MID-SCALE PROGRAMS
MSIP AND MSRI 1&2

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MID-SCALE INNOVATIONS PROGRAM (MSIP)

- Program is run biennially: FY14, FY16, and FY18
- Typical program budget ~ $15-20M / yr (higher in FY18 due to plus-up)
- We anticipate a solicitation in summer 2019 for funding in FY20
- Supports both construction and operations/science
- So far, 23 awards have been made and 21 are currently active
- Two main categories: Stand-alone science and community access (but also potential to support design programs and long-term facilities)
- To date, there have been 15 Science awards and 8 Access awards
- Funded proposal budgets between $600K and $10M (upper limit $30M)
- Wide range of topics, from nearby stars to CMB
Funded MSIP Programs

- **Zwicky Transient Facility**: Optical surveys, LSST pathfinder (Palomar)
- **Event Horizon Telescope**: Radio imaging of black holes (VLBI, Global)
- **Four CMB Polarization Programs**: ACT, POLARBEAR/Simons, CLASS, BICEP
- **Hydrogen Epoch of Reionization Array**: HERA, low freq. radio (S. Africa)
- **NANOGrav**: Physics Frontiers Center, AST sharing ~20% (Arecibo, GBT)
- **Toltec**: MM-wave camera (UMass) on large MM Telescope (Mexico)
- **Two Adaptive Optics**: MAPS (MMT) and KAPA (Keck)
FUNDED MSIP PROGRAMS (CONT)

- **Deep Synoptic Array (DSA):** 110 radio telescopes for detecting FRBs (OVRO)
- **LLAMAS:** IFU Spectrograph for Magellan (MIT)
- **ALPACA:** Focal plane array for Arecibo (BYU)
- **Long Wavelength Array:** Support for community access (UNM)
- **GBT Metrology System:** to tune the GBT surface for high freq obs (GBO)
- **SuMIRe:** Deep galaxy survey (Subaru Telescope, Princeton)
- **CHARA:** Optical Interferometry, purchase of time (Mt Wilson, Georgia State)
- **Las Cumbres Obs.:** Optical telescope network, purchase of time (Global)
### Mid-Scale Research Infrastructure (MSRI)

**New Program, offered for the first time in FY19**

**MSRI-1**
- **Implementation $6M to $20M**
- **Design $600,000 to $20M**
  - (but not conceptual design)
- **Preliminary proposals required**
  - Deadline Feb. 19 – 246 received
- **Internal review; Full proposals by invitation only, deadline May 20**
- **Support with FY 2019 funds**

**MSRI-2**
- **Infrastructure from $20M to $70M**
  - (no science, no design, no O&M)
- **Letter of Intent – Feb. 14, 64 received**
  - Required for planning purposes
- **Preliminary proposals, required**
  - Deadline Mar. 11 (invitation not required but must have LOI)
- **External review; Full proposals by invitation only, deadline August 2**
- **Support with FY 2020 funds**

Upgrades to existing research infrastructure allowed

Require strong scientific merit, must respond to identified need of community

NSF-sponsored FFRDCs may submit (includes AST observatories, NCAR)

No operations & maintenance support; no scientific research support

Necessary commissioning possible under MSRI-1