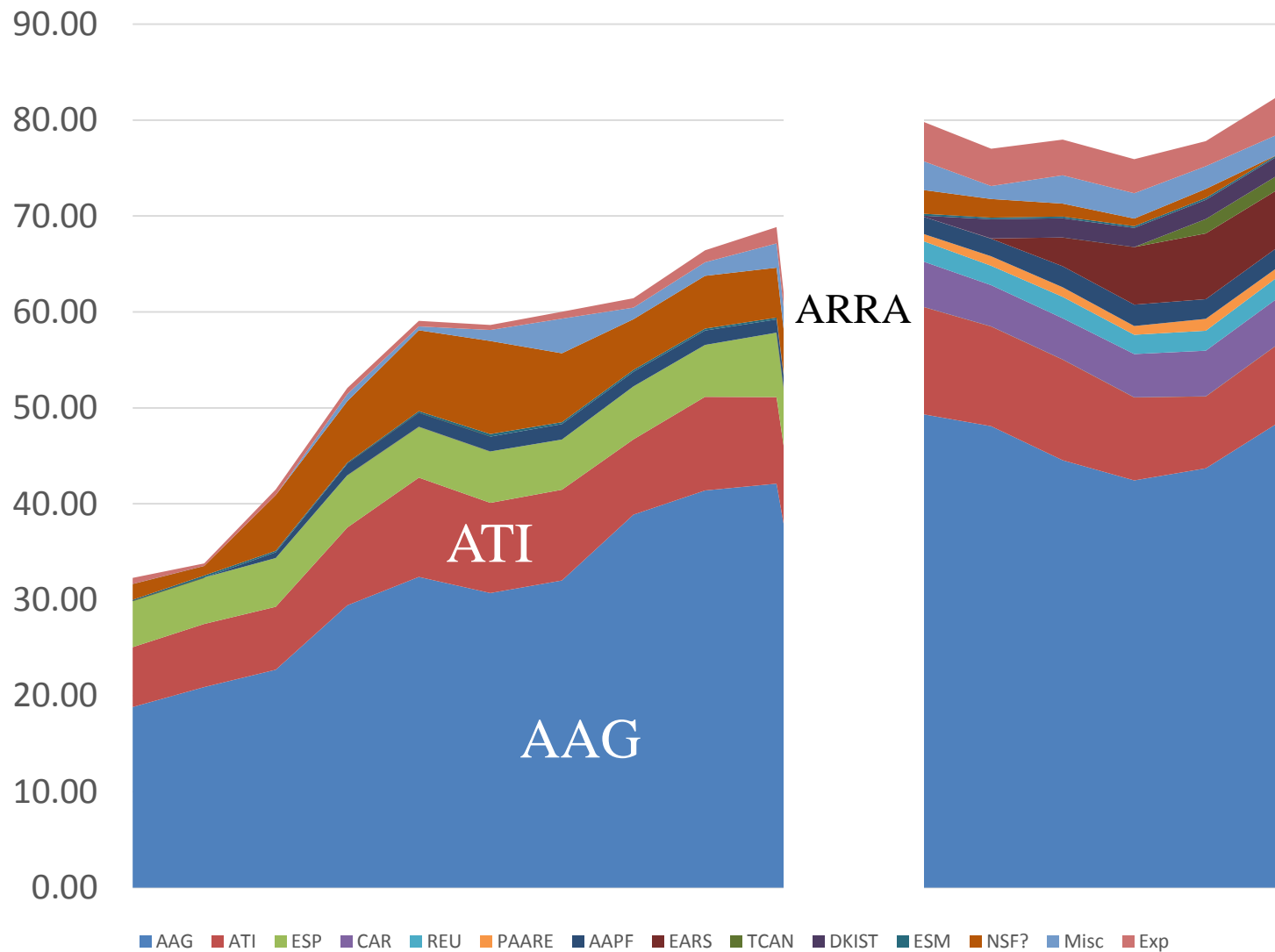
AST Budget Breakdown, 1995-2016



- Facility fraction was 63%-65% in late 1990s, decreased to 53% in 2008, then rose back to 60% in FY 2016 request



Small Awards



1999

2005

2010

2015



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